NATIONAL QUALITY FORUM

MEASURE WORKSHEET

This document summarizes the evaluation of the measure as it progresses through NQF's Consensus Development Process (CDP). The information submitted by measure developers/stewards is included after the Brief Measure Information, Preliminary Analysis, and Pre-meeting Public and Member Comments sections.

To navigate the links in the worksheet: Click to go to the link. ALT + LEFT ARROW to return

Purple text represents the responses from measure developers.

Red text denotes developer information that has changed since the last measure evaluation review.

Brief Measure Information

NQF #: 3456

Corresponding Measures:

De.2. Measure Title: Admission to an Institution from the Community

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

De.3. Brief Description of Measure: The number of managed long-term services and supports (MLTSS) plan enrollee admissions to an institution (nursing facility or intermediate care facility for individuals with intellectual disabilities [ICF/IID]) from the community that result in a short-term (1 to 20 days), medium-term (21 to 100 days), or long-term stay (greater than or equal to 101 days) during the measurement year per 1,000 enrollee months.

The following rates are reported across four age groups: 18-64, 65-74, 75-84, and 85 and older:

- Short-term Stay. The rate of admissions resulting in a short-term (1 to 20 days) stay per 1,000 MLTSS enrollee months.

- Medium-term Stay. The rate of admissions resulting in a medium-term (21 to 100 days) stay per 1,000 MLTSS enrollee months.

- Long-term Stay. The rate of admissions resulting in a long-term (greater than or equal to 101 days) stay per 1,000 MLTSS enrollee months.

This measure focuses on one critical outcome for the population of Medicaid beneficiaries enrolled in MLTSS plans – reducing avoidable admissions to institutions. The use of three rates reported by four age categories facilitates appropriate cross-plan comparisons by outcome and population, and illuminates corresponding successes or opportunities for improvement. The use of multiple rates, instead of a single metric, is aligned with the measure's proposed use for internal and external quality improvement.

*The measurement year is January 1 through December 31, i.e., is equivalent to the calendar year.

1b.1. Developer Rationale: This measure evaluates the number of MLTSS enrollee admissions to an institution (nursing facility or intermediate care facility for individuals with intellectual disabilities [ICF/IID]) from the community that result in a short-term (less than or equal to 20 days), medium-term (21 to 100 days), or long-term stay (greater than or equal to 101 days) during the measurement year. Additionally, the measure is reported in four age groups: 18-64, 65-74, 75-84, and 85 and older. The use of multiple rates and age categories facilitates appropriate cross-plan comparisons by outcome and population, and illuminates corresponding successes or opportunities for improvement.

It is important to ensure that MLTSS enrollees with disabilities who wish to live in the community as long as possible are able to do so by delaying or preventing placement in long term institutional care. Decreasing the institutional admission rate among MLTSS beneficiaries reflects improvement in providing timely access to high quality services and effective care coordination provided to individuals receiving LTSS in community settings.

Most individuals who need long-term services and supports (LTSS) want to live at home or in community settings (Guo et al. 2015; Keenan 2010). Although state Medicaid agencies, which pay for the majority of LTSS, have made significant progress in rebalancing their LTSS systems to provide more HCBS, many Medicaid beneficiaries still reside in institutions, which is both costly and can be associated with adverse outcomes such as hospital admissions. A key goal of MLTSS programs is to reduce the use of institutional care by decreasing unnecessary admissions. MLTSS plans achieve this goal by conducting person-centered assessment and care planning, providing timely access to high quality HCBS, and coordinating LTSS and medical care across providers and settings (Felix et al. 2011; Greiner et al. 2013; Sands et al. 2012). While it may not be possible to avoid the use of institutional care entirely, this measure assesses the effectiveness of MLTSS plans in minimizing avoidable admissions. Keeping individuals in home and community settings and minimizing their stays in institutions helps to increase their quality of life and care experience.

At the state-level, research suggests that significant variation exists in HCBS use before a nursing home stay (Schmitz et al, 2014). The work of Schmitz et al, which focused on new Medicaid-financed nursing home stays in 2009, found that about 23% had used HCBS in 2008 prior to their nursing home stay. Among those with nursing home stays lasting six months or less (beginning and ending during the first half of 2009), a greater share—31 percent—had used HCBS before their stay. The percentage of first new nursing home stays in 2009 preceded by HCBS use in 2008 ranged from less than 10 percent in Florida, Louisiana, and Pennsylvania to more than 35 percent of stays in California and Idaho. New ICF/IID admissions were found to be less common than new nursing home admissions, but a large proportion of new ICF/IID stays were preceded by HCBS use. About 39 percent of beneficiaries with new Medicaid-financed ICF/IID stays in 2009 used HCBS in 2008 before their stay. Because few individuals are newly admitted to ICF/IIDs, the variation across states is small, ranging from 0.0 percent in Vermont to 0.37 percent in North Dakota.

Other evidence also suggests that there is significant variation across states in their performance with respect to institutional admissions. Among all nursing home admissions of Medicare beneficiaries in 2012 (not limited to those dually eligible for Medicare and Medicaid or LTSS users), the median percentage of stays that lasted 100 days or more was 18.7 in 2012; the highest share was in Louisiana (35 percent), and the lowest was in Arizona (8.9 percent) (Irvin et al. 2016).

However, these state-level estimates might mask variation by programs across states, such as differences in 1915(c) HCBS waiver programs. It is also important to note that while this variation has been identified across states, it may be less relevant in an MLTSS environment where managed care plans are all operating within a single state, and subject to the same LTSS requirements.

Citations

Felix, Holly C., Glen P. Mays, M. Kathryn Stewart, Naomi Cottoms, and Mary Olson. “Medicaid Savings Resulted When Community Health Workers Matched Those With Needs to Home and Community Care.” Health Affairs, vol. 30, no. 7, 2011, pp. 1366-1374.

Greiner, Melissa A., Laura G. Qualls, Isao Iwata, Heidi K. White, Sheila L. Molony, M. Terry Sullivan, Bonnie Burke, Kevin A. Schulman, and Soko Setoguchi. “Predicting Nursing Home Placement Among Home- and Community-Based Services Program Participants.” The American Journal of Managed Care, vol. 20, no. 12, 2014, pp. e535-e536.

Guo, Jing, R. Tamara Konetzka, Elizabeth Magett, and Willian Dale. “Quantifying Long-Term Care Preferences.” Medical Decision Making, vol. 35, no. 1, 2015, pp. 106-113.

Irvin, Carol, Noelle Denny-Brown, Eric Morris, and Claire Postman. Table 5. Indicators of performance of state long-term services and supports systems, “Pathways to Independence: Transitioning Adults Under Age 65 from

Nursing Home to Community Living (), table 5, Indicators of performance of state long-term services and supports systems. Cambridge, MA: Mathematica Policy Research, 2016, pp. 30-31. Available at https://www.medicaid.gov/medicaid/ltss/downloads/mfpfieldreport19.pdf.

Keenan, Teresa A. "Home and Community Preferences of the 45+ Population." Washington, DC: AARP Public Policy Institute, November 2010. Available at http://assets.aarp.org/rgcenter/general/home-community-services-10.pdf.

Sands, Laura P., Huiping Xu, Joseph Thomas, III, Sudeshna Paul, Bruce A. Craig, Marc Rosenman, Caroline C. Doebbeling, and Michael Weiner. "Volume of Home- and Community-Based Services and Time to Nursing-Home Placement." Medicare & Medicaid Research Review, vol. 2, no. 3, 2012, pp. E1-E21.

Schmitz, Robert, Victoria Peebles, Rosemary Borck, and Miller, Dean. "Medicaid-Financed Institutional Services: Patterns of Care for Residents of Nursing Homes and Intermediate Care Facilities for Individuals with Intellectual Disabilities in 2008 and 2009." Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, May 2014. Available at https://aspe.hhs.gov/sites/default/files/pdf/137851/CarePatt.pdf.

S.4. Numerator Statement: Number of admissions to an institution (nursing facility or ICF/IID) during the measurement year. Admissions are divided and reported in three categories:

- Admissions that result in a short-term stay (1 to 20 days)

- Admissions that result in a medium-term stay (21 to 100 days)

- Admissions that result in a long-term stay (greater than or equal to 101 days)

S.6. Denominator Statement: Number of enrollee months for MLTSS enrollees age 18 and older where the enrollee was residing in the community.

S.8. Denominator Exclusions: Exclude the month that an enrollee dies, and any subsequent months of enrollment, from the measure denominator.

De.1. Measure Type: Outcome

S.17. Data Source: Claims, Enrollment Data

S.20. Level of Analysis: Health Plan

IF Endorsement Maintenance – Original Endorsement Date: Most Recent Endorsement Date:

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.

Preliminary Analysis: New Measure

Criteria 1: Importance to Measure and Report

1a. Evidence

1a. Evidence. The evidence requirements for a health outcome measure include providing empirical data that demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service; if these data not available, data demonstrating wide variation in performance, assuming the data are from a robust number of providers and results are not subject to systematic bias. For measures derived from patient report, evidence also should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful.

Evidence Summary

- This is a measure of MLTSS enrollee admissions to an institution from the community that results in a short-term, medium-term, or long-term stay.
- The developer notes that improvement on this outcome will require timely access to high quality services and effective care coordination to individuals providing LTSS in community settings.

Question for the Committee:

- *Is there at least one thing that the plan can do to achieve a change in the measure results?*

Guidance from the Evidence Algorithm

Box 1: The measure assesses a healthcare outcome →Box 2: The developer has provided empirical data that there is a relationship between the measured outcome and at least one healthcare outcome → Pass

The highest possible rating is pass.

Preliminary rating for evidence: ☒ Pass ☐ No Pass

1b. Gap in Care/Opportunity for Improvement and 1b. Disparities

Maintenance measures – increased emphasis on gap and variation

1b. Performance Gap. The performance gap requirements include demonstrating quality problems and opportunity for improvement.

- The developer notes meaningful and significant variation across plansin performance with regard to short-, medium-, and long-term institutional admissions for the four age categories. Among the 14 plans included in testing, there were 2 or more plans with rates four or five times larger in magnitude than the average for all three rate types, and across age categories. For example, the overall rate of short-term stay admissions for enrollees ages 18-64 was 0.43, and 2 plans had rates that were five times larger in magnitude than the average (2.45 and 2.48). For this rate and age category, 7 plans had results that were significantly higher than average, while 3 plans had results significantly lower than average. A similar pattern of results was observed across all rates and age categories, with at least 7 of 14 plans showing significant variation from the mean in all results.

Disparities

- The developer calculated measure rates separately for enrollees ages 18 to 64, 65 to 74, 75 to 84, and 85 and older and found that overall rates for all three outcomes increased with age. The developer noted that differences in outcomes were most pronounced between the lowest and highest age categories. Stay rates were approximately 8 to 10 times higher for the population ages 85 and up, relative to ages 18-64, for all three outcomes.

Questions for the Committee:

- Is there a gap in care that warrants a national performance measure?

Preliminary rating for opportunity for improvement: ☐ High ☒ Moderate ☐ Low ☐ Insufficient

Committee Pre-evaluation Comments:
Criteria 1: Importance to Measure and Report (including 1a, 1b, 1c)

1a. Evidence to Support Measure Focus: For all measures (structure, process, outcome, patient-reported structure/process), empirical data are required. How does the evidence relate to the specific structure, process, or outcome being measured? Does it apply directly or is it tangential? How does the structure, process, or outcome relate to desired outcomes? For maintenance measures –are you aware of any new studies/information that changes the evidence base for this measure that has not been cited in the

submission?For measures derived from a patient report: Measures derived from a patient report must demonstrate that the target population values the measured outcome, process, or structure.

- Although there is evidence of variation in the use of HCBS and ICF stays; there is little evidence demonstrating processes by the HCBS that prevent or delay ICF admission.
- Healthcare outcome, some evidence that supports that HP interventions may reduce the targeted outcome

1b. Performance Gap: Was current performance data on the measure provided? How does it demonstrate a gap in care (variability or overall less than optimal performance) to warrant a national performance measure? Disparities: Was data on the measure by population subgroups provided? How does it demonstrate disparities in the care?

- Rates of ICF admission differ by age category and HCBS programs.
- Yes, variability between healthplan performance on this measure

Criteria 2: Scientific Acceptability of Measure Properties

2a. Reliability: Specifications **and** Testing

2b. Validity: Testing**;** Exclusions**;** Risk-Adjustment**;** Meaningful Differences**;** Comparability Missing Data

2c. For composite measures: empirical analysis support composite approach

Reliability

2a1. Specifications requires the measure, as specified, to produce consistent (reliable) and credible (valid) results about the quality of care when implemented. For maintenance measures – no change in emphasis – specifications should be evaluated the same as with new measures.

2a2. Reliability testing demonstrates if the measure data elements are repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period and/or that the measure score is precise enough to distinguish differences in performance across providers. For maintenance measures – less emphasis if no new testing data provided.

Validity

2b2. Validity testing should demonstrate the measure data elements are correct and/or the measure score correctly reflects the quality of care provided, adequately identifying differences in quality. For maintenance measures – less emphasis if no new testing data provided.

2b2-2b6. Potential threats to validity should be assessed/addressed.

Composite measures only:

2d. Empirical analysis to support composite construction. Empirical analysis should demonstrate that the component measures add value to the composite and that the aggregation and weighting rules are consistent with the quality construct.

Complex measure evaluated by Scientific Methods Panel? ☒ **Yes** ☐ **No**

Evaluators:

- Larry Glance
- Karen Joynt Maddox
- Marybeth Farquhar
- Eugene Nuccio
- Christie Teigland

- Steve Horner

Evaluation of Reliability and Validity (and composite construction, if applicable):

Summary of Methods Panel Review:

Subgroup members found the measure to be reliable and valid in their preliminary analyses, thus this measure was not discussed during the Methods Panel measure evaluation call.

Standing Committee Action Item(s):

- The Standing Committee can discuss reliability and validity, or agree to accept the ratings of the Scientific Methods Panel. It is important to note that the appropriateness of inclusion or exclusion of social risk factors was not within scope for the Scientific Methods Panel ratings.

Questions for the Committee regarding reliability:

- Do you have any concerns that the measure can be consistently implemented (i.e., are measure specifications adequate)?
- The Scientific Methods Panel is satisfied with the reliability testing for the measure. Does the Committee think there is a need to discuss and/or vote on reliability?

Questions for the Committee regarding validity:

- Do you have any concerns regarding the validity of the measure (e.g., exclusions, risk-adjustment approach, etc.)?
- The Scientific Methods Panel is satisfied with the validity analyses for the measure. Does the Committee think there is a need to discuss and/or vote on validity?
    - Please note the appropriateness of the inclusion or exclusion of social risk factors in the risk adjustment model was not included in the charge of the Scientific Methods Panel.

Preliminary rating for reliability:	☐ **High**	☒ **Moderate**	☐ **Low**	☐ **Insufficient**
Preliminary rating for validity:	☐ **High**	☒ **Moderate**	☐ **Low**	☐ **Insufficient**

Scientific Acceptability

Measure Number: 3456
Measure Title: Admission to an Institution from the Community

Type of measure:

☐ Process ☐ Process: Appropriate Use ☐ Structure ☐ Efficiency ☐ Cost/Resource Use

☒ Outcome ☐ Outcome: PRO-PM ☐ Outcome: Intermediate Clinical Outcome ☐ Composite

Data Source:

☒ Claims ☐ Electronic Health Data ☐ Electronic Health Records ☐ Management Data

☐ Assessment Data ☐ Paper Medical Records ☐ Instrument-Based Data ☐ Registry Data

☒ Enrollment Data ☐ Other

Level of Analysis:

☐ Clinician: Group/Practice ☐ Clinician: Individual ☐ Facility ☒ Health Plan

☐ Population: Community, County or City ☐ Population: Regional and State

☐ Integrated Delivery System ☐ Other

Measure is:

☒ New ☐ Previously endorsed (NOTE: Empirical validity testing is expected at time of maintenance review; if not possible, justification is required.)

RELIABILITY: SPECIFICATIONS

1. **Are submitted specifications precise, unambiguous, and complete so that they can be consistently implemented? ☒ Yes ☐ No**
   Submission document: "MIF_xxxx" document, items S.1-S.22

   ***NOTE**: NQF staff will conduct a separate, more technical, check of eCQM specifications, value sets, logic, and feasibility, so no need to consider these in your evaluation.*

   - This measure focuses reducing avoidable admissions to institutions for Medicaid beneficiaries enrolled in MLTSS plans. The use of three rates reported by four age categories facilitates cross-plan comparisons by outcome and population, and illuminates corresponding successes or opportunities for improvement. The developer notes that the use of multiple rates, instead of a single metric, is aligned with the measure's proposed use for internal and external quality improvement.
   - Some Methods Panel members expressed concerns about the specifications being precise, unambiguous, and complete.
     - Please note that to be eligible for a moderate rating per NQF's reliability algorithm submitted specifications must be specifications precise, unambiguous, and complete so that they can be consistently implemented.
   - The developer noted that in S.1 of the submission form they include a link to the technical specifications and have noted that CMS has established a technical assistance mailbox to facilitate implementation. The developer also noted that additional implementation support is planned in the future.
   - The developer clarified that this measure focuses on MLTSS plan enrollees, who have been determined to be at risk of, or already currently using, long-term services and supports. The measure assesses the degree to which the health plan successfully provides LTSS in the community, thereby avoiding institutional admissions. The measure captures admissions that are either (1) directly from the community ->institution or (2) from community-> hospital -> institution.
   - The developer noted that this measure is intended for use by states and health plans to monitor and improve the quality of care provided for the Medicaid MLTSS enrollee population. The developer clarified that one potential use is for states to evaluate and compare the quality of LTSS provided by MLTSS plans with which they contract. The developer also noted that this measure focuses on one critical outcome of high quality MLTSS care – reducing avoidable admissions to institutions.
   - The developer clarified that the length of stay is calculated at the end of the measurement year. The measurement year is January 1 through December 31, i.e., is equivalent to the calendar year.

2. **Briefly summarize any concerns about the measure specifications.**
   - **PANEL MEMBER 1:** None
   - **PANEL MEMBER 2:** None
   - **PANEL MEMBER 3:** Descriptions of the measure are fairly straightforward, however the steps provided to determine the numerator and denominator tend to be complex and may lead to confusion during implementation. Also, a number of "do not include" statements are made in the numerator/denominator details.
   - **PANEL MEMBER 4:** Why is this measure being created and the owner of the measure requesting NQF Endorsement? This appears to be a simple, business-monitoring metric that tracks how many patients using a health care plan utilize post-acute hospital services. NOTE: Section 4.1 Current and Planned Use is blank. Conversely, section 1.2 in a different document offers an explanation of intended use

"The intended use of the measure is to allow states to compare and evaluate the quality of LTSS care being provided in MLTSS plans with which they contract. This specific measure focuses on a critical component of high quality MLTSS care – ensuring that care can be provided to the greatest extent possible in the community setting as opposed to the institutional setting. … This is important to MLTSS enrollees with disabilities who wish to live in the community are able to do so as long as possible by delaying or preventing placement in long term institutional care."

- On what basis would different rates for different plans have any overall meaning? For example, if health plan A has a high rate of short-term admissions but low rates of long-term admissions, is this a "better" than health plan B where the reverse is true? NOTE: in item S.12 the Type of Score is "Rate/proportion" and S.13 Interpretation states "better quality = lower score." Perhaps a measure that reports the average # of enrolled months prior to admission calculated at the patient level (this could be reported in stratified age categories or by enrollee condition groups) would better represent the stated intent of the measure.
- There appear to be several possible measures based on the numerator and denominator category descriptions. For example, the measure could be the number of admissions for patients between 65-74 (numerator) divided by the total number of enrollee months for this same age group (then multiplied by 1000). A lower rate for one plan compared to another may reflect a lower utilization rate, but not necessarily better quality of care to the patient (e.g., patients could be denied access to post-acute care to reduce rates when post-acute care is clinically warranted).
- Additionally, how can the lengtha patient's stay in one of these post-acute care settings be known at admission? LOS is used "category."
- The author uses the term "measurement year" without defining what that means. Is this a calendar year or simply some 12-month period of time? If a patient is admitted the last 15 days of the "measurement year," what LOS "category" applies? In the long series of "exclusions" ("), there is a consistent reference to "prior to August 1 of the year prior to the measurement year" and "July 31 of the measurement year" that may hold a clue to what the author means by "measurement year." NOTE: the question of late admission LOS computation is answered in S.14 Numerator Part 2 Step 3 narrative—i.e., truncated by end of measurement year.
- Based on the definitions of "institutional facility (IF)" and "community residence (CR)", the pattern IF-HOSP-IF = not a counted admission, but CR-HOSP-IF and CR-IF are counted.
- The description of the denominator reveals that this measure focuses on individuals who are enrolled in "Medicaid MLTSS plans"—an important point missing from the description of the measure. The assumption is that all enrollees within some state (?) Medicaid MLTSS plan are eligible for the. The total number of months in the plan by all enrollees stratified by age group, minus the full months that an enrollee was in an institution, is the denominator for each of the numerators. The presumption is that LOS category is grouped by these same stratified age groups.
- NOTE: The age group stratifications are 18-64, 65-74, 75-84, and 85+ even though their sample data show the following age distribution:
- Age stratification rationale not clear.

RELIABILITY: TESTING

Submission document: "MIF_xxxx" document for specifications, testing attachment questions 1.1-1.4 and section 2a2

3. **Reliability testing level** ☒ **Measure score** ☐ **Data element** ☐ **Neither**
4. **Reliability testing was conducted with the data source and level of analysis indicated for this measure**
   ☒ **Yes** ☐ **No**

5. If score-level and/or data element reliability testing was NOT conducted or if the methods used were NOT appropriate, was **empirical VALIDITY testing** of patient-level data conducted?
   ☐ **Yes** ☐ **No**

6. **Assess the method(s) used for reliability testing**
   Submission document: Testing attachment, section 2a2.2

   - Reliability was assessed at the measure score level
     - Signal-to-noise analysis using the Morris method conducted
     - HPPLs with 10 or fewer outcome events (i.e. admissions) were excluded based on CMS standards; note that this testing is not aligned with the measure specifications, which do not identify a minimum case volume.
     - The developer clarified that the In order to be consistent with CMS's criteria for public sharing of results, they excluded results with 10 or fewer outcome events from this analysis. They noted they did not include this in the measure specifications in order to allow state Medicaid agencies to apply their own criteria for minimum events as appropriate.
   - The developer noted that they worked directly with health plans to obtain the enrollment and claims data needed to support measure testing. These data represented 4 parent health plan organizations, and 14 different health plan product lines (HPPLs) from 10 states, located in geographically diverse regions of the country. Health plans are anticipated to calculate this measure utilizing their own data, similar to reporting for the Healthcare Effectiveness Data and Information Set (HEDIS) meaures.
   - Some Panel members were concerned about the measure's exclusion of the month that an enrollee dies, and any subsequent months of enrollment, from the denominator. Panel members suggested greater clarity in the specification of this exclusion is needed.
     - The developer clarified that the measure denominator includes the number of months the beneficiary was enrolled in the MLTSS plan and in the community. They exclude the month that enrollees die and subsequent months because there is no possibility for outcome events (admissions) during these months. In their testing, the developer found that there was a lag between date of death and subsequent disenrollment, therefore it was necessary to impose this as a specific exclusion.
   - A summary of the Methods Panel members feedback is provided below. This feedback is intended to inform Standing Committee discussion.
     - **PANEL MEMBER 1:** Tested measure reliability using SNR.
     - **PANEL MEMBER 2:** Signal to noise
     - **PANEL MEMBER 3:** Signal-to-noise ratio was used by the developer to test reliability, which is acceptable
     - **PANEL MEMBER 4:** Based on their statement in 1.2, "There are no existing, nationally standardized datasets for Medicaid beneficiaries enrolled in managed long-term services and supports (MLTSS) plans, which is the target population for this measure." Only state systems exist and are often not comparable or consistent in the meaning of "admissions" to various institutions. Hence, reliability of data at the claims level is suspect in this case.

7. **Assess the results of reliability testing**
   Submission document: Testing attachment, section 2a2.3

   - Results:

Signal-to-noise reliability of age-stratified rates

Measure	Level of aggregation	Average reliability score	Interquartile range of reliability scores	Median reliability score	% Plans exceeding 0.4 SNR
Plans with 11 or more numerator events					
Short-stay, 18-64	12 HPPLs	0.5322	0.3082 – 0.8156	0.4961	50%
Short-stay, 65-74	11 HPPLs	0.5491	0.4288 – 0.9219	0.5707	55%
Short-stay, 75-84	10 HPPLs	0.7238	0.7179 – 0.7777	0.7448	80%
Short-stay, 85+	9 HPPLs	0.7353	0.7011 – 0.7832	0.7625	78%
Medium-stay: 18-64	13 HPPLs	0.6060	0.3535 – 0.8764	0.6293	62%
Medium-stay, 65-74	12 HPPLs	0.8279	0.7605 – 0.9552	0.8705	92%
Medium-stay, 75-84	14 HPPLs	0.8975	0.8506 – 0.9828	0.9249	100%
Medium-stay, 85+	11 HPPLs	0.8846	0.9166 – 0.9880	0.9593	88%
Long-stay: 18-64	12 HPPLs	0.9417	0.9195 – 0.9918	0.9668	100%
Long-stay, 65-74	12 HPPLs	0.9328	0.9314 – 0.9928	0.9565	100%
Long-stay,75-84	12 HPPLs	0.9399	0.9604 – 0.9984	0.9827	100%
Long-stay, 85+	12 HPPLs	0.9093	0.9568 – 0.9988	0.9941	100%

Source: Mathematica analysis of data from four MLTSS plans and fourteen health plan product lines

- Average and median SNRs reported for the 12 stay/age groupings
  - Averages range between 0.53 to 0.94
  - Medians range between 0.50 to 0.99
  - Highest estimates for long stays, regardless of age group
  - Could be problematic for short stays for those under age 75

- A summary of the Methods Panel members feedback is provided below. This feedback is intended to inform Standing Committee discussion.
  - **PANEL MEMBER 1:** Across different measures stratified by age, median reliability ranged between 0.5 and 0.99, which is consistent with acceptable level of reliability
  - **PANEL MEMBER 2:** Average reliability score is acceptable; for some subsets of the measure, reliability is excellent
  - **PANEL MEMBER 3:** Average reliability scores ranged from 0.05322 to 0.9417, which is acceptable
  - **PANEL MEMBER 4:** Their Table A.1 "Signal to noise" appeared to show little difference among the 17 plans for long stay, but substantial differences in rates for short and mid-length stays. These show clear utilization differences, but quality of care (or quality of life avoiding institutional care) differences are not equally supportable.

8. Was the method described and appropriate for assessing the proportion of variability due to real differences among measured entities? NOTE: If multiple methods used, at least one must be appropriate.

   Submission document: Testing attachment, section 2a2.2

   ☒**Yes**

   ☐**No**

   ☐**Not applicable** (score-level testing was not performed)

9. Was the method described and appropriate for assessing the reliability of ALL critical data elements?

   Submission document: Testing attachment, section 2a2.2

   ☐**Yes**

   ☐**No**

☒**Not applicable** (data element testing was not performed)

10. **OVERALL RATING OF RELIABILITY** (taking into account precision of specifications and all testing results):
    - Ultimately, the Methods Panel gave this measure a preliminary rating of moderate for reliability. Individual members ratings ranged from low to moderate.
    - A summary of Methods Panel members rationales for their ratings is summarized in item 11 below.
11. **Briefly explain rationale for the rating of OVERALL RATING OF RELIABILITY and any concerns you may have with the approach to demonstrating reliability.**
    - **PANEL MEMBER 1:** Median reliability was variable, and was moderate for the short-stay measures for ages 18-64 and 65-74.
    - **PANEL MEMBER 2:** Reliability reasonable for all subsets and excellent for some
    - **PANEL MEMBER 3:** Appropriate testing for reliability and results were within an acceptable range. However, specifications appear to be incomplete due to possible missing exclusions.
    - **PANEL MEMBER 4:** Given the high variability in the quality of source Medicaid data from different states and the questionable validity of the measure relative to what the intended use of the measure is, moderate is as high as I was willing to go on reliability.

VALIDITY: ASSESSMENT OF THREATS TO VALIDITY

12. **Please describe any concerns you have with measure exclusions.**
    Submission document: Testing attachment, section 2b2.
    - A summary of Methods Panel member feedback is provided below:
        - **PANEL MEMBER 2:** The rationale for excluding the month in which a beneficiary is deceased is well-explained.
        - **PANEL MEMBER 3:** Developer indicates one exclusion for the denominator, however in the numerator details there appear to be "do not include…" statements e.g., exclusions.
        - **PANEL MEMBER 4:** The narrative in the MIF document was much less clear than in the Testing Attachment document. Exclusions were difficult to understand and evaluate as described.
13. **Please describe any concerns you have regarding the ability to identify meaningful differences in performance.**
    Submission document: Testing attachment, section 2b4.
    - Panel members noted concerns about whether the measure as specified truly reflects quality (particularly given that different plans may score differently based on the stay/age groupings).
    - Some Methods Panel members noted concerns about low event rates and potential difficulty demonstrating meaningful differences between plans.
    - The developer clarified that Appendix B details work to develop a logistical regression model to risk-adjust the measure rather than the final measure specifications. Specifically, Table B.2 shows prevalence results at the beneficiary level, which would have been the basis for logistical regression modeling. However, as discussed, we did not pursue logistical modeling of the measure. The actual measure specification uses stratification and maintains the unit of measurement as enrollee months.
    - A summary of Methods Panel feedback is provided below:
        - **PANEL MEMBER 2:** The event rates are very low, which causes significant problems with identifying differences in performance.
        - **PANEL MEMBER 4:** Table B2 and the narrative that precedes the table provides insight into the validity issues for the measure. The prevalence of admissions to institutions for each of the three stratified LOS are quite low (0.6% (short); 1.7% (medium); 2.5% (long)). Hence, meaningful difference across LOS are problematic.
14. **Please describe any concerns you have regarding comparability of results if multiple data sources or methods are specified.**
    Submission document: Testing attachment, section 2b5.

- Methods Panel members did not have any concerns regarding comparability of results.

15. **Please describe any concerns you have regarding missing data.**
Submission document: Testing attachment, section 2b6.

- Methods Panel members did not have any concerns regarding missing data

16. **Risk Adjustment**

16a. **Risk-adjustment method** ☐ **None** ☐ **Statistical model** ☒ **Stratification**

16b. **If not risk-adjusted, is this supported by either a conceptual rationale or empirical analyses?**

☐Yes ☐ No ☒☒ Not applicable

16c. **Social risk adjustment:**

16c.1 Are social risk factors included in risk model? ☐ Yes ☒ No ☐ Not applicable

16c.2 Conceptual rationale for social risk factors included? ☒ Yes ☐ No

16c.3 Is there a conceptual relationship between potential social risk factor variables and the measure focus? ☒ Yes ☒ No

PANEL MEMBER 1: Population for this measure is a high social-risk group.

16d.**Risk adjustment summary:**

16d.1 All of the risk-adjustment variables present at the start of care? ☒ Yes ☐ No

16d.2 If factors not present at the start of care, do you agree with the rationale provided for inclusion? ☐ Yes ☐ No

16d.3 Is the risk adjustment approach appropriately developed and assessed?

- Methods Panel members provided varying responses to this question.

16d.4 Do analyses indicate acceptable results (e.g., acceptable discrimination and calibration)

- Methods Panel members provided varying responses to this question.

16d.5.Appropriate risk-adjustment strategy included in the measure?

- Methods Panel members provided varying responses to this question.

16e**. Assess the risk-adjustment approach**

- Risk adjustment via stratification of four age groups
- No social risk factors included
    - Note: Developer cites NQF's SES trial results as rationale for not including SES. NQF does not agree with this interpretation.
- The panel noted concern about a lack of compelling analysis to support the exclusion of dual status in the risk adjustment model, and were also concerned that there may not be enough events to allow for adequate risk-adjustment.
- A summary of the Methods Panel members feedback is provided below:
    - **PANEL MEMBER 2:** The argument for using stratification rather than risk adjustment is that there are too few events to be able to predict outcomes. I'm not sure stratification gets around this problem. For the strata with low event rates, it's still as likely to be noise as signal; for the strata with high event rates, risk adjustment is lacking. I can't think of a fix to this other than to wonder whether this is the appropriate outcome for a quality measure.
    - **PANEL MEMBER 3**: Used stratification by age as recommended from their Risk Adjustment Advisory Workgroup. An additional TEP reviewed the results of a statistical risk model and the measure results using an age-stratification approach and recommended the use of age-stratification for the measure.
    - **PANEL MEMBER 4:** Risk adjustment efforts are on-going and there are indications that the author understands the issues involved and has support from a technical expert panel. Data quality (consistency and availability across states) is clearly a limiting factor in this effort.

VALIDITY: TESTING

17. **Validity testing level: ☒ Measure score ☐ Data element ☐ Both**
18. **Method of establishing validity of the measure score:**

    ☐ **Face validity**

    ☒ **Empirical validity testing of the measure score**

    ☐ **N/A (score-level testing not conducted)**
19. **Assess the method(s) for establishing validity**
    Submission document: Testing attachment, section 2b2.2

    - Validity was assessed at the measure score level.
    - The developer conducted score-level validity testing by comparing measure results with results from two other measures (#3457: Minimizing institutional length of stay and #3458: Successful transition after long-term institutional stay). They assessed convergent validity based on the Spearman correlation.
    - A summary of the Methods Panel members assessment of the methods for establishing validity is presented below. Please note this is intended to inform Standing Committee discussion.
        - **PANEL MEMBER 1:** Convergent validity
        - **PANEL MEMBER 3:** Used convergent validity and face validity to assess the measure's validity. Used multiple TEPs to establish validity of measure as well as public comment.
        - **PANEL MEMBER 4:** Advisory group has helped with the measure development process; there is a good literature review also in two of the supporting documents
20. **Assess the results(s) for establishing validity**
    Submission document: Testing attachment, section 2b2.3

    - Results generally were as hypothesized:
        - Their analyses found that the twelve rates that comprise the *Admission to an institution from the community* measure generally had positive, significant associations with one another and relationships tended to be stronger within age strata and more similar rates (i.e., rates for a particular age category were aligned across stay types, rates for a particular stay type were aligned across ages within the stay type, and short-stay results were more aligned with medium-stay results than long-stay results).
        - They saw a moderate, negative correlation between the long-stay rates on this measure and performance on a measure of minimizing institutional length of stay.
        - They observed mostly negative relationships between the twelve *Admission to an institution from the community* measure rates and the *Successful transition after long-term institutional stay* measure rates among the 14 HPPLs; this finding is expected because while the *Admission to an institution from the community* measure captures a less desirable outcome (institutional admission), the *Successful transition after long-term institutional stay* rates reflect positive outcomes after institutional discharge.
    - A summary of the Methods Panel members feedback is provided below:
        - **PANEL MEMBER 1:** New measure exhibited convergent validity with tested measures
        - **PANEL MEMBER 2:** Reasonable internal correlation between strata
        - **PANEL MEMBER 3:** Overall the results showed moderate to good associations for hypothesized relationships suggesting that the measure meets the test of validity.
21. **Was the method described and appropriate for assessing conceptually and theoretically sound hypothesized relationships?**

    Submission document: Testing attachment, section 2b1.

    ☒**Yes**

    ☐**No**

☐**Not applicable** (score-level testing was not performed)

22. **Was the method described and appropriate for assessing the accuracy of ALL critical data elements?** *NOTE that data element validation from the literature is acceptable.*

    Submission document*: Testing attachment, section 2b1.*

    ☐**Yes**

    ☐**No**

    ☒**Not applicable** (data element testing was not performed)

23. **OVERALL RATING OF VALIDITY taking into account the results and scope of all testing and analysis of potential threats.**

    - Ultimately, the Methods Panel gave this measure an overall rating of validity as moderate. Indvidiaul members' ratings ranged from low to high.
    - A summary of Methods Panel members rationale for their overally rating of validty is provided below in item 24.

24. **Briefly explain rationale for rating of OVERALL RATING OF VALIDITY and any concerns you may have with the developers' approach to demonstrating validity.**
    - **PANEL MEMBER 1:** Convergent validity is a relatively weak test of validity since there is no gold standard for testing. Predictive validity cannot be tested because this measure is not risk adjusted.
    - **PANEL MEMBER 2:** I'm concerned about the fact that there were not enough events to allow for risk adjustment. That seems to indicate that there are not enough events to allow for performance evaluation either.
    - **PANEL MEMBER 3:** Overall results of validity testing.
    - **PANEL MEMBER 4:** Based on the information and results displayed in the Technical Analysis, this measure is in much better condition than is represented in the MIF document

ADDITIONAL RECOMMENDATIONS

25. **If you have listed any concerns in this form, do you believe these concerns warrant further discussion by the multi-stakeholder Standing Committee? If so, please list those concerns below.**

PANEL MEMBER 2: Concerns about whether outcome is common enough to create a valid measure.

Committee Pre-evaluation Comments:
Criteria 2: Scientific Acceptability of Measure Properties (including all 2a, 2b, and 2c)

2a1. Reliability-Specifications: Which data elements, if any, are not clearly defined? Which codes with descriptors, if any, are not provided? Which steps, if any, in the logic or calculation algorithm or other specifications (e.g., risk/case-mix adjustment, survey/sampling instructions) are not clear? What concerns do you have about the likelihood that this measure can be consistently implemented?

- Reviewer noted the inconsistency of state data; there is much evidence that states differ widely in their collection and management of data; e.g., the Social Security deathmaster file is determined from state databases not Federal; more than 10 states have obvious gaps in the data.
- There do seem to be a fair number of "do not include" statements where there wasn't a clear rationale. Also, the measurement year is not clearly defined and it is not clear why these age stratifications were chosen. Should be noted that ICF/IID is a relatively small slice of the institutional LTSS world and there are perhaps confounding reasons why 85+ have higher rates of admission.

2a2. Reliability - Testing: Do you have any concerns about the reliability of the measure?

- Methods used represent a reliable measure.
- Overall reliability probably moderate, there is probably some state vs state variability in MC plans that make comparisons challenging

2b1. Validity -Testing: Do you have any concerns with the testing results?

- Validity here should be concerned with the relationship between HCBS programs and differences in ICF admission. At a minimum, a ratio should be developed relative to the number, age group, and potentially severity of the different HCBS populations.
- Overall validity probably moderate--esp for younger populations, the rates of institutionalization are low. Also, is utilization a quality issue or an access issue? There may be variability in how states choose to fund HCBS vs ICF and I think ASPE notes that there is some correlation between utilization and avaiability of ICF level in various states

2b4-7. Threats to Validity (Statistically Significant Differences, Multiple Data Sources, Missing Data): 2b4. Meaningful Differences: How do analyses indicate this measure identifies meaningful differences about quality? 2b5. Comparability of performance scores: If multiple sets of specifications: Do analyses indicate they produce comparable results? 2b6. Missing data/no response: Does missing data constitute a threat to the validity of this measure?

- Not sure this measures meaningful differences in quality

2b2-3. Other Threats to Validity (Exclusions, Risk Adjustment) 2b2. Exclusions: Are the exclusions consistent with the evidence? Are any patients or patient groups inappropriately excluded from the measure?2b3. Risk Adjustment: If outcome (intermediate, health, or PRO-based) or resource use performance measure: Is there a conceptual relationship between potential social risk factor variables and the measure focus? How well do social risk factor variables that were available and analyzed align with the conceptual description provided? Are all of the risk-adjustment variables present at the start of care (if not, do you agree with the rationale provided)? Was the risk adjustment (case-mix adjustment) appropriately developed and tested? Do analyses indicate acceptable results? Is an appropriate risk-adjustment strategy included in the measure?

- Age stratification was used as a proxy for risk adjustment; the issue is whether this is sufficient, which is an empirical question. At least the results of the metric were correlated with other metrics, supporting an aspect of construct validity.Without further study, it is difficult to conclude whether the metric will be a valid representation of the intended use.
- No SES factors reported (though these are all MLTSS participants), used stratification by age, ?why these age cutoffs.

Criterion 3. Feasibility

Maintenance measures – no change in emphasis – implementation issues may be more prominent

3. Feasibility is the 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.

- This measure is calculated using claims data.
- All data elements are in defined fields in electronic claims.
- The American Hospital Association holds a copyright to the Uniform Bill Codes ("UB") contained in the measure specifications. The UB Codes in this specification are included with the permission of the AHA. The UB Codes contained in this specification may be used by health plans and other health care delivery organizations for the purpose of calculating and reporting the measure results or using the measure results for their internal quality improvement purposes. All other uses of the UB Codes require a license from the AHA.

Questions for the Committee:

- Are the required data elements routinely generated and used during care delivery?
- Are the required data elements available in electronic form, e.g., EHR or other electronic sources?
- Is the data collection strategy ready to be put into operational use?

Preliminary rating for feasibility: ☐ **High** ☒ **Moderate** ☐ **Low** ☐ **Insufficient**

Committee Pre-evaluation Comments:
Criteria 3: Feasibility

3. Feasibility: Which of the required data elements are not routinely generated and used during care delivery? Which of the required data elements are not available in electronic form (e.g., EHR or other electronic sources)? What are your concerns about how the data collection strategy can be put into operational use?

- Claims data will be used; as previously indicated, it will be necessary to determine the appropriateness of data from each state prior to implementation of the metric.
- All claims based, should be an issue re: feasibility

Criterion 4: Usability and Use

Maintenance measures – increased emphasis – much greater focus on measure use and usefulness, including both impact/improvement and unintended consequences

4a. Use (4a1. Accountability and Transparency; 4a2. Feedback on measure)

4a. Use evaluate the extent to which audiences (e.g., consumers, purchasers, providers, policymakers) use or could use performance results for both accountability and performance improvement activities.

4a.1. 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.

Current uses of the measure

Publicly reported? ☐ **Yes** ☒ **No**

Current use in an accountability program? ☐ **Yes** ☒ **No** ☐ **UNCLEAR**

OR

Planned use in an accountability program? ☒ **Yes** ☐ **No**

Accountability program details

This measure is intended for use by states and health plans to monitor and improve the quality of care provided for the Medicaid MLTSS enrollee population. The intended use of the measure is to allow states to compare and evaluate the quality of LTSS care being provided in MLTSS plans with which they contract using a common, standardized and validated measure. This specific measure focuses on one outcome of high quality MLTSS care – reducing avoidable admissions to institutions.In May 2017, the National MLTSS Health Plan Association recommended a set of model LTSS performance measures and network adequacy standards in an effort to assist states in complying with the 2016 final rule on managed care in Medicaid and Children's Health Insurance (CHIP). This measure is included in the set of recommended measures that assesses person-centered planning and coordination.

4a.2. Feedback on the measure by those being measured or others. Three criteria demonstrate feedback: 1) those being measured have been given performance results or data, as well as assistance with interpreting the measure results and data; 2) those being measured and other users have been given an opportunity to provide feedback on the measure performance or implementation; 3) this feedback has been considered when changes are incorporated into the measure

Feedback on the measure by those being measured or others

Not applicable. This measure has not been implemented yet. Unlike Medicare measures, there is no formal process by which draft results for Medicaid measures are shared with measured entities, such as a Dry Run used in the Hospital Inpatient Quality Reporting (IQR) and Outpatient Quality Reporting (OQR) programs.

Feedback on the measure will be available after the measure has been implemented by states in their MLTSS programs.

Additional Feedback:

n/a

***Questions for the Committee**:*

- How have (or can) the performance results be used to further the goal of high-quality, efficient healthcare?
- How has the measure been vetted in real-world settings by those being measured or others?

Preliminary rating for Use: ☒ Pass ☐ No Pass

RATIONALE:

4b. Usability (4a1. Improvement; 4a2. Benefits of measure)

4b. Usability evaluate the extent to which audiences (e.g., consumers, purchasers, providers, policymakers) use or could use performance results for both accountability and performance improvement activities.

4b.1 Improvement. Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated.

Improvement results

This measure is not yet implemented, thus longitudinal data is not available.

4b2. Benefits vs. harms. 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).

Unexpected findings (positive or negative) during implementation

This measure has not been implemented yet. There were no unexpected findings identified during testing of this measure.

Potential harms

This measure has not been implemented yet. There were no unexpected findings identified during testing of this measure.

Additional Feedback:

n/a

***Questions for the Committee**:*

- How can the performance results be used to further the goal of high-quality, efficient healthcare?
- Do the benefits of the measure outweigh any potential unintended consequences?

Preliminary rating for Usability and use: ☐ High ☐ Moderate ☐ Low ☒ Insufficient

RATIONALE:

This measure is a new measure, thus usability results are unavailable. Although the Use and Usability criterion is not met, the measure may be suitable for endorsement based on an assessment of the strength of the measure in relation to the other three evaluation criteria and the strength of the competing and related measures to drive improvement.

Committee Pre-evaluation Comments:
Criteria 4: Usability and Use

4a. Use - Accountability and Transparency: How is the measure being publicly reported? Are the performance results disclosed and available outside of the organizations or practices whose performance is measured? For maintenance measures - which accountability applications is the measure being used for? For new measures - if not in use at the time of initial endorsement, is a credible plan for implementation provided?4a2. Use - Feedback on the measure: Have those being measured been given performance results or data, as well as assistance with interpreting the measure results and data? Have those being measured or other users been given an opportunity to provide feedback on the measure performance or implementation? Has this feedback has been considered when changes are incorporated into the measure?

- The metric is not in use yet.
- Don't think it's currently being publicly reported, unless I missed something

4b1. Usability – Improvement: How can the performance results be used to further the goal of high-quality, efficient healthcare? If not in use for performance improvement at the time of initial endorsement, is a credible rationale provided that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations?4b2. Usability – Benefits vs. harms: Describe any actual unintended consequences and note how you think the benefits of the measure outweigh them.

- No particular issues noted, though again, do rates of ICF utilization truly show differences in quality of pre-institutional, ie HCBS care?

Criterion 5: Related and Competing Measures

Related or competing measures

- NQF did not identify competing measures.

Committee Pre-evaluation Comments: Criterion 5:
Related and Competing Measures

5. Related and Competing: Are there any related and competing measures? If so, are any specifications that are not harmonized? Are there any additional steps needed for the measures to be harmonized?

Public and Member Comments

NQF received no public or member comments on this measure as of January 25, 2019.

Brief Measure Information

NQF #: 3456

Corresponding Measures:

De.2. Measure Title: Admission to an Institution from the Community

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

De.3. Brief Description of Measure: The number of managed long-term services and supports (MLTSS) plan enrollee admissions to an institution (nursing facility or intermediate care facility for individuals with intellectual disabilities [ICF/IID]) from the community that result in a short-term (1 to 20 days), medium-term (21 to 100 days), or long-term stay (greater than or equal to 101 days) during the measurement year per 1,000 enrollee months.

The following rates are reported across four age groups: 18-64, 65-74, 75-84, and 85 and older:

- Short-term Stay. The rate of admissions resulting in a short-term (1 to 20 days) stay per 1,000 MLTSS enrollee months.

- Medium-term Stay. The rate of admissions resulting in a medium-term (21 to 100 days) stay per 1,000 MLTSS enrollee months.

- Long-term Stay. The rate of admissions resulting in a long-term (greater than or equal to 101 days) stay per 1,000 MLTSS enrollee months.

1b.1. Developer Rationale: This measure evaluates the number of MLTSS enrollee admissions to an institution (nursing facility or intermediate care facility for individuals with intellectual disabilities [ICF/IID]) from the community that result in a short-term (less than or equal to 20 days), medium-term (21 to 100 days), or long-term stay (greater than or equal to 101 days) during the measurement year. It is important to ensure that MLTSS enrollees with disabilities who wish to live in the community as long as possible are able to do so by delaying or preventing placement in long term institutional care. Decreasing the institutional admission rate among MLTSS beneficiaries reflects improvement in providing timely access to high quality services and effective care coordination provided to individuals receiving LTSS in community settings.

Most individuals who need long-term services and supports (LTSS) want to live at home or in community settings (Guo et al. 2015; Keenan 2010). Although state Medicaid agencies, which pay for the majority of LTSS, have made significant progress in rebalancing their LTSS systems to provide more HCBS, many Medicaid beneficiaries still reside in institutions, which is both costly and can be associated with adverse outcomes such as hospital admissions. A key goal of MLTSS programs is to reduce the use of institutional care by decreasing unnecessary admissions. MLTSS plans achieve this goal by conducting person-centered assessment and care planning, providing timely access to high quality HCBS, and coordinating LTSS and medical care across providers and settings (Felix et al. 2011; Greiner et al. 2013; Sands et al. 2012). While it may not be possible to avoid the use of institutional care entirely, this measure assesses the effectiveness of MLTSS plans in minimizing avoidable admissions. Keeping individuals in home and community settings and minimizing their stays in institutions helps to increase their quality of life and care experience.

At the state-level, research suggests that significant variation exists in HCBS use before a nursing home stay (Schmitz et al, 2014). The work of Schmitz et al, which focused on new Medicaid-financed nursing home stays in 2009, found that about 23% had used HCBS in 2008 prior to their nursing home stay. Among those with nursing home stays lasting six months or less (beginning and ending during the first half of 2009), a greater share—31 percent—had used HCBS before their stay. The percentage of first new nursing home stays in 2009 preceded by HCBS use in 2008 ranged from less than 10 percent in Florida, Louisiana, and Pennsylvania to more than 35 percent of stays in California and Idaho. New ICF/IID admissions were found to be less common

than new nursing home admissions, but a large proportion of new ICF/IID stays were preceded by HCBS use. About 39 percent of beneficiaries with new Medicaid-financed ICF/IID stays in 2009 used HCBS in 2008 before their stay. Because few individuals are newly admitted to ICF/IIDs, the variation across states is small, ranging from 0.0 percent in Vermont to 0.37 percent in North Dakota.

Other evidence also suggests that there is significant variation across states in their performance with respect to institutional admissions. Among all nursing home admissions of Medicare beneficiaries in 2012 (not limited to those dually eligible for Medicare and Medicaid or LTSS users), the median percentage of stays that lasted 100 days or more was 18.7 in 2012; the highest share was in Louisiana (35 percent), and the lowest was in Arizona (8.9 percent) (Irvin et al. 2016).

However, these state-level estimates might mask variation by programs across states, such as differences in 1915(c) HCBS waiver programs. It is also important to note that while this variation has been identified across states, it may be less relevant in an MLTSS environment where managed care plans are all operating within a single state, and subject to the same LTSS requirements.

Citations

Felix, Holly C., Glen P. Mays, M. Kathryn Stewart, Naomi Cottoms, and Mary Olson. "Medicaid Savings Resulted When Community Health Workers Matched Those With Needs to Home and Community Care." Health Affairs, vol. 30, no. 7, 2011, pp. 1366-1374.

Greiner, Melissa A., Laura G. Qualls, Isao Iwata, Heidi K. White, Sheila L. Molony, M. Terry Sullivan, Bonnie Burke, Kevin A. Schulman, and Soko Setoguchi. "Predicting Nursing Home Placement Among Home- and Community-Based Services Program Participants." The American Journal of Managed Care, vol. 20, no. 12, 2014, pp. e535-e536.

Guo, Jing, R. Tamara Konetzka, Elizabeth Magett, and Willian Dale. "Quantifying Long-Term Care Preferences." Medical Decision Making, vol. 35, no. 1, 2015, pp. 106-113.

Irvin, Carol, Noelle Denny-Brown, Eric Morris, and Claire Postman. Table 5. Indicators of performance of state long-term services and supports systems, "Pathways to Independence: Transitioning Adults Under Age 65 from Nursing Home to Community Living (), table 5, Indicators of performance of state long-term services and supports systems. Cambridge, MA: Mathematica Policy Research, 2016, pp. 30-31. Available at https://www.medicaid.gov/medicaid/ltss/downloads/mfpfieldreport19.pdf.

Keenan, Teresa A. "Home and Community Preferences of the 45+ Population." Washington, DC: AARP Public Policy Institute, November 2010. Available at http://assets.aarp.org/rgcenter/general/home-community-services-10.pdf.

Sands, Laura P., Huiping Xu, Joseph Thomas, III, Sudeshna Paul, Bruce A. Craig, Marc Rosenman, Caroline C. Doebbeling, and Michael Weiner. "Volume of Home- and Community-Based Services and Time to Nursing-Home Placement." Medicare & Medicaid Research Review, vol. 2, no. 3, 2012, pp. E1-E21.

Schmitz, Robert, Victoria Peebles, Rosemary Borck, and Miller, Dean. "Medicaid-Financed Institutional Services: Patterns of Care for Residents of Nursing Homes and Intermediate Care Facilities for Individuals with Intellectual Disabilities in 2008 and 2009." Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, May 2014. Available at https://aspe.hhs.gov/sites/default/files/pdf/137851/CarePatt.pdf.

S.4. Numerator Statement: Number of admissions to an institution (nursing facility or ICF/IID) during the measurement year. Admissions are divided and reported in three categories:

- Admissions that result in a short-term stay (1 to 20 days)

- Admissions that result in a medium-term stay (21 to 100 days)

- Admissions that result in a long-term stay (greater than or equal to 101 days)

S.6. Denominator Statement: Number of enrollee months for MLTSS enrollees age 18 and older where the enrollee was residing in the community.

S.8. Denominator Exclusions: Exclude the month that an enrollee dies, and any subsequent months of enrollment, from the measure denominator.

De.1. Measure Type: Outcome

S.17. Data Source: Claims, Enrollment Data

S.20. Level of Analysis: Health Plan

IF Endorsement Maintenance – Original Endorsement Date: Most Recent Endorsement Date:

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.

1. Evidence and Performance Gap – 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

2._AdmInstit_EvidenceAttachment_9.19.18.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.

1a. Evidence (subcriterion 1a)

Measure Number (*if previously endorsed*)**:** N/A

Measure Title: Admission to an institution from the community

IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:

Date of Submission: 11/1/2018

Instructions

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

Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF's evaluation criteria.

1a. Evidence to Support the Measure Focus

The measure focus is evidence-based, demonstrated as follows:

- Outcome: Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias.
- Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence that the measured intermediate clinical outcome leads to a desired health outcome.
- Process: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence that the measured process leads to a desired health outcome.
- Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence that the measured structure leads to a desired health outcome.
- Efficiency: evidence not required for the resource use component.
- For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful.
- Process measures incorporating Appropriate Use Criteria: See NQF's guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.

Notes

3. Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.

4. The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation (GRADE) guidelines and/or modified GRADE.

5. Clinical care processes typically include multiple steps: assess → identify problem/potential problem → choose/plan intervention (with patient input) → provide intervention → evaluate impact on health status. If the measure focus is one step in such a multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.

6. Measures of efficiency combine the concepts of resource use and quality (see NQF's Measurement Framework: Evaluating Efficiency Across Episodes of Care; AQA Principles of Efficiency Measures).

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

Outcome

☒ Outcome: The number of managed long-term services and supports (MLTSS) plan enrollee admissions to an institution (nursing facility or intermediate care facility for individuals with intellectual disabilities [ICF/IID]) from the community that result in a short-term (1 to 20 days), medium-term (21 to 100 days), or long-term stay (greater than or equal to 101 days) during the measurement year per 1,000 enrollee months.

☐Patient-reported outcome (PRO):

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

☐ Intermediate clinical outcome (*e.g., lab value*):

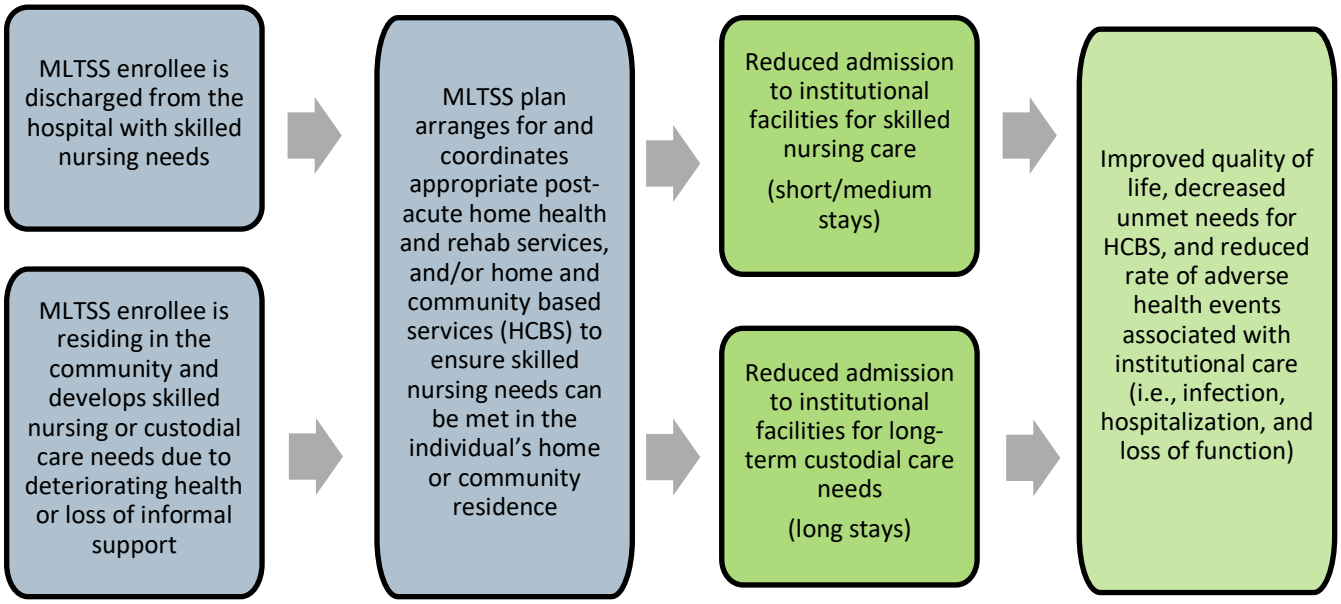
☐ Process:

☐ Appropriate use measure:

☐ Structure:

☐ Composite:

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



Most individuals who need long-term services and supports (LTSS) want to live at home or in community settings (Guo et al. 2015; Keenan 2010). Although state Medicaid agencies, which pay for the majority of LTSS, have made significant progress in rebalancing their LTSS systems to provide more HCBS, many Medicaid beneficiaries still reside in institutions, which is both costly and can be associated with adverse outcomes such as hospital admissions. A key goal of MLTSS programs is to reduce the use of institutional care by decreasing unnecessary admissions, minimizing lengths of stay, and helping long-term residents return to the community if that is where they wish to live and receive services. MLTSS plans achieve this goal by conducting person-centered assessment and care planning, providing timely access to high quality HCBS, and coordinating LTSS and medical care across providers and settings (Felix et al. 2011; Greiner et al. 2013; Sands et al. 2012). In 2009, about 443,000 individuals were admitted to a nursing home for the first time, and about 6,000 individuals were newly admitted to ICF/IIDs (Schmitz et al. 2014). While it may not be possible to avoid the use of institutional care entirely, this measure assesses the effectiveness of MLTSS plans in minimizing avoidable admissions. Keeping individuals in home and community settings and minimizing their stays in institutions helps to increase their quality of life and care experience.

Citations

Felix, Holly C., Glen P. Mays, M. Kathryn Stewart, Naomi Cottoms, and Mary Olson. "Medicaid Savings Resulted When Community Health Workers Matched Those With Needs to Home and Community Care." *Health Affairs*, vol. 30, no. 7, 2011, pp. 1366-1374.

Greiner, Melissa A., Laura G. Qualls, Isao Iwata, Heidi K. White, Sheila L. Molony, M. Terry Sullivan, Bonnie Burke, Kevin A. Schulman, and Soko Setoguchi. "Predicting Nursing Home Placement Among Home- and Community-Based Services Program Participants." *The American Journal of Managed Care,* vol. 20, no. 12, 2014, pp. e535-e536.

Guo, Jing, R. Tamara Konetzka, Elizabeth Magett, and Willian Dale. "Quantifying Long-Term Care Preferences." *Medical Decision Making*, vol. 35, no. 1, 2015, pp. 106-113.

Keenan, Teresa A. "Home and Community Preferences of the 45+ Population." Washington, DC: AARP Public Policy Institute, November 2010. Available at http://assets.aarp.org/rgcenter/general/home-community-services-10.pdf.

Sands, Laura P., Huiping Xu, Joseph Thomas, III, Sudeshna Paul, Bruce A. Craig, Marc Rosenman, Caroline C. Doebbeling, and Michael Weiner. "Volume of Home- and Community-Based Services and Time to Nursing-Home Placement." *Medicare & Medicaid Research Review*, vol. 2, no. 3, 2012, pp. E1-E21.

Schmitz, Robert, Victoria Peebles, Rosemary Borck, and Miller, Dean. "Medicaid-Financed Institutional Services: Patterns of Care for Residents of Nursing Homes and Intermediate Care Facilities for Individuals with Intellectual Disabilities in 2008 and 2009." Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, May 2014. Available at https://aspe.hhs.gov/sites/default/files/pdf/137851/CarePatt.pdf.

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

Not applicable.

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

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

Background on Managed Long-Term Services and Supports (LTSS) Plans: LTSS includes a wide range of care offered in both the institutional (e.g., nursing facility) and community (e.g., home and community based services) setting for adults who needs some assistance with daily tasks due to disability, aging or chronic illness. LTSS is primarily non-medical in nature – many of the services provided are intended to maximize individual's independence living in their preferred environment. The majority of older adults and people with disabilities prefer to receive LTSS in home or community settings, rather than institutions (Guo et al. 2015a; Keenan 2010), and states have an obligation under the Supreme Court *Olmstead* decision to provide LTSS in the most integrated setting appropriate to the needs of qualified beneficiaries (Olmstead v. L.C. 1195.Ct. 2176, 1999).

Medicaid is the largest payer for LTSS in the U.S. and most states have traditionally provided LTSS under fee-for-service (FFS) arrangements with providers, facilities and community-based organizations. In recent years, however, state Medicaid agencies have shifted LTSS from FFS to managed care delivery models, in which states contract with managed care plans to deliver LTSS. States may contract with managed LTSS (MLTSS) plans that only provide LTSS, or comprehensive managed care plans that provide both LTSS and medical care. Almost half of all states (24) provide LTSS through either type of MLTSS arrangement in 2017, 50 percent more than the 16 states that did so in 2012 (Lewis et al. 2018). States have adopted MLTSS to achieve several goals, including improved participant outcomes and quality of care, increased access to HCBS, and improved care coordination. However, if not well-designed, MLTSS could disrupt longstanding relationships (e.g. if enrollees' providers are not part of the managed care plan's network) and create barriers to obtaining needed care (e.g., through gatekeeping or coverage restrictions). Consequently, it is important to systematically measure the quality of care delivered to people in MLTSS plans and their effectiveness in helping individuals with disability to live in the community.

There are currently no NQF endorsed measures of MLTSS quality, and states with MLTSS programs generally do not use reliable, validated LTSS quality measures. People who receive LTSS typically have chronic conditions and their functional ability is likely to decline over time due to the nature of their disability or age. Thus, outcomes such as improvements in health status and function are not applicable to MLTSS enrollees; instead, outcomes such as improvement in quality of life, community integration, and avoidance or delay of institutionalization are more relevant and important (MACPAC 2018).

The intended use of the measure is to allow states to compare and evaluate the quality of LTSS care being provided in MLTSS plans with which they contract using a common, standardized and validated measure. The National Quality Forum confirmed the importance of developing measures of the degree to which people who need LTSS are served in home and community settings rather than in institutions, citing current state-specific measures that are similar to this measure, but vary by state and have not been rigorously tested (NQF 2016, p. 34-35).[1] This specific measure focuses on one critical outcome of high quality MLTSS care –reducing avoidable admissions to institutions.

Evidence on how increased access to, and coordination of HCBS, reduces need for institutional care:

Research has shown that HCBS can reduce the need for nursing home care. In a study examining risk factors for long-term nursing home placement among participants receiving any support services, those receiving personal care assistance had significantly lower odds of nursing home placement within one year (Greiner et al 2014). The amount of HCBS provided is also important; Sands and colleagues (2012) found that among enrollees in one state's HCBS waiver program, each five-hour additional increment in personal care and homemaking services significantly reduced the risk for nursing home placement. Spending on HCBS – reflecting intensity of services – has also been found to reduce the use of nursing home care; Guo et al. (2015b) found that an additional $1,000 increase in the use of Medicaid-funded home care reduced nursing facility use by 2.75 days per year on average. Overall, these studies indicate that not only particular types of HCBS but also a greater volume of HCBS can reduce the use of nursing home care.

Evidence on the impact of avoiding institutional care on quality of life and care experience:

Most individuals with LTSS needs prefer to live at home or in community settings and avoid admissions to nursing homes and other institutions (Guo et al. 2015a; Keenan 2010). Keeping individuals in the community and out of institutions improves the quality of their lives and care experience. For instance, evidence from the national evaluation of the Money Follows the Person (MFP) demonstration program shows that one year after Medicaid beneficiaries moved from an institution to a home or community setting in which enhanced HCBS were offered, they were more satisfied with their lives, their living arrangements, and their care. Their unmet needs for personal assistance diminished, and they faced fewer barriers to integrating themselves into the community (Irvin et al. 2015; Irvin et al. 2017).

Reducing institutional admissions, particularly long-stay admissions, also reduces the risk that beneficiaries will remain in an institution unnecessarily because they lose community supports and housing after entering the institution. Approximately 5 to 12 percent of nursing home residents in all states have a minimal need for skilled nursing services and could live in community settings if they had suitable housing and supports (Mor et al. 2007). Typically, the longer an individual remains in an institution, the more his or her community resources diminish (Arling et al. 2010). Evidence suggests that, in states with lower levels of investment in HCBS and higher rates of nursing home use, the proportions of residents in nursing homes who require only minimal levels of care are higher, and the rate at which these individuals are discharged to the community is lower compared to states with higher levels of HCBS investments and lower rates of nursing home use (Mor et al. 2007; Arling et al. 2011). This finding suggests an opportunity to improve HCBS among beneficiaries who do not require intense levels of skilled care and could be supported in the community.

Citations

Arling, Greg, Robert L. Kane, Valerie Cooke, and Teresa Lewis. "Targeting Residents for Transitions from Nursing Home to Community." Health Services Research, vol. 45, no. 3, June 2010, pp. 691-711.

[1] One of the priority gap areas, in system performance and accountability domain, is financing and service delivery structures that serve: "to increase the proportion of people served in home and community settings and to meet the needs of consumers." NQF provided an example of a measure in one state that is similar to the one proposed for NQF endorsement: "percent of new members meeting nursing facility level of care criteria who opt for HCBS over institutional placement."

Arling, Greg, Kathleen A. Abrahamson, Valerie Cooke, Robert L. Kane, and Teresa Lewis. "Facility and Market Factors Affecting Transitions from Nursing Home to Community." Medical Care, vol. 49, no. 9, September 2011, pp. 790-796.

Greiner, Melissa A., Laura G. Qualls, Isao Iwata, Heidi K. White, Sheila L. Molony, M. Terry Sullivan, Bonnie Burke, Kevin A. Schulman, and Soko Setoguchi. "Predicting Nursing Home Placement Among Home- and Community-Based Services Program Participants." The American Journal of Managed Care, vol. 20, no. 12, 2014, pp. e535-e536.

Guo, Jing, R. Tamara Konetzka, Elizabeth Magett, and Willian Dale. "Quantifying Long-Term Care Preferences." Medical Decision Making, vol. 35, no. 1, 2015a, pp. 106-113.

Guo, Jing, R. Tamara Konetzka, and Willard G. Manning. "The Causal Effects of Home Care Use on Institutional Long-Term Care Utilization and Expenditures." Health Economics, vol. 1, suppl. 1, 2015b, pp. 4-17.

Irvin, Carol V., Alex Bohl, Kate Stewart, Susan R. Williams, Allison Steiner, Noelle Denny-Brown, Andrea Wysocki, Rebecca Coughlin, Jason Smoot, and Victoria Peebles. "Money Follows the Person 2015 Annual Evaluation Report." Cambridge, MA: Mathematica Policy Research, May 11, 2017.

Irvin, Carol V., Noelle Denny-Brown, Alex Bohl, John Schurrer, Andrea Wysocki, Rebecca Coughlin, and Susan R. Williams. "Money Follows the Person 2014 Annual Evaluation Report." Washington, DC: Mathematica Policy Research, December 2015.

Keenan, Teresa A. "Home and Community Preferences of the 45+ Population." Washington, DC: AARP Public Policy Institute, November 2010. Available at http://assets.aarp.org/rgcenter/general/home-community-services-10.pdf.

Lewis, E., S. Eiken, A. Amos, and P. Saucier. 2018. The growth of managed long-term services and supports programs: 2017 update. Cambridge, MA: Truven Health Analytics, IBM Watson Health. https://www.medicaid.gov/medicaid/managed-care/downloads/ltss/mltssp-inventory-update-2017.pdf

Medicaid and CHIP Payment and Access Commission (MACPAC). "Managed Long-Term Services and Supports: Status of State Adoption and Areas of Program Evolution." Report to Congress on Medicaid and CHIP, June 2018. Chapter 3. https://www.macpac.gov/publication/managed-long-term-services-and-supports-status-of-state-adoption-and-areas-of-program-evolution/

Mor, Vincent, Jacqueline Zinn, Pedro Gozalo, Zhanlian Feng, Orna Intrator, and David C. Grabowski. "Prospects for Transferring Nursing Home Residents to the Community." Health Affairs, vol. 26, no. 6, 2007, pp. 1762–1771.

National Quality Forum. "Quality in Home and Community-Based Services to Support Community Living: Addressing Gaps in Performance Measurement." Final Report, September 2016. http://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=83433.

Sands, Laura P., Huiping Xu, Joseph Thomas, III, Sudeshna Paul, Bruce A. Craig, Marc Rosenman, Caroline C. Doebbeling, and Michael Weiner. "Volume of Home- and Community-Based Services and Time to Nursing-Home Placement." Medicare & Medicaid Research Review, vol. 2, no. 3, 2012, pp. E1-E21.

1a.3. SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for INTERMEDIATE OUTCOME, PROCESS, OR STRUCTURE PERFORMANCE MEASURES, INCLUDING THOSE THAT ARE INSTRUMENT-BASED) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.

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

☐Clinical Practice Guideline recommendation (with evidence review)

☐US Preventive Services Task Force Recommendation

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

☐Other

Source of Systematic Review: • **Title** • **Author** • **Date** • **Citation, including page number** • **URL**	
Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR.	
Grade assigned to the **evidence** associated with the recommendation with the definition of the grade	
Provide all other grades and definitions from the evidence grading system	
Grade assigned to the **recommendation** with definition of the grade	
Provide all other grades and definitions from the recommendation grading system	
Body of evidence: • Quantity – how many studies? • Quality – what type of studies?	
Estimates of benefit and consistency across studies	
What harms were identified?	
Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR?	

1a.4 OTHER SOURCE OF EVIDENCE

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

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

1a.4.2 What process was used to identify the evidence?

1a.4.3. Provide the citation(s) for the evidence.

1b. Performance Gap

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

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

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

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

This measure evaluates the number of MLTSS enrollee admissions to an institution (nursing facility or intermediate care facility for individuals with intellectual disabilities [ICF/IID]) from the community that result in a short-term (less than or equal to 20 days), medium-term (21 to 100 days), or long-term stay (greater than or equal to 101 days) during the measurement year. It is important to ensure that MLTSS enrollees with disabilities who wish to live in the community as long as possible are able to do so by delaying or preventing placement in long term institutional care. Decreasing the institutional admission rate among MLTSS beneficiaries reflects improvement in providing timely access to high quality services and effective care coordination provided to individuals receiving LTSS in community settings.

Most individuals who need long-term services and supports (LTSS) want to live at home or in community settings (Guo et al. 2015; Keenan 2010). Although state Medicaid agencies, which pay for the majority of LTSS, have made significant progress in rebalancing their LTSS systems to provide more HCBS, many Medicaid beneficiaries still reside in institutions, which is both costly and can be associated with adverse outcomes such as hospital admissions. A key goal of MLTSS programs is to reduce the use of institutional care by decreasing unnecessary admissions. MLTSS plans achieve this goal by conducting person-centered assessment and care planning, providing timely access to high quality HCBS, and coordinating LTSS and medical care across providers and settings (Felix et al. 2011; Greiner et al. 2013; Sands et al. 2012). While it may not be possible to avoid the use of institutional care entirely, this measure assesses the effectiveness of MLTSS plans in minimizing avoidable admissions. Keeping individuals in home and community settings and minimizing their stays in institutions helps to increase their quality of life and care experience.

At the state-level, research suggests that significant variation exists in HCBS use before a nursing home stay (Schmitz et al, 2014). The work of Schmitz et al, which focused on new Medicaid-financed nursing home stays in 2009, found that about 23% had used HCBS in 2008 prior to their nursing home stay. Among those with nursing home stays lasting six months or less (beginning and ending during the first half of 2009), a greater share—31 percent—had used HCBS before their stay. The percentage of first new nursing home stays in 2009 preceded by HCBS use in 2008 ranged from less than 10 percent in Florida, Louisiana, and Pennsylvania to more than 35 percent of stays in California and Idaho. New ICF/IID admissions were found to be less common than new nursing home admissions, but a large proportion of new ICF/IID stays were preceded by HCBS use. About 39 percent of beneficiaries with new Medicaid-financed ICF/IID stays in 2009 used HCBS in 2008 before their stay. Because few individuals are newly admitted to ICF/IIDs, the variation across states is small, ranging from 0.0 percent in Vermont to 0.37 percent in North Dakota.

Other evidence also suggests that there is significant variation across states in their performance with respect to institutional admissions. Among all nursing home admissions of Medicare beneficiaries in 2012 (not limited to those dually eligible for Medicare and Medicaid or LTSS users), the median percentage of stays that lasted 100 days or more was 18.7 in 2012; the highest share was in Louisiana (35 percent), and the lowest was in Arizona (8.9 percent) (Irvin et al. 2016).

However, these state-level estimates might mask variation by programs across states, such as differences in 1915(c) HCBS waiver programs. It is also important to note that while this variation has been identified across states, it may be less relevant in an MLTSS environment where managed care plans are all operating within a single state, and subject to the same LTSS requirements.

Citations

Felix, Holly C., Glen P. Mays, M. Kathryn Stewart, Naomi Cottoms, and Mary Olson. “Medicaid Savings Resulted When Community Health Workers Matched Those With Needs to Home and Community Care.” Health Affairs, vol. 30, no. 7, 2011, pp. 1366-1374.

Greiner, Melissa A., Laura G. Qualls, Isao Iwata, Heidi K. White, Sheila L. Molony, M. Terry Sullivan, Bonnie Burke, Kevin A. Schulman, and Soko Setoguchi. "Predicting Nursing Home Placement Among Home- and Community-Based Services Program Participants." The American Journal of Managed Care, vol. 20, no. 12, 2014, pp. e535-e536.

Guo, Jing, R. Tamara Konetzka, Elizabeth Magett, and Willian Dale. "Quantifying Long-Term Care Preferences." Medical Decision Making, vol. 35, no. 1, 2015, pp. 106-113.

Irvin, Carol, Noelle Denny-Brown, Eric Morris, and Claire Postman. Table 5. Indicators of performance of state long-term services and supports systems, "Pathways to Independence: Transitioning Adults Under Age 65 from Nursing Home to Community Living (), table 5, Indicators of performance of state long-term services and supports systems. Cambridge, MA: Mathematica Policy Research, 2016, pp. 30-31. Available at https://www.medicaid.gov/medicaid/ltss/downloads/mfpfieldreport19.pdf.

Keenan, Teresa A. "Home and Community Preferences of the 45+ Population." Washington, DC: AARP Public Policy Institute, November 2010. Available at http://assets.aarp.org/rgcenter/general/home-community-services-10.pdf.

Sands, Laura P., Huiping Xu, Joseph Thomas, III, Sudeshna Paul, Bruce A. Craig, Marc Rosenman, Caroline C. Doebbeling, and Michael Weiner. "Volume of Home- and Community-Based Services and Time to Nursing-Home Placement." Medicare & Medicaid Research Review, vol. 2, no. 3, 2012, pp. E1-E21.

Schmitz, Robert, Victoria Peebles, Rosemary Borck, and Miller, Dean. "Medicaid-Financed Institutional Services: Patterns of Care for Residents of Nursing Homes and Intermediate Care Facilities for Individuals with Intellectual Disabilities in 2008 and 2009." Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, May 2014. Available at https://aspe.hhs.gov/sites/default/files/pdf/137851/CarePatt.pdf.

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.*

These data are from four health plans, representing 14 health plan product lines (HPPLs) from 10 states that participated in testing these measures in 2017. Participating plans used 24 months of data from either calendar years 2014 and 2015 or 2015 and 2016 (varied by plan). Full details of this testing effort are included in the testing attachment.

Below we present the average, standard deviation, median, minimum and maximum rates across HPPL. We do not present deciles given the limited number of plans included in the testing sample. Additional details on the individual plan rates and meaningful difference in performance across plans is available in the testing attachment question 2b3.10. Testing demonstrated significant difference in performance across plans (see question 2b3.10 in testing attachment).

SHORT-TERM STAY (1 – 20 DAYS) ADMISSION RATES

Age 18-64:

Average	Stdev	Median	Min	Max
0.805	0.807	0.773	0.000	2.478

Age 65-74:

Average	Stdev	Median	Min	Max
1.575	1.555	1.565	0.000	4.770

Age 75-84:

Average	Stdev	Median	Min	Max
2.152	1.927	2.281	0.000	5.000

Age 85+:

Average	Stdev	Median	Min	Max
1.790	1.601	2.924	0.000	4.263

MEDIUM-TERM STAY (21 – 100 DAYS) ADMISSION RATES

Age 18-64:

Average	Stdev	Median	Min	Max
2.450	2.144	2.467	0.000	8.246

Age 65-74:

Average	Stdev	Median	Min	Max
5.667	4.155	3.385	0.000	12.000

Age 75-84:

Average	Stdev	Median	Min	Max
7.606	5.212	7.691	1.494	18.369

Age 85+:

Average	Stdev	Median	Min	Max
15.731	15.275	15.503	0.000	47.761

LONG-TERM STAY (101+ DAYS) ADMISSION RATES

Age 18-64:

Average	Stdev	Median	Min	Max
2.406	2.533	2.469	0.000	9.513

Age 65-74:

Average	Stdev	Median	Min	Max
5.982	6.384	5.162	0.000	18.755

Age 75-84:

Average	Stdev	Median	Min	Max
12.996	14.241	11.498	0.000	40.773

Age 85+:

Average	Stdev	Median	Min	Max
32.931	51.677	33.707	0.000	192.661

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.

Not applicable, performance data provided above demonstrating gap.

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 did not test differences in performance by race/ethnicity in the testing data. During the testing of this measure, we calculated measure rates separately for enrollees ages 18 to 64, 65 to 74, 75 to 84, and 85 and older. Overall rates for all three outcomes increased with age. Differences in outcomes were most pronounced between the lowest and highest age categories. Stay rates were approximately 8 to 10 times higher for the population ages 85 and up, relative to ages 18-64, for all three outcomes. At the HPPL level, almost all HPPLs had a similar pattern of results, with rates for the 85 and older population generally higher than those for enrollees in the other three age categories for all three rates. These results suggest that it is important to stratify results by age group to ensure that higher rates among enrollees age 65 and older are not masked. In addition, the approaches for achieving lower rates of institutional admissions among younger and older adults may be very different.

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

The Congressional Budget Office identified racial and ethnic disparities in the need for LTSS. More specifically, it found that older black and Hispanic individuals have higher rates of functional impairment than whites (Congressional Budget Office 2013). Another report identified higher incidence of complex care needs, as well as greater need for care coordination, among California Medicaid beneficiaries age 65 and over or with disabilities (excluding Medicare-Medicaid dual eligibles) compared to Medicaid beneficiaries under age 65 and non-disabled, among those who transitioned from Medicaid fee-for-service (FFS) to Medicaid managed care covering acute, primary and specialty services (LTSS were carved out) (KFF, 2013).

We were unable to find much evidence on disparities in the quality of LTSS care provided to minority populations. This is likely due to the lack of available valid and reliable quality measures of LTSS care. We believe that use of this measure will help to identify if there are disparities in LTSS quality of care for minority populations. However, the two studies that were identified suggest that disparities do exist. One study of dually eligible Medicaid HCBS recipients age 65 and older found that blacks and Hispanics were less likely than whites to have a nursing home stay; they remained in the community longer and were more physically and cognitively impaired upon admission (Cai and Temkin-Greener 2015). Still another study of Medicaid enrollees found that those newly admitted to nursing homes were more likely to be older white women (Schmitz et al. 2014), which is consistent with the findings for Medicaid HCBS users. Taken together, these two studies suggest there may be racial/ethnic disparities in the use of access to nursing homes and/or cultural differences that lead to variance in the settings where people receive in long-term care.

Citations

Cai, Xueya, and Helena Temkin-Greener. “Nursing Home Admissions Among Medicaid HCBS Enrollees: Evidence of Racial/Ethnic Disparities or Differences?” Medical Care, vol. 53, no. 7, 2015, pp. 566-573.

Congressional Budget Office. (2013). Rising Demand for Long-Term Services and Supports for Elderly People. Washington, DC: Congressional Budget Office.

Kaiser Family Foundation, KFF (2013). Issue Brief. Transitioning Beneficiaries with Complex Care Needs to Medicaid Managed Care: Insights from California. Available at https://kaiserfamilyfoundation.files.wordpress.com/2013/06/8453-transitioning-beneficiaries-with-complex-care-needs2.pdf

Schmitz, Robert, Victoria Peebles, Rosemary Borck, and Miller, Dean. “Medicaid-Financed Institutional Services: Patterns of Care for Residents of Nursing Homes and Intermediate Care Facilities for Individuals with Intellectual Disabilities in 2008 and 2009.” Washington, DC: Office of the Assistant Secretary for Planning and Evaluation, May 2014. Available at https://aspe.hhs.gov/sites/default/files/pdf/137851/CarePatt.pdf.

2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. ***Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.***

2a.1. Specifications The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

De.5. Subject/Topic Area *(check all the areas that apply):*

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

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

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.)*

Technical specifications are currently under development, and are available at https://www.medicaid.gov/medicaid/managed-care/ltss/index.html. In addition, CMS provides implementation support via a technical assistance mailbox.

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:** 5._AdmInstit_ValueSet_7.30.18.xlsx

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

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

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

Not an instrument-based measure

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

No

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

Not applicable.

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).

Number of admissions to an institution (nursing facility or ICF/IID) during the measurement year. Admissions are divided and reported in three categories:

- Admissions that result in a short-term stay (1 to 20 days)

- Admissions that result in a medium-term stay (21 to 100 days)

- Admissions that result in a long-term stay (greater than or equal to 101 days)

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).

The number of admissions to an institution (nursing facility or ICF/IID) from a community residence during the measurement year for MLTSS enrollees age 18 and older between August 1 of the year prior to the measurement year and July 31 of the measurement year.

Admissions are reported in three categories:

1) Short-term stay (less than or equal to 20 days)

2) Medium-term stay (21 to 100 days)

3) Long-term stay (greater than or equal to 101 days)

Include all admissions to the institutional setting directly from the community. Include admissions to the institutional setting from the hospital setting only if the MLTSS enrollee lived in the community prior to the hospital admission.

Do not include admissions to the institutional setting from the hospital setting if the MLTSS enrollee was residing in an institution prior to the hospital admission. Do not include admissions to the institutional setting that are transfers from another institution. These admissions are not considered "new admissions."

Do not include admissions where the MLTSS enrollee dies in the institution, dies within one day of discharge from the institution, or is discharged to a hospital and dies in the hospital between August 1 of the year prior to the measurement year and July 31 of the measurement year. Due to differences in coding practices, death within one day of discharge is considered a death in the institution. These admissions are considered admissions where there was not opportunity for discharge (i.e., death occurred within 100 days of admission) or the individuals was near end of life and discharge may not have been clinically appropriate.

Do not include admissions where the MLTSS enrollee was discharged to a hospital between August 1 of the year prior to the measurement year and remained in the hospital until the end of the measurement year.

An enrollee can be counted more than once in the numerator if the individual had more than one admission to an institution during eligible months of MLTSS enrollment during the measurement year.

Institutional facility: Medicaid- or Medicare- certified nursing facilities providing skilled nursing/medical care; rehabilitation needed due to injury, illness or disability; and long-term care (also referred to as "custodial care") or Medicaid certified Intermediate Care Facility for Individuals with Intellectual Disabilities (ICF/IID). (see Institutional Facility Value Set).

Community residence: Any residence that is not an institutional facility (see definition above). Note community residence may include assisted living, adult foster care, or other care in another setting that is not defined as an institution.

Note: Individuals who were admitted to an institution from the hospital setting and who lived in the community prior to the hospital admission are considered residing in the community.

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

Number of enrollee months for MLTSS enrollees age 18 and older where the enrollee was residing in the community.

S.7. Denominator Details *(All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

IF an OUTCOME MEASURE, describe how the target population is identified. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Number of enrollee months for MLTSS enrollees age 18 and older who receive both medical and LTSS benefits through the accountable health plan (see below for description of how to calculate enrollee months) where the enrollee was residing in the community for at least one day of the month. Results are stratified by ages into four groups: 18-64, 65-74, 75-84, and 85 and older.

Enrollees must be continuously enrolled in a Medicaid MLTSS plan for at least 30 days between August 1 of the year prior to the measurement year and December 31 of the measurement year.

Enrollee months: An enrollee's "contribution" to the total yearly enrollment. Enrollee months are calculated by summing the total number of months each enrollee is enrolled in the MLTSS plan and residing in the community for at least one day of the month during the measurement year.

To calculate enrollee months:

Step 1: Determine enrollee months between August 1 of the year prior to the measurement year and July 31 of the measurement year using a specified day of each month (e.g., the 15th or the last day of the month), to be determined according to the plan's administrative processes. The day selected must be consistent from person to person, month to month, and year to year. For example, if the plan tallies enrollment on the 15th of the month and an enrollee is enrolled in the MLTSS plan on January 15, the enrollee contributes one enrollee month in January.

Step 2: Identify the months where the MLTSS enrollee was residing in an institutional facility for the entire month (i.e., there were no days in the month spent residing in the community). Remove these months from the denominator.

Step 3: Age stratification. Use the enrollee's age on the specified day of each month to determine to which age group the enrollee months will be attributed. For example, if the state tallies enrollees on the 15th of each month and an enrollee turns 65 on April 3 and is enrolled for the entire year, then the enrollee contributes three enrollee months to the 18 – 64 age group category and nine enrollee months to the 65 – 74 age category.

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

Exclude the month that an enrollee dies, and any subsequent months of enrollment, from the measure denominator.

S.9. Denominator Exclusion Details *(All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

Exclude the month that an enrollee dies, and any subsequent months of enrollment, from the measure denominator.

S.10. Stratification Information *(Provide all information required to stratify the measure results, if necessary, including the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b.)*

Age: 18 – 64

Age: 65 – 74

Age: 75 – 84

Age: 85 +

See denominator details above for instructions on how to identify age stratification groups.

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

Stratification by risk category/subgroup

If other:

S.12. Type of score:

Rate/proportion

If other:

S.13. Interpretation of Score *(Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)*

Better quality = Lower score

S.14. Calculation Algorithm/Measure Logic (*Diagram or describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period for data, aggregating data; risk adjustment; etc.)*

DENOMINATOR: STEPS TO CALCULATE ENROLLEE MONTHS AND ASSIGN AGE STRATIFICATION GROUPS

Step 1: Identify the eligible population - MLTSS enrollees age 18 and older who receive both medical and LTSS benefits through the accountable health plan.

Step 2: Identify enrollee months for the eligible population - Determine enrollee months between August 1 of the year prior to the measurement year and July 31 of the measurement year using a specified day of each month (e.g., the 15th or the last day of the month), to be determined according to the plan's administrative processes. The day selected must be consistent from person to person, month to month, and year to year. For example, if the plan tallies enrollment on the 15th of the month and an enrollee is enrolled in the MLTSS program on January 15, the enrollee contributes one enrollee month in January.

Step 3: Identify the months where the MLTSS enrollee was residing in an institutional facility for the entire month (i.e., there were no days in the month spent residing in the community). Remove these months from the denominator.

Step 4: Exclude the month that an enrollee dies, and any subsequent months of enrollment, from the measure denominator.

Step 5: Divide population into age stratification groups - Use the enrollee's age on the specified day of each month to determine to which age group the enrollee months will be contributed. For example, if the plan tallies enrollees on the 15th of each month and an enrollee turns 65 on April 3 and is enrolled for the entire year, then the enrollee contributes three enrollee months to the 18–64 age group category and nine enrollee months to the 65-74 age category.

NUMERATOR PART 1: STEPS TO IDENTIFY QUALIFIED INDEX ADMISSIONS

Step 1: Identify all admissions to institutions between August 1 of the year prior to the measurement year and July 31 of the measurement year (see Institutional Facility Value Set).

Note: The numerator for this measure is based on number of admissions. An enrollee may be counted more than once in the numerator if the individual had more than one admission to an institution followed by a discharge to the community during the measurement year.

Step 2: Remove admissions that are transfers from another institution. Keep the original admission date at the date of new institutional facility admission. A direct transfer is when the discharge date from the first institutional facility setting precedes the admission date to a second institutional facility setting by one calendar day or less.

Step 3: Remove admissions from the hospital that originated from an institution. Keep the original institutional facility admission date (that preceded the admission to the hospital) as the date of new institutional facility admission.

Step 4: Remove admissions that result in death in the institution or death within 1 day of discharge from the institution.

Step 5: Remove all admissions for enrollees who are not continuously enrolled in a Medicaid MLTSS plan for at least 30 days between August 1 of the year prior to the measurement year and December 31 of the measurement year. All resulting admissions directly from the community and from the hospital that originated in the community make up the numerator.

NUMERATOR PART 2: STEPS TO CALCULATE LENGTH OF STAY (LOS)

Step 1: Identify all qualified index admissions (see numerator part 1 above).

Step 2: Look for location of the first discharge in the measurement year.

- If the enrollee is discharged to the community, calculate LOS as the date of institution discharge minus the index admission date.

- If there is no discharge, calculate LOS as the date of the last day of the measurement year minus index admission date.

- If the enrollee is discharged to the hospital, look for the hospital discharge and location of discharge. If the enrollee is discharged from the hospital to the community, calculate LOS as the date of institution discharge minus the qualified index admission date.

- If the enrollee is discharged to the hospital and dies in the hospital, exclude the admission from the qualified index admission.

- If the enrollee is discharged to the hospital and remains in the hospital at the end of the measurement year, exclude the admission from the qualified index admission.

- If the enrollee is discharged from the hospital to the institution, repeat step 2 until there is a discharge to the community or the end of the measurement period.

- If the enrollee is discharged to a different institution (i.e. a transfer), repeat step 2 until there is a discharge to the community or the end of the measurement period.

- When counting the duration of each stay within a measurement period, include the day of entry (admission) but not the day of discharge unless the admission and discharge occurred on the same day in which case the number of days in the stay is equal to 1.

Step 3: Classify LOS as short-term, medium-term, or long-term.

- Short-term stay: The LOS is 1 - 20 days.

- Medium-term stay: The LOS is 21 – 100 days.

- Long-term stay: The LOS is =101 days.

- When counting the duration of each stay in a measurement period, include the day of entry (admission) but not the day of discharge, unless the admission and discharge occurred on the same day. In this case, the number of days in the stay = 1.

Step 4. Determine the enrollee's age at the time of admission and assign to either the 18 – 64, 65 – 74, 75 – 84, or 85+ age strata as appropriate.

CALCULATION OF PERFORMANCE RATE:

Calculate the admission rate for each type of stay and age strata by dividing the number of admissions by the number of enrollee months and multiplying by 1,000 as follows:

- Short-term Admission Rate = (Number of short term admissions/number of enrollee months) x 1,000

- Medium-term Admission Rate = (Number of medium term admissions/number of enrollee months) x 1,000

- Long-term Admission Rate = (Number of long term admissions/number of enrollee months) x 1,000

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.

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

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

Not applicable.

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

If other, please describe in S.18.

Claims, Enrollment 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.

Not applicable.

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)*

No data collection instrument provided

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

Health Plan

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

Home Care, Inpatient/Hospital, Other, Post-Acute Care

If other: Nursing Home/Skilled Nursing Facility, ICF/IID, Community Settings

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

Not applicable.

2. Validity – See attached Measure Testing Submission Form

3._AdmInstit_TestingAttachment_7.30.18.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.

No

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.

No

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.

Measure Testing (subcriteria 2a2, 2b1-2b6)

Measure Number (*if previously endorsed*)**:**
Measure Title: Admission to an institution from the community
Date of Submission: 8/1/2018

Type of Measure:

☒ **Outcome (*including PRO-PM*)**	☐ **Composite – *STOP – use composite testing form***
☐ Intermediate Clinical Outcome	☐ Cost/resource
☐ Process *(including Appropriate Use)*	☐ Efficiency
☐ Structure	

Instructions

- Measures must be tested for all the data sources and levels of analyses that are specified. *If there is more than one set of data specifications or more than one level of analysis, contact NQF staff* about how to present all the testing information in one form.
- For all measures, sections 1, 2a2, 2b1, 2b2, and 2b4 must be completed.
- For outcome and resource use measures, section 2b3 also must be completed.
- If specified for multiple data sources/sets of specificaitons (e.g., claims and EHRs), section 2b5 also must be completed.
- Respond to all questions as instructed with answers immediately following the question. All information on testing to demonstrate meeting the subcriteria for reliability (2a2) and validity (2b1-2b6) must be in this form. An appendix for *supplemental* materials may be submitted, but there is no guarantee it will be reviewed.
- If you are unable to check a box, please highlight or shade the box for your response.
- Maximum of 25 pages (*incuding questions/instructions;* minimum font size 11 pt; do not change margins). *Contact NQF staff if more pages are needed.*
- Contact NQF staff regarding questions. Check for resources at Submitting Standards webpage.
- For information on the most updated guidance on how to address social risk factors variables and testing in this form refer to the release notes for version 7.1 of the Measure Testing Attachment.

Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the testing results for this measure meet NQF's evaluation criteria for testing. 2a2. Reliability testing 10 demonstrates the measure data elements are repeatable, producing the same results a high proportion of the time when assessed in the same population in the same time period and/or

that the measure score is precise. For instrument-based measures (including PRO-PMs) and composite performance measures, reliability should be demonstrated for the computed performance score.

2b1. Validity testing 11 demonstrates that the measure data elements are correct and/or the measure score correctly reflects the quality of care provided, adequately identifying differences in quality. For instrument-based measures (including PRO-PMs) and composite performance measures, validity should be demonstrated for the computed performance score.

2b2. Exclusions are supported by the clinical evidence and are of sufficient frequency to warrant inclusion in the specifications of the measure; 12

AND

If patient preference (e.g., informed decisionmaking) is a basis for exclusion, there must be evidence that the exclusion impacts performance on the measure; in such cases, the measure must be specified so that the information about patient preference and the effect on the measure is transparent (e.g., numerator category computed separately, denominator exclusion category computed separately). 13

2b3. For outcome measures and other measures when indicated (e.g., resource use):

- an evidence-based risk-adjustment strategy (e.g., risk models, risk stratification) is specified; is based on patient factors (including clinical and social risk factors) that influence the measured outcome and are present at start of care; 14,15 and has demonstrated adequate discrimination and calibration

OR

- rationale/data support no risk adjustment/ stratification.

2b4. Data analysis of computed measure scores demonstrates that methods for scoring and analysis of the specified measure allow for identification of statistically significant and practically/clinically meaningful 16 differences in performance;

OR

there is evidence of overall less-than-optimal performance.

2b5. If multiple data sources/methods are specified, there is demonstration they produce comparable results.

2b6. Analyses identify the extent and distribution of missing data (or nonresponse) and demonstrate that performance results are not biased due to systematic missing data (or differences between responders and nonresponders) and how the specified handling of missing data minimizes bias.

Notes

10. Reliability testing applies to both the data elements and computed measure score. Examples of reliability testing for data elements include, but are not limited to: inter-rater/abstractor or intra-rater/abstractor studies; internal consistency for multi-item scales; test-retest for survey items. Reliability testing of the measure score addresses precision of measurement (e.g., signal-to-noise).

11. Validity testing applies to both the data elements and computed measure score. Validity testing of data elements typically analyzes agreement with another authoritative source of the same information. Examples of validity testing of the measure score include, but are not limited to: testing hypotheses that the measures scores indicate quality of care, e.g., measure scores are different for groups known to have differences in quality assessed by another valid quality measure or method; correlation of measure scores with another valid indicator of quality for the specific topic; or relationship to conceptually related measures (e.g., scores on process measures to scores on outcome measures). Face validity of the measure score as a quality indicator may be adequate if accomplished through a systematic and transparent process, by identified experts, and explicitly addresses whether performance scores resulting from the measure as specified can be used to distinguish good from poor quality. The degree of consensus and any areas of disagreement must be provided/discussed.

12. Examples of evidence that an exclusion distorts measure results include, but are not limited to: frequency of occurrence, variability of exclusions across providers, and sensitivity analyses with and without the exclusion.

13. Patient preference is not a clinical exception to eligibility and can be influenced by provider interventions.

14. Risk factors that influence outcomes should not be specified as exclusions.

15. With large enough sample sizes, small differences that are statistically significant may or may not be practically or clinically meaningful. The substantive question may be, for example, whether a statistically

significant difference of one percentage point in the percentage of patients who received smoking cessation counseling (e.g., 74 percent v. 75 percent) is clinically meaningful; or whether a statistically significant difference of $25 in cost for an episode of care (e.g., $5,000 v. $5,025) is practically meaningful. Measures with overall less-than-optimal performance may not demonstrate much variability across providers.

1. DATA/SAMPLE USED FOR ALL TESTING OF THIS MEASURE

Often the same data are used for all aspects of measure testing. In an effort to eliminate duplication, the first five questions apply to all measure testing. If there are differences by aspect of testing,(e.g., reliability vs. validity) be sure to indicate the specific differences in question 1.7.

1.1. What type of data was used for testing? (*Check all the sources of data identified in the measure specifications and data used for testing the measure. Testing must be provided for all the sources of data specified and intended for measure implementation.* ***If different data sources are used for the numerator and denominator, indicate N [numerator] or D [denominator] after the checkbox.***)

Measure Specified to Use Data From: (***must be consistent with data sources entered in S.17***)	**Measure Tested with Data From:**
☐ abstracted from paper record	☐ abstracted from paper record
☒ claims	☒ claims
☐ registry	☐ registry
☐ abstracted from electronic health record	☐ abstracted from electronic health record
☐ eMeasure (HQMF) implemented in EHRs	☐ eMeasure (HQMF) implemented in EHRs
☐ other:	☐ other:

1.2. If an existing dataset was used, identify the specific dataset (*the dataset used for testing must be consistent with the measure specifications for target population and healthcare entities being measured; e.g., Medicare Part A claims, Medicaid claims, other commercial insurance, nursing home MDS, home health OASIS, clinical registry*).

Not applicable. There are no existing, nationally standardized datasets for Medicaid beneficiaries enrolled in managed long-term services and supports (MLTSS) plans, which is the target population for this measure. Therefore, we worked directly with health plans to obtain the enrollment and claims data needed to support measure testing. These data represented 4 parent health plan organizations, and 14 different health plan product lines (HPPLs) from 10 states, located in geographically diverse regions of the country. Health plans are anticipated to calculate this measure utilizing their own data, similar to reporting for the Healthcare Effectiveness Data and Information Set (HEDIS) plan-level meaures.

1.3. What are the dates of the data used in testing? MLTSS plans participating in field testing provided 24 months of administrative data from either calendar years 2014 and 2015 or 2015 and 2016 (varied by plan) to support measure testing.

1.4. What levels of analysis were tested? (*testing must be provided for all the levels specified and intended for measure implementation, e.g., individual clinician, hospital, health plan*)

Measure Specified to Measure Performance of: (***must be consistent with levels entered in item S.20***)	**Measure Tested at Level of:**
☐ individual clinician	☐ individual clinician
☐ group/practice	☐ group/practice
☐ hospital/facility/agency	☐ hospital/facility/agency
☒ health plan	☒ health plan
☐ other:	☐ other:

1.5. How many and which measured entities were included in the testing and analysis (by level of analysis and data source)? (*identify the number and descriptive characteristics of measured entities included in the analysis (e.g., size, location, type); if a sample was used, describe how entities were selected for inclusion in the sample*)

Background on Managed Long-Term Services and Supports (LTSS) Plans: LTSS includes a wide range of care offered in both the institutional (e.g., nursing facility) and community (e.g., home and community based services) setting for adults who needs some assistance with daily tasks due to disability, aging or chronic illness. LTSS is primarily non-medical in nature – many of the services provided are intended to maximize individual's independence living in their preferred environment. The majority of older adults and people with disabilities prefer to receive LTSS in home or community settings, rather than institutions (Guo et al. 2015a; Keenan 2010), and states have an obligation under the Supreme Court Olmstead decision to provide LTSS in the most integrated setting appropriate to the needs of qualified beneficiaries (Olmstead v. L.C. 1195.Ct. 2176, 1999).[2,3]

Medicaid is the largest payer for LTSS in the U.S. and most states have traditionally provided LTSS under fee-for-service (FFS) arrangements with providers, facilities and community-based organizations. In recent years, however, state Medicaid agencies have shifted LTSS from FFS to managed care delivery models, in which states contract with managed care plans to deliver LTSS. States may contract with managed LTSS (MLTSS) plans that only provide LTSS, or comprehensive managed care plans that provide both LTSS and medical care. Almost half of all states (24) provide LTSS through either type of MLTSS arrangement in 2017, 50 percent more than the 16 states that did so in 2012 (Lewis et al. 2018).[4] States have adopted MLTSS to achieve several goals, including improved participant outcomes and quality of care, increased access to home- and community-based services (HCBS), and improved care coordination. However, if not well-designed, MLTSS could disrupt longstanding relationships (e.g. if enrollees' providers are not part of the managed care plan's network) and create barriers to obtaining needed care (e.g., through gatekeeping or coverage restrictions). Consequently, it is important to systematically measure the quality of care delivered to people in MLTSS plans and their effectiveness in helping individuals with disability to live in the community.

There are currently no NQF endorsed measures of MLTSS quality, and states with MLTSS programs generally do not use reliable, validated LTSS quality measures. People who receive LTSS typically have chronic conditions and their functional ability is likely to decline over time due to the nature of their disability or age. Thus, outcomes such as improvements in health status and function are not applicable to MLTSS enrollees; instead, outcomes such as improvement in quality of life, community integration, and avoidance or delay of institutionalization are more relevant and important (MACPAC 2018).[5]

The intended use of the measure is to allow states to compare and evaluate the quality of LTSS care being provided in MLTSS plans with which they contract. This specific measure focuses on a critical component of

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[2] Guo, Jing, R. Tamara Konetzka, Elizabeth Magett, and Willian Dale. "Quantifying Long-Term Care Preferences." Medical Decision Making, vol. 35, no. 1, 2015a, pp. 106-113.

[3] Keenan, Teresa A. "Home and Community Preferences of the 45+ Population." Washington, DC: AARP Public Policy Institute, November 2010. Available at http://assets.aarp.org/rgcenter/general/home-community-services-10.pdf.

[4] Lewis, E., S. Eiken, A. Amos, and P. Saucier. 2018. The growth of managed long-term services and supports programs: 2017 update. Cambridge, MA: Truven Health Analytics, IBM Watson Health. https://www.medicaid.gov/medicaid/managed-care/downloads/ltss/mltssp-inventory-update-2017.pdf

[5] Medicaid and CHIP Payment and Access Commission (MACPAC). "Managed Long-Term Services and Supports: Status of State Adoption and Areas of Program Evolution." Report to Congress on Medicaid and CHIP, June 2018. Chapter 3. https://www.macpac.gov/publication/managed-long-term-services-and-supports-status-of-state-adoption-and-areas-of-program-evolution/

high quality MLTSS care – ensuring that care can be provided to the greatest extent possible in the community setting as opposed to the institutional setting. This measure evaluates the number of MLTSS enrollee admissions to an institution (nursing facility or intermediate care facility for individuals with intellectual disabilities [ICF/IID]) from the community that result in a short-term (less than 20 days), medium-term (21 to 100 days), or long-term stay (greater than or equal to 101 days) during the measurement year. This is important to MLTSS enrollees with disabilities who wish to live in the community are able to do so as long as possible by delaying or preventing placement in long term institutional care. Decreasing the institutional admission rate among MLTSS beneficiaries represents an increase in timely access to high quality services and effective care coordination provided to individuals receiving LTSS in community settings.

Testing Sample of MLTSS Plans: Unlike Medicare FFS and Medicaid FFS data, there is no national data source for MLTSS data. Therefore, to test measures we had to recruit MLTSS plans to provide data for the purposes of testing. We recruited plans through national outreach to individual MLTSS plans, outreach to states operating MLTSS programs, and selected outreach to MLTSS plans that represented needed variation in our sample (i.e., we specifically targeted small MLTSS plans to ensure we had a mix of large and small MLTSS plans in our sample).

The four participating test plans included a mix of large and small plans (three national plans and one local plan), representing 14 Health Plan Product Lines (HPPLs) from 10 states, located in geographically diverse regions of the country.[6] Two HPPLs covered rural regions, 2 HPPLs covered an urban area, and 10 covered a mixed rural-urban region. The four plans submitted data from the following types of product lines: 6 Medicare-Medicaid Plans (MMPs), 1 Fully Integrated Dual Eligible Special Needs Plan (FIDE SNP), 1 Dual Eligible SNP (D-SNP) with a linked Medicaid Managed Care Organization (MCO) contract, and 6 comprehensive Medicaid MCOs for Medicaid-only beneficiaries, covering medical and LTSS benefits.[7] Tables 1 and 2 below provide an overview of the health plan product line characteristics and information.

Table 1. Health Plan Product Line (HPPL) Characteristics

Health Plan Product Line (HPPL)[8]	Program Type	Region	Population Type (Rural/Urban/Mix)	Number of enrollees
HPPL-01	FIDE-SNP	Midwest	Rural	1,277
HPPL-02	Medicaid MCO + LTSS	Midwest	Rural	797
HPPL-03	Medicaid MCO + LTSS	South	Mix	2,546
HPPL-04	MMP	West	Mix	30,152
HPPL-05	Medicaid MCO+LTSS	West	Mix	36,807
HPPL-06	Medicaid MCO+LTSS	Midwest	Mix	9,196
HPPL-07	MMP	Midwest	Mix	7,274
HPPL-08	MMP	Midwest	Urban	12,192

[6] U.S. Census regions were used to assess geographical diversity. https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf.

[7] Federal rules define a Medicaid comprehensive MCO as a risk contract between the State and an MCO that covers inpatient hospital services and nine other types of services, including nursing facility services, but not long-term home and community-based services. We use the term "comprehensive MCO + LTSS" to clarify that the plans participating in this measure testing cover acute care, as well as institutional and HCBS LTSS. §42 CFR 438.2

[8] The HPPL IDs are not consecutive. A fifth plan agreed to participate and was assigned HPPL-15 and HPPL-16, but this plan was unable to provide usable data in time for inclusion in this report. One plan was also assigned HPPL-10, but it was determined that this HPPL was not eligible to participate in testing because it did not have complete Medicare data for dually eligible beneficiaries.

Health Plan Product Line (HPPL)[8]	Program Type	Region	Population Type (Rural/Urban/Mix)	Number of enrollees
HPPL-09	Medicaid MCO+LTSS	West	Mix	4,241
HPPL-11	MMP	Midwest	Mix	5,771
HPPL-12	MMP	South	Mix	271
HPPL-13	Medicaid MCO+LTSS	South	Mix	51,555
HPPL-14	MMP	South	Mix	20,227
HPPL-17	MLTSS+D-SNP	South	Urban	7,416

Source: Mathematica analysis of MLTSS enrollees from four health plans and fourteen health plan product lines.

Note: D-SNP = Medicare Advantage Dual Eligible Special Needs Plan; FIDE-SNP = Fully Integrated Dual Eligible Special Needs Plan; HPPL = Health Plan Product Line; LTSS = Long-term Services and Supports; MCO = Managed Care Organization; MMP = Medicare-Medicaid Plan

Table 2. Health Plan Product Line (HPPL) Information

Characteristic	Percentage of enrollees in the testing sample (n=189,722)
MLTSS Program	
Integrated **Medicare-Medicaid Plan (MMP)** for dual enrollees	43.5
Medicare Advantage Dual Eligible Special Needs Plan (D-SNP) for dual enrollees	0.0
Fully Integrated Dual Eligible (FIDE) Special Needs Plan (SNP) for dual enrollees	0.7
Medicaid comprehensive MCO, including medical and long-term services and supports (LTSS) benefits, for Medicaid-only beneficiaries	51.9
D-SNP with linked MLTSS plan	3.9

Source: Mathematica analysis of MLTSS enrollees from four health plans and fourteen health plan product lines.

1.6. How many and which <u>patients</u> were included in the testing and analysis (by level of analysis and data source)? (*identify the number and descriptive characteristics of patients included in the analysis (e.g., age, sex, race, diagnosis); if a sample was used, describe how patients were selected for inclusion in the sample*)

MLTSS enrollees are, by definition, Medicaid enrolled adults who are eligible for receiving long-term services and supports[9]. Each state defines criteria for eligibility for LTSS differently, but in general enrollees must meet some criteria for being at a nursing-home level of care. Since the intended use of this measure is evaluation of MLTSS plans within a single state, the differences between states' Medicaid and LTSS eligibility should not impact comparison of results.

Table 3 summarizes the demographic information for enrollees of the 14 HPPLs (representing four plans) that participated in testing. The 14 participating HPPLs collected data on 189,730 unique MLTSS enrollees who were 18 or older. Of these entries, 8 were missing information on sex, ethnicity, and/or race, and were thus

[9] Some state MLTSS programs include children with special needs. This population is not included in the measure or in testing.

excluded from our data analyses. Table 3 summarizes the enrollees' characteristics for the remaining 189,722 enrollees in the sample. Of the total enrollees, 53.8 percent were female and 34.4 percent were age 65 or older. Nearly half (45.0 percent) of the enrollees had a reported race of "Other" in the HPPL data (however this is likely reflective of HPPL missing data on race), 28.0 percent were white, and 20.2 percent were black or African American. Other races (American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, and Unknown) each accounted for less than three percent of the sample. A little over a fifth of the enrollees (22.5 percent) were Hispanic or Latino.

Table 3. Analytic Sample Demographic Information

Characteristics	Total
Number of Enrollees (n)	189,722
Sex	
Female	53.8
Male	46.2
Age	
18-39	20.9
40-64	44.7
65–74	17.6
75-84	10.8
85 and older	6.1
Race	
American Indian or Alaska Native	0.5
Asian	2.0
Black or African American	20.2
Native Hawaiian or Other Pacific Islander	2.8
Other Race	45.0
Unknown	1.4
White	28.0
Ethnicity	
Hispanic or Latino	22.5
Non-Hispanic or Latino	74.5
Unknown	3.0

Source: Mathematica analysis of MLTSS enrollees from four health plans and fourteen health plan product lines.

1.7. If there are differences in the data or sample used for different **aspects of testing (e.g., reliability, validity, exclusions, risk adjustment), identify how the data or sample are different for each aspect of testing reported below**.

No difference in the sample size used for testing.

1.8 What were the social risk factors that were available and analyzed? For example, patient-reported data (e.g., income, education, language), proxy variables when social risk data are not collected from each patient (e.g. census tract), or patient community characteristics (e.g. percent vacant housing, crime rate) which do not have to be a proxy for patient-level data.

We did not analyze social risk factors due to three factors: (1) this measure focuses exclusively on a population with social risk (i.e., Medicaid beneficiaries eligible for LTSS due to aging, disability or chronic illness), (2) patient-reported data and patient community characteristics were not available in the testing data source of

administrative claims, and (3) findings from a recent two-year National Quality Forum (NQF) effort indicated that the inclusion of area-level socio-economic status (SES) indicators did not improve the predictive capacity of risk-adjustment algorithms of hospital-based care measures developed for Medicare beneficiaries. These Medicare hospital measures were endorsed without SES indicators, although NQF directed the measure developers to evaluate whether SES indicators should be included in the future as part of the annual update process[10] .

Although some states collect supplemental data to MLTSS plan-level data that could be used to identify social risk factors, this data is not uniform across states and is not uniformly available to MLTSS plans. As the quality and integration of data between MLTSS plans and states improves it may be possible to examine the impact of social risk factors on this measure in the future.

2a2. RELIABILITY TESTING

***Note**: If accuracy/correctness (validity) of data elements was empirically tested, separate reliability testing of data elements is not required – in 2a2.1 check critical data elements; in 2a2.2 enter "see section 2b2 for validity testing of data elements"; and skip 2a2.3 and 2a2.4.*

2a2.1. What level of reliability testing was conducted? (*may be one or both levels*)

☐ **Critical data elements used in the measure** (*e.g., inter-abstractor reliability; data element reliability must address ALL critical data elements*)

☒ **Performance measure score** (e.g., *signal-to-noise analysis*)

2a2.2. For each level checked above, describe the method of reliability testing and what it tests (*describe the steps—do not just name a method; what type of error does it test; what statistical analysis was used*)

This measure is a risk-stratified outcome measure assessing how well MLTSS plans are able to reduce utilization of institutional care in three categories: short-term stays (1-20 days), medium-term stays (21-100 days) and long-term stays (101 or more days). These three rates are stratified by age group (18-64, 65-74, 75-84, 85+) resulting in 12 reported rates.

To assess reliability, we used a signal-to-noise ratio (SNR) analysis of the performance measure score, which quantifies the degree to which variation is the result of differences in performance versus random measurement error. This type of assessment addresses whether differences in measure results between reporting entities are attributable to either differences in their underlying performance or chance or other sources of variation. The signal variance characterizes the magnitude of differences in underlying performance between reporting entities, or the between-entity variance.

The SNR statistic, R (ranging from 0 to 1), summarizes the proportion of the variation between entity scores that is due to real differences in underlying entity characteristics (such as differences in population demographics or medical care) as opposed to background-level or random variation (for example, due to measurement or sampling error). If R=0, there is no variation on the measure across entities, and all observed variation is due to sampling variation. In this case, the measure is not useful to distinguish between entities with respect to healthcare quality. Conversely, if R=1, all entity scores are free of sampling error, and all variation represents real differences between entities in the measure result.

We calculated reliability based on the Morris method, where the noise is determined by estimating the variance of each HPPL's rate using a negative binomial model (which is suitable for count outcomes), and the

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[10] National Quality Forum. 2017. All-Cause Admissions and Readmissions 2015–2017. Technical Report. Available at http://www.qualityforum.org/Publications/2017/04/All-Cause_Admissions_and_Readmissions_2015-2017_Technical_Report.aspx

signal is computed iteratively using a maximum likelihood approach (Morris 1983). We then computed SNR as the ratio of signal variance to the sum of the signal and noise variances (total variance in the measure):

$$R = \frac{\sigma^2_{between}}{\sigma^2_{between} + \sigma^2_{within}}$$

In general, a high SNR implies that differences in plans' measure results are meaningful to distinguish their performance.

References

1. Morris, C. (1983). Parametric Empirical Bayes Inference: Theory and Applications. Journal of the American Statistical Association, 78(381), 47-55. doi:10.2307/2287098

2a2.3. For each level of testing checked above, what were the statistical results from reliability testing? (e.*g., percent agreement and kappa for the critical data elements; distribution of reliability statistics from a signal-to-noise analysis*)

The mean and range of the SNR statistic for short-, medium-, and long-stays by each age category were computed separately for each of the 14 HPPLs, and are summarized in Table 4. HPPLs with 10 or fewer outcome events (i.e. admissions) were excluded based on CMS standards.[11] The SNR statistic for each HPPL is available in Appendix Section A.

Table 4: Signal-to-noise reliability of age-stratified rates

Measure	Level of aggregation	Average reliability score	Interquartile range of reliability scores	Median reliability score	% Plans exceeding 0.4 SNR
Plans with 11 or more numerator events					
Short-stay, 18-64	12 HPPLs	0.5322	0.3082 – 0.8156	0.4961	50%
Short-stay, 65-74	11 HPPLs	0.5491	0.4288 – 0.9219	0.5707	55%
Short-stay, 75-84	10 HPPLs	0.7238	0.7179 – 0.7777	0.7448	80%
Short-stay, 85+	9 HPPLs	0.7353	0.7011 – 0.7832	0.7625	78%
Medium-stay: 18-64	13 HPPLs	0.6060	0.3535 – 0.8764	0.6293	62%
Medium-stay, 65-74	12 HPPLs	0.8279	0.7605 – 0.9552	0.8705	92%
Medium-stay, 75-84	14 HPPLs	0.8975	0.8506 – 0.9828	0.9249	100%
Medium-stay, 85+	11 HPPLs	0.8846	0.9166 – 0.9880	0.9593	88%
Long-stay: 18-64	12 HPPLs	0.9417	0.9195 – 0.9918	0.9668	100%
Long-stay, 65-74	12 HPPLs	0.9328	0.9314 – 0.9928	0.9565	100%
Long-stay,75-84	12 HPPLs	0.9399	0.9604 – 0.9984	0.9827	100%
Long-stay, 85+	12 HPPLs	0.9093	0.9568 – 0.9988	0.9941	100%

Source: Mathematica analysis of data from four MLTSS plans and fourteen health plan product lines.

2a2.4 What is your interpretation of the results in terms of demonstrating reliability? (i.*e., what do the results mean and what are the norms for the test conducted?*)

In general, a high SNR implies that differences in plans' measure results are meaningful to distinguish their performance. The ideal standard for SNR is 0.7 or greater based on the work of Adams et al (2010), however many measures in Medicare programs, including those developed by the Yale School of Medicine Centers for

[11] This policy stipulates that no cell (e.g. admittances, discharges, patients) less than 11 may be displayed. Also, no use of percentages or other mathematical formulas may be used if they result in the display of a cell less than 11 (https://www.cms.gov/Medicare/CMS-Forms/CMS-Forms/downloads/cms-r-0235l.pdf).

Outcomes Research and Evaluation (CORE) team for the Hospital Inpatient and Outpatient Quality Reporting programs, use a minimum reliability standard of 0.4.

Overall, we found the reliability of the *Admission to an institution from the community measure* to be moderate to high, based on the reliability of the 12 reported rates. The measure was highly reliable in distinguishing performance between HPPLs for the long-stay rate and three age strata of the medium-stay rate (ages 18 to 64 excluded). Across these seven rates, the average signal-to-noise ratio (SNR) exceeded 0.70, as shown in Table 4. Average reliability was slightly lower for the short-stay rates, and for the 18 to 64 enrollees for the medium-stay rate, with the average falling below 0.70 but above 0.50, which is above the minimum acceptable standard employed for measures publicly reported for other CMS programs. Of note, these measures are expected to be used for external or internal quality improvement purposes.

The reliabilities for the admissions that resulted in medium (21-100 days) and long (101 days or more) stays are higher compared to the admissions resulting in a short stay (1-20 days). We attribute this to the increase in between-plan variations of the *Admission to an institution from the community* measure rate for the medium and long stays, which is reflected in the wider range of measure rates for these lengths of stay (see Section 2b5 below). At the individual HPPL level, after excluding plans that did not meet CMS reporting standards (i.e., had fewer than 11 events), [2] there was variation in reliability; however, for the medium and long-term rates, the majority of HPPL exceeded the 0.4 threshold, as well as the short-stay rate for enrollees in the 65 to 74 population.

References/Notes

1. Adams J, Mehrotra, A, Thoman J, McGlynn, E. (2010). Physician cost profiling – reliability and risk of misclassification. NEJM, 362(11): 1014-1021.
2. This exclusion reflects CMS's reporting requirement; we did not impose minimum case criteria in the measure specifications. This enables state Medicaid agencies to make their own determinations about minimum events based on the testing results contained in this submission.

2b1. VALIDITY TESTING

2b1.1. What level of validity testing was conducted? (*may be one or both levels*)

☐ **Critical data elements** (*data element validity must address ALL critical data elements*)

☐ **Performance measure score**

☒ **Empirical validity testing**

☐ **Systematic assessment of face validity of performance measure score as an indicator** of quality or resource use (*i.e., is an accurate reflection of performance on quality or resource use and can distinguish good from poor performance*) **NOTE**: Empirical validity testing is expected at time of maintenance review; if not possible, justification is required.

2b1.2. For each level of testing checked above, describe the method of validity testing and what it tests (*describe the steps—do not just name a method; what was tested, e.g., accuracy of data elements compared to authoritative source, relationship to another measure as expected; what statistical analysis was used)*

This measure is a risk-stratified outcome measure assessing how well MLTSS plans are able to reduce utilization of institutional care in three categories: short-term stays (1-20 days), medium-term stays (21-100 days) and long-term stays (101 or more days). These three rates are stratified by age group (18-64, 65-74, 75-84, 85+) resulting in 12 reported rates.

Validity was tested empirically using convergent validity (described below). We also evaluated face validity throughout the measure development process through the input of four technical expert panels and a public comment period. We did not conduct a formal assessment of face validity, however the process of ensuring stakeholders agreed with the measure specification choices and supported the overall measure concept is described below for additional context.

Empiric Validity Testing Method: Measure validity indicates that the measure accurately represents the concept being measured and achieves the purpose for which it is intended. Convergent measure validity can be demonstrated by examining the relationship between measure results and other measures of quality we expect to correlate with performance.

We started by examining internal consistency of the measure rates by looking at correlation between the 12 reported rates among the 14 HPPLs. We hypothesized the measure rates would be highly correlated, with the strongest correlations within length of stay category (e.g., between short-term stay rates).

We next examined convergent validity by examining the relationship between measure results and other measures of quality we expect to correlate with performance. In the absence of any existing, publicly reported plan-level measures of LTSS quality, we examined the convergent validity with two related measures undergoing endorsement consideration, by examining their relationship to one another:

- Minimizing institutional length of stay: This risk-adjusted measure assesses the proportion of new institutional facility admissions that result in successful discharge to the community (no readmission to the institution, hospitalization, or death in 60 days post-discharge) within 100 days of admission. This measure is risk adjusted for age, gender and comorbid conditions. We hypothesize that MLTSS plans that are successful at minimizing length of stay (i.e. higher rates on this measure) will have lower rates of utilization of long-stay institutional care (i.e. lower rates on the long-stay rate on the comparison measure) resulting in a negative correlation. The quality improvement actions to reduce the number of admissions that become long-stay would improve performance on both measures (e.g., provision of adequate home and community-based services in the community). We did not hypothesize a clear relationship with the short and medium-stay rates on this measure (i.e., a plan that is good at minimizing length of stay might have higher short term stays in relation to long term stays but the direct relationship of absolute number of short term stays to this measure is less clear).
- Successful transition after long-term institutional stay: This risk-adjusted measure assesses the proportion of long-stay institutional residents (101 days or more) who successfully transition to the community (no readmission to the institution, hospitalization, or death in 60 days post-discharge). This measure is risk adjusted for age, gender and comorbid conditions. We hypothesize that MLTSS plans that are successful at ensuring MLTSS enrollees residing long-term in an institution and are transitioned to the community will also have lower overall rates of use of institutional care. Provision of high quality home- and community-based services should result in both reduced initial admissions to institutions and help individuals transition out of institutions.

We assessed convergent validity based on the Spearman correlation as poor (less than 0.4), moderate (0.4 – 0.69), good (0.7 – 0.89), and high (greater than 0.9).

Process of Expert Input and Public Comment: In addition to empiric testing of validity, we solicited feedback on the measures' importance and usability, clarity of the specifications, and measure specification issues from all interested parties, through an open public comment process held from September 15 through October 6, 2016. We also obtained input throughout the measure development process from multiple Technical Expert Panels (TEPs) (see Ad.1 of measure submission form for TEP rosters) through multiple meetings from 2013-2018. The TEPs specifically advised on the importance of the measure concept to MLTSS plans, states and MLTSS-enrollees, the choices made in measure development, the measure testing results and the risk-adjustment approach.

2b1.3. What were the statistical results from validity testing? (*e.g., correlation; t-test*)

Table 5: Results of Correlation Analyses

	Adm Instit Short-stay 18-64	Adm Instit Short-stay 65-74	Adm Instit Short-stay 75-84	Adm Instit Short-stay 85+	Adm Instit Medium-stay 18-64	Adm Instit Medium-stay 65-74	Adm Instit Medium-stay 75-84	Adm Instit Medium-stay 85+	Adm Instit Long-stay 18-64	Adm Instit Long-stay 65-74	Adm Instit Long-stay 75-84	Adm Instit Long-stay 85+	Min Instit Risk-Adjusted	Suc Trans Risk-Adjusted
Adm Instit Short-stay 18-64	1.00000	0.78895** 0.0008	0.54953* 0.0418	0.85284** 0.0001	0.84488** 0.0001	0.44383 0.1119	0.37404 0.1877	0.10608 0.7182	0.68612** 0.0067	0.09361 0.7503	-0.02093 0.9434	-0.26740 0.3554	0.44444 0.1113	0.28485 0.4250
Adm Instit Short-stay 65-74	0.78895** 0.0008	1.00000	0.34822 0.2224	0.83761** 0.0002	0.74394** 0.0023	0.43757 0.1176	0.43047 0.1244	-0.05543 0.8507	0.72487** 0.0034	0.20332 0.4857	0.01768 0.9522	-0.10865 0.7116	0.25387 0.3811	-0.30909 0.3848
Adm Instit Short-stay 75-84	0.54953* 0.0418	0.34822 0.2224	1.00000	0.33184 0.2464	0.48447 0.0792	0.39824 0.1585	0.57559* 0.0313	0.64287* 0.0131	0.55843* 0.0379	0.46053 0.0975	0.36709 0.1967	0.26786 0.3545	-0.10667 0.7166	-0.40606 0.2443
Adm Instit Short-stay 85+	0.85284** 0.0001	0.83761** 0.0002	0.33184 0.2464	1.00000	0.77997** 0.0010	0.41854 0.1364	0.42932 0.1255	0.03838 0.8964	0.67957** 0.0075	0.12151 0.6790	-0.07201 0.8067	-0.19190 0.5110	0.32593 0.2555	0.23928 0.5055
Adm Instit Medium-stay 18-64	0.84488** 0.0001	0.74394** 0.0023	0.48447 0.0792	0.77997** 0.0010	1.00000	0.66007* 0.0102	0.60000* 0.0233	0.25387 0.3811	0.76568** 0.0014	0.48405 0.0795	0.30803 0.2840	0.07726 0.7929	0.09451 0.7479	-0.04242 0.9074
Adm Instit Medium-stay 65-74	0.44383 0.1119	0.43757 0.1176	0.39824 0.1585	0.41854 0.1364	0.66007* 0.0102	1.00000	0.81628** 0.0004	0.62100* 0.0178	0.67401** 0.0082	0.71366** 0.0042	0.65198* 0.0115	0.43978 0.1156	-0.17602 0.5472	-0.23636 0.5109
Adm Instit Medium-stay 75-84	0.37404 0.1877	0.43047 0.1244	0.57559** 0.0313	0.42932 0.1255	0.60000* 0.0233	0.81628** 0.0004	1.00000	0.74394** 0.0023	0.70187** 0.0051	0.78548** 0.0009	0.68427** 0.0069	0.46579 0.0932	-0.41978 0.1351	-0.47879 0.1615
Adm Instit Medium-stay 85+	0.10608 0.7182	-0.05543 0.8507	0.64287* 0.0131	0.03838 0.8964	0.25387 0.3811	0.62100* 0.0178	0.74394** 0.0023	1.00000	0.45746 0.1000	0.76686** 0.0014	0.81105** 0.0004	0.67184** 0.0085	-0.33775 0.2376	-0.41818 0.2291
Adm Instit Long-stay 18-64	0.68612** 0.0067	0.72487** 0.0034	0.55843** 0.0379	0.67957** 0.0075	0.76568** 0.0014	0.67401** 0.0082	0.70187** 0.0051	0.45746 0.1000	1.00000	0.65198* 0.0115	0.55947* 0.0375	0.36464 0.1999	-0.12321 0.6747	-0.33333 0.3466
Adm Instit Long-stay 65-74	0.09361 0.7503	0.20332 0.4857	0.46053 0.0975	0.12151 0.6790	0.48405 0.0795	0.71366** 0.0042	0.78548** 0.0009	0.76686** 0.0014	0.65198* 0.0115	1.00000	0.92952** <.0001	0.83757** 0.0002	-0.54125* 0.0456	-0.75758* 0.0111

	Adm Instit Short-stay 18-64	Adm Instit Short-stay 65-74	Adm Instit Short-stay 75-84	Adm Instit Short-stay 85+	Adm Instit Medium-stay 18-64	Adm Instit Medium-stay 65-74	Adm Instit Medium-stay 75-84	Adm Instit Medium-stay 85+	Adm Instit Long-stay 18-64	Adm Instit Long-stay 65-74	Adm Instit Long-stay 75-84	Adm Instit Long-stay 85+	Min Instit Risk-Adjusted	Suc Trans Risk-Adjusted
Adm Instit Long-stay 75-84	-0.02093 0.9434	0.01768 0.9522	0.36709 0.1967	-0.07201 0.8067	0.30803 0.2840	0.65198 0.0115	0.68427** 0.0069	0.81105** 0.0004	0.55947* 0.0375	0.92952** <.0001	1.00000	0.85083** 0.0001	-0.47965 0.0826	-0.78182** 0.0075
Adm Instit Long-stay 85+	-0.26740 0.3554	-0.10865 0.7116	0.26786 0.3545	-0.19190 0.5110	0.07726 0.7929	0.43978 0.1156	0.46579 0.0932	0.67184** 0.0085	0.36464 0.1999	0.83757** 0.0002	0.85083** 0.0001	1.00000	-0.56292* 0.0361	-0.64848* 0.0425
Min Instit Risk-Adjusted	0.44444 0.1113	0.25387 0.3811	-0.10667 0.7166	0.32593 0.2555	0.09451 0.7479	-0.17602 0.5472	-0.41978 0.1351	-0.33775 0.2376	-0.12321 0.6747	-0.54125 0.0456	-0.47965 0.0826	-0.56292* 0.0361	1.00000	0.89091** 0.0005
Suc Trans Risk-Adjusted	0.28485 0.4250	-0.30909 0.3848	-0.40606 0.2443	0.23928 0.5055	-0.04242 0.9074	-0.23636 0.5109	-0.47879 0.1615	-0.41818 0.2291	-0.33333 0.3466	-0.75758* 0.0111	-- 0.78182** 0.0075	-0.64848* 0.0425	0.89091** 0.0005	1.00000

Source: Mathematica analysis of data from four MLTSS plans and fourteen health plan product lines.

Notes: *Significant association at p<0.05 level. **Significant association at p<0.01 level.

Our analyses found that the twelve rates that comprise the *Admission to an institution from the community* measure generally had positive, significant associations with one another and relationships tended to be stronger within age strata and more similar rates (i.e., rates for a particular age category were aligned across stay types, rates for a particular stay type were aligned across ages within the stay type, and short-stay results were more aligned with medium-stay results than long-stay results). Some examples from Table 5 above highlight these within age and type stratum results:

- The *Admission to an institution from the community* short-stay rate for enrollees ages 18 to 64 had significant, moderate or good associations with the three other short-stay rate age group-- for enrollees 65-74 (0.789, p= 0.001), enrollees age 75-84 (0.550, p=0.042), and enrollees 85 and older (0.853, p= 0.0001).
- Medium stays for ages 65-74 had moderate or good associations with the other three medium stays (age 18-64: 0.660, p= 0.010; age 75-84: 0.816, p= 0.0004; 85 and older: 0.6210, p= 0.018).
- Long-stay rates for ages 75 to 84 had moderate associations with medium-stay rates of the same age category (0.684, p= 0.007) and long-stay rates among age 18-64 (0.560, p= 0.038); good association with among age 85 and older with a medium stay (0.811, p= 0.0004) or long stay (0.851, p= 0.0001); and high associations with the rate from the next youngest age category (65 to 74) with long stays (0.930, p<0.0001).

As hypothesized, we saw a moderate, negative correlation between the long-stay rates on this measure and performance on a measure of minimizing institutional length of stay. This correlation was consistently negative across age groups and was significant ($p<0.05$) for the 65-74 age group (correlation = -0.54) and 85+ age group (correlation = -0.56). These results support the hypothesis that MLTSS plans that provide high quality HCBS will show better performance across these measures (increased in performance on *Minimizing institutional length of stay* measure and decreased performance on *Admission to an institution from the community* measure).

We also observed mostly negative relationships between the twelve *Admission to an institution from the community* measure rates and the *Successful transition after long-term institutional stay* measure rates among the 14 HPPLs; this finding is expected because while the *Admission to an institution from the community* measure captures a less desirable outcome (institutional admission), the *Successful transition after long-term institutional stay* rates reflect positive outcomes after institutional discharge. As hypothesized, the correlation was strongest between the long-stay rates, with the 65-74, 75-84 and 85 and older age groups all showing significant, moderate or good associations with the Successful transition after long-term institutional stay rates (correlations = -0.758, -0.649, and 0.891, $p <0.05$, respectively).

Expert Input and Public Comment

We also received feedback from a three-week public comment period hosted on CMS's online public comment system during September - October 2016. The public comment period was open and broadcast to all interested parties. Overall, commenters supported the measure and the efforts to measure transitions between the community and institutional settings for MLTSS beneficiaries. Commenters noted the gap in measures for MLTSS beneficiaries and applauded this measure as a first step that could provide valuable information about the ability of beneficiaries to live safely in the community. We received specific comments questioning the overlap with measures of post-acute care facilities developed under the IMPACT act. It is important to note the similar IMPACT measures only include Medicare FFS beneficiaries and therefore exclude all Medicaid-only beneficiaries and Medicare managed care enrollees. None the less, the measurement team reviewed these measures and aligned the approach where appropriate for the level of accountability.

Over the course of multiple years of development and testing, multiple technical expert panels provided input on the development of these measures. They provided input on specific questions on importance of the measure concept to MLTSS plans, states and MLTSS-enrollees, the choices made in measure development, the measure testing results and the risk-adjustment approach. With regard to the measure specification, the TEPs provided valuable confirmation on our choices made with regard the definition of the denominator, the numerator, and the risk-adjustment approach (see Ad.1 of measure submission form for TEP rosters). While

not formally assessed, the TEP confirmed these measures are important and demonstrate a significant gap in performance across MLTSS plans, confirming that the performance score from this measure can be used to compare quality across MLTSS plans.

2b1.4. What is your interpretation of the results in terms of demonstrating validity? (i.*e., what do the results mean and what are the norms for the test conducted?*)

Empiric validity of performance measure score

We assessed internal consistency of the measure rates and convergent validity based on Spearman correlations within the measure and with other measures of similar quality constructs for the 14 HPPLs. We interpreted correlation coefficients as poor (less than 0.4), moderate (0.4 – 0.69), good (0.7 – 0.89), and high (greater than 0.9). Overall the results showed moderate to good associations for hypothesized relationships suggesting that the *Admission to an institution from the community* measure meets the test of validity.

_____

2b2. EXCLUSIONS ANALYSIS

NA ☐ no exclusions — *skip to section* 2b3

2b2.1. Describe the method of testing exclusions and what it tests (*describe the steps—do not just name a method; what was tested, e.g., whether exclusions affect overall performance scores; what statistical analysis was used*)

This measure includes one exclusion from the denominator: month that an enrollee dies, and any subsequent months of enrollment. We exclude these months from the denominator because it is not possible for there to be an admission to an institution in a month when the enrollee is deceased.

Excluding people who die in the measurement year could markedly affect *Admission to an institution from the community* measure performance results. For example, if those who die are kept in the measure denominator, rates might be artificially depressed, because such people are not able to contribute to the numerator by experiencing an institutional admission. On the other hand, there is a benefit to capturing institutional care utilization data on the widest possible population including those who die in the measurement year. To address this limitation the denominator is calculated using enrollee months, which ensures every month the enrollee is alive and has the possibility of admission to an institution is included in the denominator. To understand the impact of excluding the month the enrollee dies and subsequent months in the measurement year we compared denominator counts both with and without this exclusion across HPPLs.

2b2.2. What were the statistical results from testing exclusions? (*include overall number and percentage of individuals excluded, frequency distribution of exclusions across measured entities, and impact on performance measure scores*)

Our results indicate excluding months the enrollee died and subsequent months in the measurement year had a minor overall impact, as approximately 0.1 percent of all months were eliminated from the measure denominator. The impact of this exclusion did vary at the HPPL-level, with HPPL-01 experiencing a 1.4 percent decrease, and HPPL-03 showing a 1.0 percent decrease. The remaining HPPLs showed decreases of less than 1.0 percent. The results in Table 6 demonstrate that the impact of including individuals who die in the measurement year on the measure denominator is minimal.

Table 6: Impact of Death Exclusion on *Admission to an institution from the community* denominator

HPPL ID	Enrollee Months without Death Exclusion	Enrollee Months with Death Exclusion	Difference	% Difference
HPPL-01	12,089	11,925	164	1.4
HPPL-02	5,697	5,672	25	0.4
HPPL-03	14,980	14,829	151	1.0
HPPL-04	162,049	161,456	593	0.4

HPPL ID	Enrollee Months without Death Exclusion	Enrollee Months with Death Exclusion	Difference	% Difference
HPPL-05	288,505	288,499	6	0.0
HPPL-06	65,870	65,866	4	0.0
HPPL-07	50,762	50,457	305	0.6
HPPL-08	5,227	5,209	18	0.3
HPPL-09	43,556	43,556	0	0.0
HPPL-11	29,640	29,446	194	0.7
HPPL-12	996	993	3	0.3
HPPL-13	423,423	423,417	6	0.0
HPPL-14	28,023	27,927	96	0.3
HPPL-17	57,619	57,426	193	0.3
AllHPPLs	1,188,436	1,186,678	1,758	0.1

Source: Mathematica analysis of data from four MLTSS plans and fourteen health plan product lines.

2b2.3. What is your interpretation of the results in terms of demonstrating that exclusions are needed to prevent unfair distortion of performance results? (*i.e., the value outweighs the burden of increased data collection and analysis. Note: **If patient preference is an exclusion**, the measure must be specified so that the effect on the performance score is transparent, e.g., scores with and without exclusion*)

The impact of this exclusion is minimal and the technical expert panel that advised on the measure agreed this was an appropriate exclusion for the measure to ensure that rates were not artificially deflated by including member months for deceased enrollees in the denominator.

2b3. RISK ADJUSTMENT/STRATIFICATION FOR OUTCOME OR RESOURCE USE MEASURES

If not an intermediate or health outcome, or PRO-PM, or resource use measure, skip to section 2b4.

2b3.1. What method of controlling for differences in case mix is used?

☐ **No risk adjustment or stratification**

☐ **Statistical risk model with risk factors**

☒ **Stratification by 4 age-based risk categories**

☐ **Other,**

2b3.1.1 If using a statistical risk model, provide detailed risk model specifications, including the risk model method, risk factors, coefficients, equations, codes with descriptors, and definitions.

N/A. See 2b3.3a.

2b3.2. If an outcome or resource use component measure is not risk adjusted or stratified, provide rationale and analyses to demonstrate that controlling for differences in patient characteristics (case mix) is not needed to achieve fair comparisons across measured entities.

N/A.

2b3.3a. Describe the conceptual/clinical and statistical methods and criteria used to select patient factors (clinical factors or social risk factors) used in the statistical risk model or for stratification by risk (*e.g., potential factors identified in the literature and/or expert panel; regression analysis; statistical significance of p<0.10; correlation of x or higher; patient factors should be present at the start of care*) **Also discuss any "ordering" of risk factor inclusion**; for example, are social risk factors added after all clinical factors?

We initially began analysis by evaluating whether risk-adjustment was appropriate and feasible for this measure. To select risk factors for the risk-adjustment model we used Andersen's Behavioral Model of Health Services Use (Andersen, 1995), which frames the determinants of health care utilization into the following: (1) factors including demographic characteristics such as age and sex that predispose individuals to use care; (2) factors such as income and distance to a clinic that enable individuals to seek care (e.g., income); and (3) factors such as the presence of chronic conditions or functional limitations that drive individuals to need care (additional details on the full process for selection of risk factors can be found in Appendix B.)

We modeled the number of short, medium, and long stays per enrollee, incorporating data on enrollee-level characteristics present at the start of care as predictors for the model. Data on enrollee-level characteristics was limited to age, gender, months of MLTSS enrollment and number of inpatient admissions 6 months prior to the measurement period. Our model indicated that few enrollees had any institutional stays. Across the short-, medium-, and long-stay models, 99.4 percent, 98.3 percent, and 97.6 percent of enrollees had no institutional stays. The relatively low rate of institutionalization yields too few events to reliably identify predictors of institutionalization. Specifically, differences in magnitudes of the incidence rate ratios (IRRs) between the two stages (development and validation) of model testing indicated instability in the estimates, likely due to the low number of institutionalizations. This was particularly true among the youngest MLTSS enrollees, ages 18 to 44. For this population, the risk-adjusted measure rate on development and validation samples varied by approximately 62, 42, and 21 percent respectively for the short, medium, and long-stay rates; variation of 10 percent is considered the outer bound of acceptability (additional details on the attempted risk-adjustment analysis can be found in the Admission to Institution Testing Appendix B).

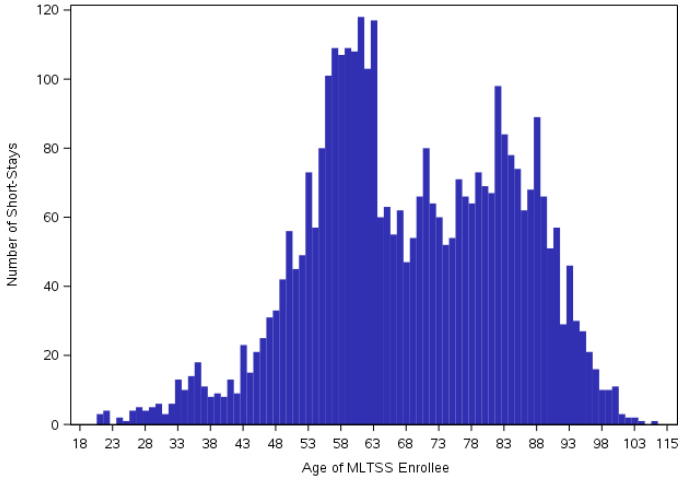
Given the relatively low incidence of admissions to institutions among the enrollees in the participating MLTSS plans, and the resulting poor performance of the models, we consulted with members of our Risk Adjustment Advisory Workgroup, composed of people with expertise in risk adjustment (see membership list, below). They recommended that we consider stratifying the three rates for the *Admission to Institution* measure by age. Based on the distribution of admissions, and patterns of institutional admission which indicate that approximately 85 percent of all nursing home residents are age 65 and older (Harris-Kojetin et al. 2016), we proceeded with calculating age-stratified results for enrollees ages 18-64, 65-74, 75-84, and 85 and older. Figures 1 through 3 support stratification by age, as they suggest a bi-modal distribution and few stays for enrollees ages 18 to 44.

Finally, we also presented our results exploring the use of a statistical risk model, and measure results using an age-stratification approach, to our 2015-2018 Technical Expert Panel. The TEP members supported the use of age-stratification for the measure, given the challenges of developing a robust statistical model for these outcomes.

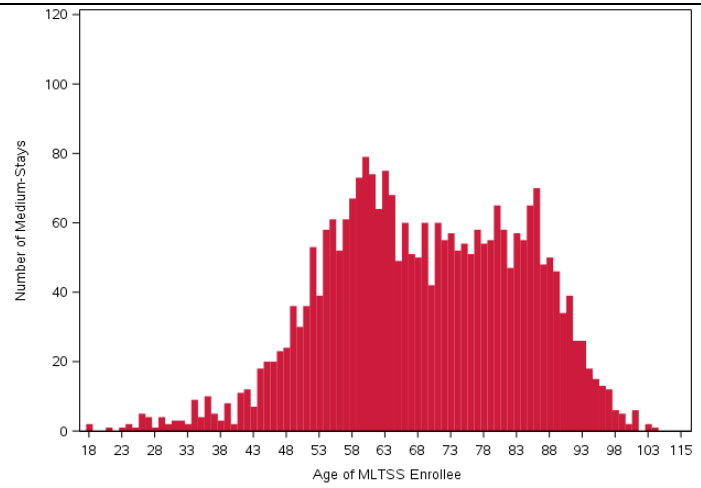
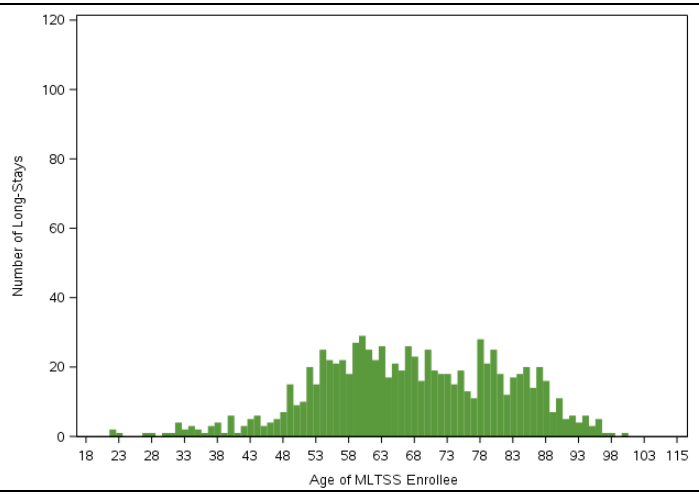
Risk Adjustment Advisory Workgroup Members

- Marguerite Burns, Ph.D., assistant professor, University of Wisconsin School of Medicine and Public Health
- Ezra Golberstein, Ph.D., associate professor, University of Minnesota School of Public Health
- Lisa Iezzoni, M.D., M.Sc., professor, Harvard Medical School (Technical Expert Panel member)
- Joanna Jiang, Ph.D., senior social scientist, Agency for Healthcare Research and Quality
- Zhenqiu Lin, Ph.D., director of data management and analytics, Center for Outcomes Research and Evaluation, Yale University
- Patrick Romano, M.D., professor, University of California, Davis, School of Medicine
- Jonathan Shaw, M.D., M.S., clinical assistant professor, Stanford University School of Medicine

Figure 1. Distribution of short-stays among all beneficiaries using full sample, by age



Source: Mathematica analysis of data from four MLTSS plans and fourteen health plan product lines.

Figure.2. Distribution of medium-stays among all beneficiaries using full sample, by age	Figure.3. Distribution of long-stays among all beneficiaries using full samples, by age
	

Source: Mathematica analysis of data from four MLTSS plans and fourteen health plan product lines.

2b3.3b. How was the conceptual model of how social risk impacts this outcome developed? Please check all that apply:

☐ **Published literature**

☐ **Internal data analysis**

☐ **Other (please describe)**

Not applicable.

2b3.4a. What were the statistical results of the analyses used to select risk factors?

Not applicable.

2b3.4b. Describe the analyses and interpretation resulting in the decision to select social risk factors *(e.g. prevalence of the factor across measured entities, empirical association with the outcome, contribution of unique variation in the outcome, assessment of between-unit effects and within-unit effects.)* **Also describe the impact of adjusting for social risk (or not) on providers at high or low extremes of risk.**

Not applicable.

2b3.5. Describe the method of testing/analysis used to develop and validate the adequacy of the statistical model or stratification approach (*describe the steps—do not just name a method; what statistical analysis was used*)

To test the adequacy of the stratification approach we conducted significance testing of the age stratified rates (18 to 64, 65 to 74, 75 to 84, and 85 and older for the three outcomes (short-, medium-, and long-stays) across HPPLs. This testing allowed us to determine whether stratification explained some of the variance in performance across plans. We also examined the reliability and validity of each strata, as documented above. Finally, results were shared with our 2015 – 2018 Technical Expert Panel to ensure the proposed age-stratification produced results that were meaningful and had face validity to key stakeholders and subject matter experts.

Provide the statistical results from testing the approach to controlling for differences in patient characteristics (case mix) below.

If stratified, skip to 2b3.9

2b3.6. Statistical Risk Model Discrimination Statistics (*e.g., c-statistic, R-squared*)**:**

2b3.7. Statistical Risk Model Calibration Statistics (*e.g., Hosmer-Lemeshow statistic*):

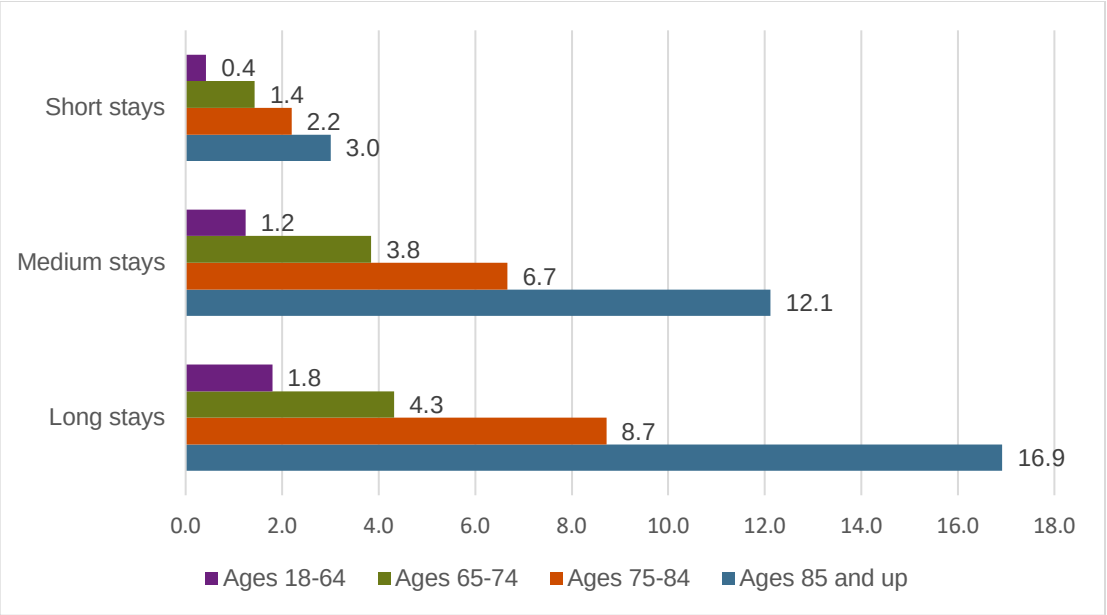
2b3.8. Statistical Risk Model Calibration – Risk decile plots or calibration curves:

2b3.9. Results of Risk Stratification Analysis:

Age stratification recommendation

Overall rates (including all enrollees from all HPPLs) for all three outcomes increased with age, as shown in Figure 4. Differences in outcomes were most pronounced between the lowest and highest age categories. Stay rates for ages 85 and up were approximately 8 to 10 times higher for the population ages 85 and up, relative to ages 18-64, for all three outcomes. At the HPPL level, almost all plans had a similar pattern of results, with rates for the 65 and older population generally 2 to 6 times higher than those for enrollees age 18 to 64 for all three rates. These results supported the choice to stratify by age group, which explains some of the variation in performance.

Figure 4: Measure rates for enrollees by age and type of stay



Source: Mathematica analysis of data from four MLTSS plans and fourteen health plan product lines.

Comparison of age-stratified results by plan

Significance testing of the stratified rates also showed that for each population there was a wide range of admission rates across HPPLs, by stay type. In Figures 5-8, the dashed blue lines demonstrate the all-HPPL average for a given stay type. HPPL-specific rates and respective 95% confidence intervals are plotted in relation to the average. HPPLs whose rates are significantly higher than average are red, signaling worse performance, while HPPLs with significantly lower rates are green, reflecting better performance, and those with rates that are not statistically different from average are black.

Figure 5: Admission rates for ages 18 to 64, by stay length

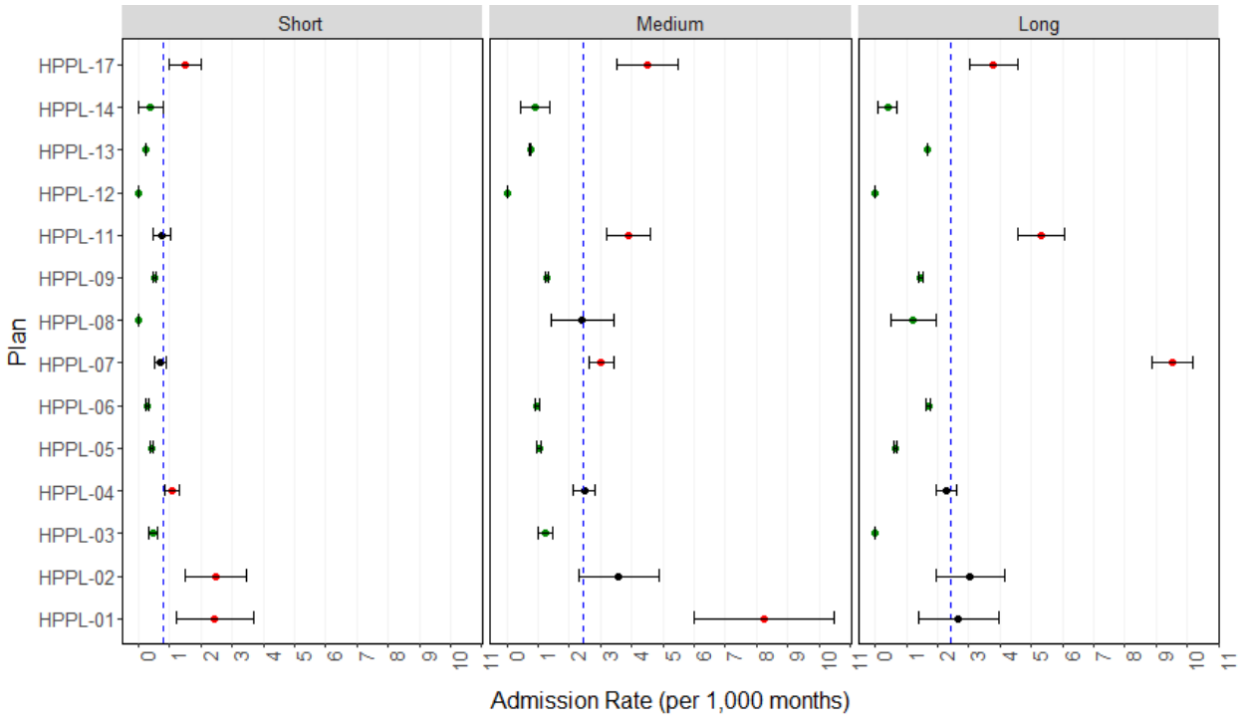


Figure 6: Admission rates for ages 65-74, by stay length

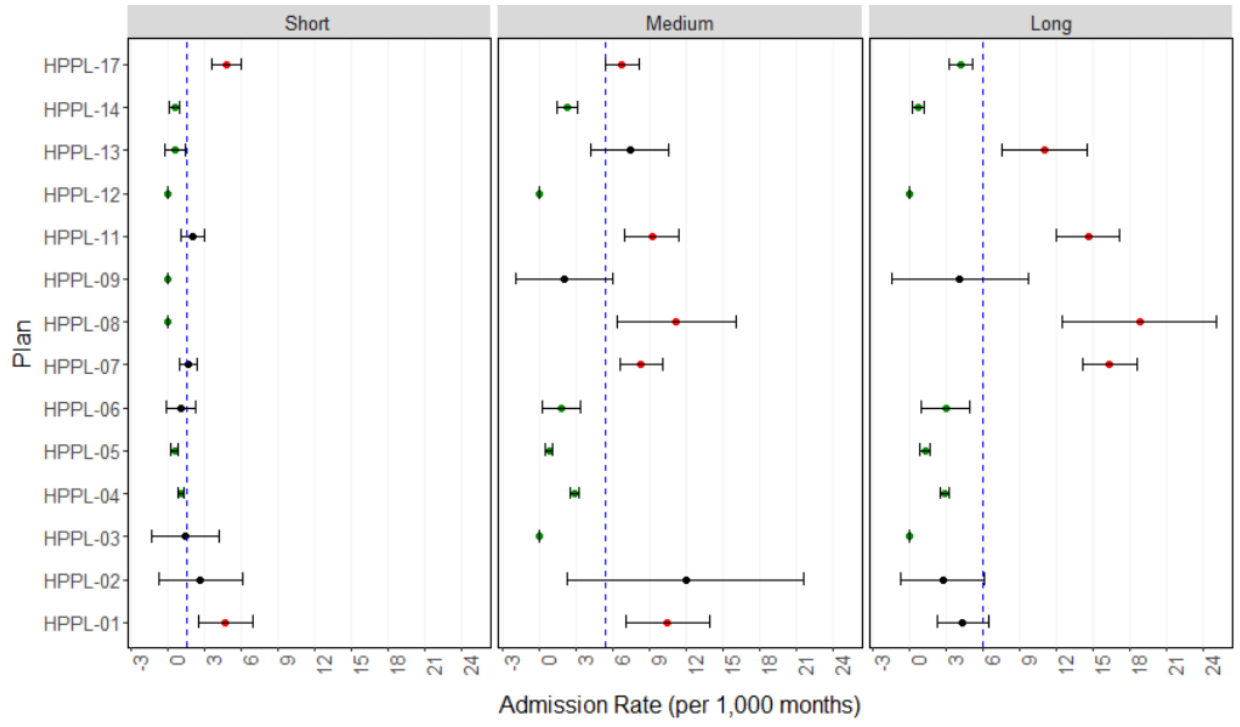


Figure 7: Admission rates for ages 75-84, by stay length

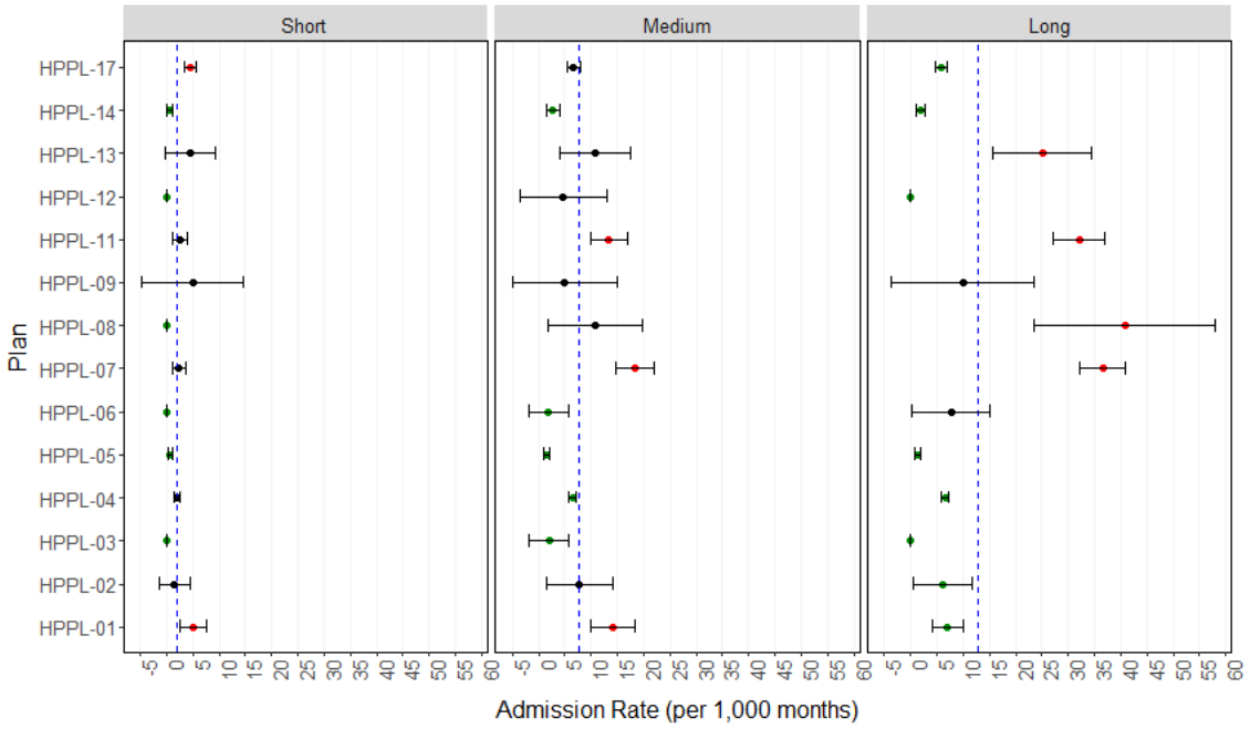
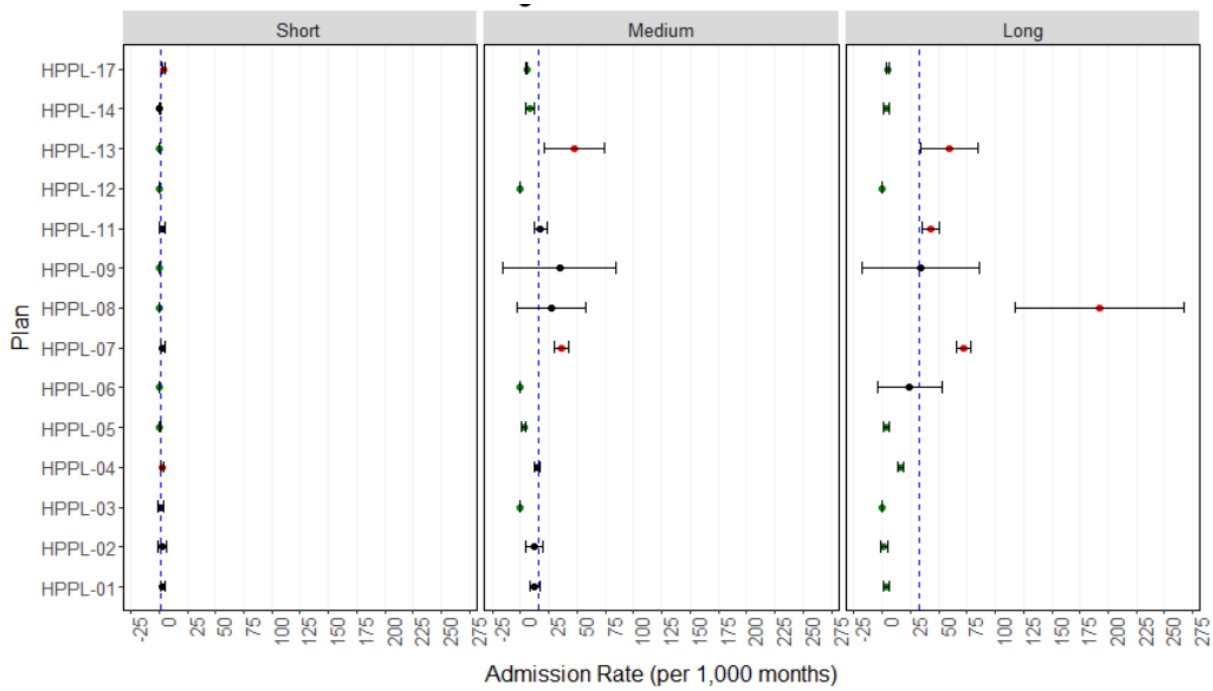


Figure 8: Admission rates for ages 85 and older, by stay length



Source: Mathematica analysis of data from four health plans and 14 HPPLs.

Note: Red indicates the plan rate was significantly higher than average, signaling worse performance, while green indicates the plan rate was significantly lower than average, signaling better performance. Black indicates the plan rate was not statistically different from average.

Significance of admission rates by stay-length and age are shown in Tables 7 through 9, showing numerically what was represented in Figures 5-8. When HPPL-level rates are statistically much higher or lower than average, statistical power and the ability to detect differences increases.

Table 7: Short-term stay (1 – 20 days) admission rates

	Ages 18 - 64				Ages 65-74				Ages 75-84				Ages 85 and older		
	No. of enrollee months	Stay admission rate (per 1,000 mos.)			No. of enrollee months	Stay admission rate (per 1,000 mos.)			No. of enrollee months	Stay admission rate (per 1,000 mos.)			No. of enrollee months	Stay admission rate (per 1,000 mos.)	
HPPL-01	4,487	2.452	H		2,764	4.703	H		2,403	4.994			2,271	3.082	
HPPL-02	3,632	2.478	H		750	2.667			643	1.555			643	3.110	
HPPL-03	12,997	0.462			691	1.447			500	0.000	L		641	1.560	
HPPL-04	56,378	1.064	H		61,504	1.073	L		32,148	1.991			11,426	3.063	
HPPL-05	236,373	0.432			27,262	0.550	L		14,723	0.611	L		3,491	0.573	L
HPPL-06	62,502	0.288	L		2,711	1.107			518	0.000	L		123	0.000	L
HPPL-07	32,693	0.704	H		9,435	1.696			5,063	2.370			3,266	3.368	
HPPL-08	3,301	0.000	L		1,333	0.000	L		466	0.000	L		109	0.000	L
HPPL-09	42,558	0.517	H		490	0.000	L		200	5.000			58	0.000	L
HPPL-11	16,196	0.741	H		6,391	2.034			4,398	2.501			2,461	2.844	
HPPL-12	50	0.000	L		644	0.000	L		211	0.000	L		88	0.000	L
HPPL-13	415,039	0.234	L		3,367	0.594	L		1,117	4.476			335	0.000	L
HPPL-14	10,071	0.397			8,756	0.571	L		6,495	0.616	L		2,605	0.768	L
HPPL-17	17,396	1.495	H		13,417	4.770	H		14,180	4.443	H		12,433	4.263	H
ALL HPPLs	913,673	0.427			139,515	1.434			83,065	2.191			39,950	3.004	

Source: Mathematica analysis of MLTSS enrollees from four health plans and fourteen health plan product lines.

Note: L: HPPL rate is significantly lower (better) than the overall rate.

H: HPPL rate is significantly higher (worse) than the overall rate.

Table 8: Medium-term stay (21-100 days) admission rates

	Ages 18 - 64			Ages 65-74			Ages 75-84			Ages 85 and older		
	No. of enrollee months	Stay admission rate (per 1,000 mos.)		No. of enrollee months	Stay admission rate (per 1,000 mos.)		No. of enrollee months	Stay admission rate (per 1,000 mos.)		No. of enrollee months	Stay admission rate (per 1,000 mos.)	
HPPL-01	4,487	8.246	H	2,764	10.492	H	2,403	14.149	H	2,271	12.770	
HPPL-02	3,632	3.579	H	750	12.000		643	7.776		643	12.442	
HPPL-03	12,997	1.231		691	0.000	L	500	2.000	L	641	0.000	L
HPPL-04	56,378	2.483	H	61,504	2.927	L	32,148	6.439		11,426	14.528	H
HPPL-05	236,373	1.024	L	27,262	0.844	L	14,723	1.494	L	3,491	3.151	L
HPPL-06	62,502	0.976	L	2,711	1.844	L	518	1.931	L	123	0.000	L
HPPL-07	32,693	3.028	H	9,435	8.373	H	5,063	18.369	H	3,266	36.436	H
HPPL-08	3,301	2.424	H	1,333	11.253	H	466	10.730		109	27.523	
HPPL-09	42,558	1.292	H	490	2.041		200	5.000		58	34.483	
HPPL-11	16,196	3.890	H	6,391	9.232	H	4,398	13.415	H	2,461	17.473	
HPPL-12	50	0.000	L	644	0.000	L	211	4.739		88	0.000	L
HPPL-13	415,039	0.752	L	3,367	7.425	H	1,117	10.743		335	47.761	H
HPPL-14	10,071	0.894		8,756	2.284	L	6,495	2.771	L	2,605	8.445	L
HPPL-17	17,396	4.484	H	13,417	6.782	H	14,180	6.700		12,433	5.228	L
ALL HPPLs	913,673	1.240		139,515	3.842		83,065	6.669		39,950	12.115	

Source: Mathematica analysis of MLTSS enrollees from four health plans and fourteen health plan product lines.

Note: L: HPPL rate is significantly lower (better) than the overall rate.

H: HPPL rate is significantly higher (worse) than the overall rate.

Table 9: Long-term stay (101+ days) admission rates

	Ages 18 - 64			Ages 65-74			Ages 75-84			Ages 85 and older		
	No. of enrollee months	Stay admission rate (per 1,000 mos.)		No. of enrollee months	Stay admission rate (per 1,000 mos.)		No. of enrollee months	Stay admission rate (per 1,000 mos.)		No. of enrollee months	Stay admission rate (per 1,000 mos.)	
HPPL-01	4,487	2.674		2,764	4.342		2,403	7.074		2,271	3.523	L
HPPL-02	3,632	3.029	H	750	2.667		643	6.221		643	1.555	L
HPPL-03	12,997	0.000	L	691	0.000	L	500	0.000	L	641	0.000	L
HPPL-04	56,378	2.270	H	61,504	2.829	L	32,148	6.563	L	11,426	16.541	
HPPL-05	236,373	0.660	L	27,262	1.247	L	14,723	1.223	L	3,491	3.724	L
HPPL-06	62,502	1.696	L	2,711	2.951		518	7.722		123	24.390	
HPPL-07	32,693	9.513	H	9,435	16.322	H	5,063	36.540	H	3,266	72.566	H
HPPL-08	3,301	1.212		1,333	18.755	H	466	40.773	H	109	192.661	H
HPPL-09	42,558	1.457	L	490	4.082		200	10.000		58	34.483	
HPPL-11	16,196	5.310	H	6,391	14.552	H	4,398	32.060	H	2,461	42.666	H
HPPL-12	50	0.000	L	644	0.000	L	211	0.000	L	88	0.000	L
HPPL-13	415,039	1.667	L	3,367	10.989	H	1,117	25.067	H	335	59.701	H
HPPL-14	10,071	0.397	L	8,756	0.685	L	6,495	1.848	L	2,605	3.839	L
HPPL-17	17,396	3.794	H	13,417	4.174		14,180	5.853	L	12,433	5.389	L
ALL HPPLs	913,673	1.793		139,515	4.322		83,065	8.716		39,950	16.921	

Source: Mathematica analysis of MLTSS enrollees from four health plans and fourteen health plan product lines.

Note: L: HPPL rate is significantly lower (better) than the overall rate.

H: HPPL rate is significantly higher (worse) than the overall rate.

2b3.10. What is your interpretation of the results in terms of demonstrating adequacy of controlling for differences in patient characteristics (case mix)? (i.*e., what do the results mean and what are the norms for the test conducted*)

Overall rates (including all enrollees from all HPPLs) were approximately 8 to 10 times higher for the population ages 85 and older, relative to ages 18-64, for all three rates. At the HPPL level, almost all plans had a similar pattern of results, with rates for the 85 and older population generally higher than those for enrollees in the other three age categories for all three rates.

Significance testing of the stratified rates also showed that there was range of rates across HPPLs suggesting that while age does explain some variation in performance there remains unexplained variation in performance that could be due to quality of MLTSS care. Across all stay types and age categories, there were a handful of HPPLs with rates four or five times larger in magnitude than the average. For example, the overall rate of short-term stay admissions for enrollees ages 18-64 was 0.43, and while three HPPLs had rates that were not statistically different than the overall rate, two HPPLs had rates that were five times larger in magnitude than the average. While the average rates were highest for long-term stays among enrollees ages 85 and older (16.92), the dispersion was similar in that several HPPLs had rates that were more than fourfold the overall average.

Overall, these results support the need to show the three outcomes for the *Admission to an institution from the community* measure (short-, medium-, and long-stays) by the specified age categories we have included (18 to 64, 65 to 74, 75 to 84, and 85 and older).

2b3.11. Optional Additional Testing for Risk Adjustment (*not required, but would provide additional support of adequacy of risk model, e.g., testing of risk model in another data set; sensitivity analysis for missing data; other methods that were assessed*)

Additional details regarding the exploration of statistical risk modeling are included in the Admission to Institution Testing Appendix B.

2b4. IDENTIFICATION OF STATISTICALLY SIGNIFICANT & MEANINGFUL DIFFERENCES IN PERFORMANCE

2b4.1. Describe the method for determining if statistically significant and clinically/practically meaningful differences in performance measure scores among the measured entities can be identified (*describe the steps—do not just name a method; what statistical analysis was used? Do not just repeat the information provided related to performance gap in 1b)*

To evaluate whether the measures demonstrated statistically significant variation in performance across HPPLs and/or showed sub-optimal performance (suggesting room for improvement), we compared the 95 percent confidence around each HPPL's rate to the sample mean to evaluate whether each HPPL's results were significantly different from average HPPL performance. These results are displayed above in 2b.3.9.

2b4.2. What were the statistical results from testing the ability to identify statistically significant and/or clinically/practically meaningful differences in performance measure scores across measured entities? (e.g., *number and percentage of entities with scores that were statistically significantly different from mean or some benchmark, different from expected; how was meaningful difference defined*)

See data presented in 2b.3.9 showing statistical results of significance testing.

2b4.3. What is your interpretation of the results in terms of demonstrating the ability to identify statistically significant and/or clinically/practically meaningful differences in performance across measured entities? (i*.e., what do the results mean in terms of statistical and meaningful differences?*)

See interpretation presented in 2b.3.10 showing statistical results of significance testing.

2b5. COMPARABILITY OF PERFORMANCE SCORES WHEN MORE THAN ONE SET OF SPECIFICATIONS

If only one set of specifications, this section can be skipped.

Note*: This item is directed to measures that are risk-adjusted (with or without social risk factors)* ***OR*** *to measures with more than one set of specifications/instructions (e.g., one set of specifications for how to identify and compute the measure from medical record abstraction and a different set of specifications for claims or eMeasures). It does not apply to measures that use more than one source of data in one set of specifications/instructions (e.g., claims data to identify the denominator and medical record abstraction for the numerator).* ***Comparability is not required when comparing performance scores with and without social risk factors in the risk adjustment model. However, if comparability is not demonstrated for measures with more than one set of specifications/instructions, the different specifications (e.g., for medical records vs. claims) should be submitted as separate measures.***

2b5.1. Describe the method of testing conducted to compare performance scores for the same entities across the different data sources/specifications (*describe the steps—do not just name a method; what statistical analysis was used*)

Not applicable.

2b5.2. What were the statistical results from testing comparability of performance scores for the same entities when using different data sources/specifications? (*e.g., correlation, rank order*)

Not applicable.

2b5.3. What is your interpretation of the results in terms of the differences in performance measure scores for the same entities across the different data sources/specifications? (i.*e., what do the results mean and what are the norms for the test conducted*)

Not applicable.

2b6. MISSING DATA ANALYSIS AND MINIMIZING BIAS

2b6.1. Describe the method of testing conducted to identify the extent and distribution of missing data (or nonresponse) and demonstrate that performance results are not biased due to systematic missing data (or differences between responders and nonresponders) and how the specified handling of missing data minimizes bias (*describe the steps—do not just name a method; what statistical analysis was used*)

In our testing sample exactly 8 enrollees who were eligible for the measure (18 years and older) and enrolled in one of the 14 HPPLs were dropped due to invalid sex, race, or ethnicity data. This represents less than 0.01 percent of our total eligible sample of 189,730. The extent of missing data is too small to impact performance rates.

In implementation the intent of this measure is that MLTSS plans will calculate the measure based on their entire MLTSS population with no missing data. As states develop systems for implementing these measures we will encourage a process in place to audit the calculation of the measures to ensure plans are systematically removing certain observations.

2b6.2. What is the overall frequency of missing data, the distribution of missing data across providers, and the results from testing related to missing data? (*e.g., results of sensitivity analysis of the effect of various rules for missing data/nonresponse; if no empirical sensitivity analysis, identify the approaches for handling missing data that were considered and pros and cons of each*)

Not applicable; see 2b6.1.

2b6.3. What is your interpretation of the results in terms of demonstrating that performance results are not biased due to systematic missing data (or differences between responders and nonresponders) and how the specified handling of missing data minimizes bias**?** (i.*e., what do the results mean in terms of supporting the selected approach for missing data and what are the norms for the test conducted; if no empirical analysis, provide rationale for the selected approach for missing data*)

Not applicable; see 2b6.1.

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.

Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims)

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 claims

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

3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL. Please also complete and attach the NQF Feasibility Score Card.

Attachment:

3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

3c.1. Required for maintenance of endorsement. Describe difficulties (as a result of testing and/or operational use of the measure) regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.

IF instrument-based, consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

Not applicable.

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)*.

The Institutional Facility Value Set containing UBTOB and UBREV codes is provided with the measure. NUBC Official UB-04 Specifications (UB-04 Data) is copyrighted by the American Hospital Association.

The American Hospital Association holds a copyright to the Uniform Bill Codes ("UB") contained in the measure specifications. The UB Codes in this specification are included with the permission of the AHA. The UB Codes contained in this specification may be used by health plans and other health care delivery organizations for the purpose of calculating and reporting the measure results or using the measure results for their internal quality improvement purposes. All other uses of the UB Codes require a license from the AHA. Anyone desiring to use the UB Codes in a commercial Product(s) to generate results, or for any other commercial use, must obtain a commercial use license directly from the AHA. To inquire about licensing, contact ub04@healthforum.com.

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

4.1. Current and Planned Use

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Specific Plan for Use	Current Use (for current use provide URL)
Quality Improvement (external benchmarking to organizations) Quality Improvement (Internal to the specific organization)	

4a1.1 For each CURRENT use, checked above (update for maintenance of endorsement), provide:

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included
- Level of measurement and setting

Not applicable.

4a1.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons? (*e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?*)

The measure is under initial endorsement review and is not currently used in an accountability program. A measure implementation plan will be developed by, or in conjunction with, CMS.

4a1.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement. (*Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.*)

This measure is intended for use by states and health plans to monitor and improve the quality of care provided for the Medicaid MLTSS enrollee population; for example, states may use this measure to compare and evaluate the quality of LTSS care being provided in MLTSS plans with which they contract. States and health plans may choose to begin implementing the measures based on their programmatic needs.

This specific measure focuses on a critical component of high quality MLTSS care – ensuring that care can be provided to the greatest extent possible in the community setting as opposed to the institutional setting.

In May 2017, the National MLTSS Health Plan Association recommended a set of model LTSS performance measures and network adequacy standards in an effort to assist states in complying with the 2016 final rule on managed care in Medicaid and Children's Health Insurance (CHIP). The LTSS Admission to an institution from the community measure is included in the set of recommended measures that assesses person-centered planning and coordination.

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.

Not applicable. This measure has not been implemented yet. Unlike Medicare measures, there is no formal process by which draft results for Medicaid measures are shared with measured entities, such as a Dry Run used in the Hospital Inpatient Quality Reporting (IQR) and Outpatient Quality Reporting (OQR) programs. Feedback on the measure will be available after the measure has been implemented by states in their MLTSS programs.

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.

Not applicable.

4a2.2.1. Summarize the feedback on measure performance and implementation from the measured entities and others described in 4d.1.

Describe how feedback was obtained.

Not applicable.

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

Not applicable.

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

Not applicable.

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

Not applicable.

Improvement

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4b1. Refer to data provided in 1b but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities and patients included.)

If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

This measure is being considered for initial endorsement. Adoption of this performance measure has the potential to improve the quality of care for Medicaid managed care enrollees who are receiving long-term services and supports.

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.

Not applicable. This measure has not been implemented yet. There were no unexpected findings identified during testing of this measure.

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

Not applicable. This measure has not been implemented yet. There were no unexpected findings identified during testing of this measure.

5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.

No

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

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

5a. Harmonization of Related Measures

The measure specifications are harmonized with related measures;
OR
The differences in specifications are justified

5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):
Are the measure specifications harmonized to the extent possible?

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

Not applicable.

5b. Competing Measures

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);
OR
Multiple measures are justified.

5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s):
Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)

Not applicable.

Appendix

A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

Attachment **Attachment:** 4._AdmInstit_TestingAppendix_7.30.18.docx

Contact Information

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

Co.2 Point of Contact: Roxanne, Dupert-Frank, Roxanne.Dupert-Frank@cms.hhs.gov, 410-786-9667-

Co.3 Measure Developer if different from Measure Steward: Mathematica Policy Research

Co.4 Point of Contact: Jessica, Ross, jross@mathematica-mpr.com, 617-674-8384-

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.

2015-2018 Technical Expert Panel

Carol Raphael, Manatt Health Solutions (Chair)

Ann Hwang, MD, Community Catalyst

Ari Houser, PhD, AARP Public Policy Institute

Dennis Heaphy, MPH, Disability Policy Consortium

Joe Caldwell, PhD, National Council on Aging

Lauren Murray, BA, National Partnership for Women and Families

Maggie Nygren, EdD, American Association on Intellectual and Developmental Disabilities

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Mary Lou Bourne, National Association of State Directors for Developmental Disabilities Services

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Anne Cohen, Health and Disability Policy Consultant, Disability Health Access, LLC

Patti Killingsworth, Assistant Commissioner and Chief of LTSS, Bureau of TennCare

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Juliana Preston, Utah Executive Director, HealthInsight

Genie Pritchett, Sr. Vice President Medical Services, Colorado Access

Alice Lind, Aging and Long Term Support Division, Washington State Department of Social and Health Services

The 2015-2018 TEP reviewed feedback obtained during public comment, as well as alpha and beta testing results, and advised on the refinements of the technical specifications. The 2013 TEP advised on the development of the initial measure concept and preliminary specifications.

Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released:

Ad.3 Month and Year of most recent revision:

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

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

Ad.6 Copyright statement: Not applicable.

Ad.7 Disclaimers: Not applicable.

Ad.8 Additional Information/Comments: Please include Jessica Ross (jross@mathematica-mpr.com) and Henry Ireys (hireys@mathematica-mpr.com) on any communications about these measures, as well as Roxanne Dupert-Frank. Thank you.