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## Measure Applications Partnership (MAP) Post-Acute Care/Long-Term Care Workgroup

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*Preliminary Analyses*

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## Skilled Nursing Facility Value-Based Purchasing Program

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## Preliminary Analysis – MUC2022-035 Percent of Residents Experiencing One or More Falls with Major Injury (Long-Stay)

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### Measure Description:

This one-year measure reports the percentage of long-stay residents in a nursing home who have experienced one or more falls resulting in major injury (defined as bone fractures, joint dislocations, closed head injuries with altered consciousness, or subdural hematoma) reported in the look-back period no more than 275 days before the target assessment. The long-stay nursing home population is defined as residents who have received 101 or more cumulative days of nursing home care by the end of the target assessment period. This measure uses data obtained through the Minimum Data Set (MDS) 3.0 OBRA, PPS, and/or discharge assessments during the selected quarter(s).

### Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?

**Yes/No:** Yes

**Justification and Notes:** This measure directly addresses a CMS high priority for future measure consideration for the Skilled Nursing Facility Value-Based Purchasing Program (SNF VBP): Percent of Residents Experiencing One or More Falls With Major Injury. The Skilled Nursing Facility Quality Reporting Program (SNF QRP) includes a measure: Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay) (CMIT ref no. 01299-C-SNFQRP). The measure under consideration is similar to this existing measure; however, the current measure in the program is topped out with a mean rate of 0.9 percent and does not include long-stay residents in its denominator. Currently, there are no existing measures of falls in the SNF quality reporting or value-based purchasing programs that assess the long-stay population and that have been endorsed by a consensus-based entity (CBE).

### Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?

**Yes/No:** Yes

**Justification and Notes:** This is an outcome measure of the percentage of long-stay residents in a nursing home who have experienced one or more falls resulting in major injury. There are several evidence-based interventions that accountable entities can take to influence this outcome, including interventions seeking to improve or increase physical activity to maintain functional capacity and reduce the risk of injurious falls, and proper management of patients using multiple medications or polypharmacy. The evidence cited in the developer's submission to the National Quality Forum (NQF) for endorsement also highlights that nursing home characteristics can influence the risk of experiencing a fall with major injury, including adequate staffing levels, staff education, and adequate levels of facility equipment.

### Does the measure address a quality challenge?

**Yes/No:** Yes

**Justification and Notes:** The developer found that among 14,586 facilities included in the study population, performance measure scores ranged from 0.0 percent (min) to 20.6 percent (max) with a mean score of 3.4 percent and a standard deviation of 2.4 percent. This range of performance suggests that there is room for improvement in this measure.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** The developer reports that this measure is similar to the following measures in use in the following programs, all with the title Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay): Inpatient Rehabilitation Facility Quality Reporting program (CMIT ID: 02586-C-IRFQR), Skilled Nursing Facility Quality Reporting program (CMIT ID: 01299-C-SNFQRP), Long-Term Care Hospital Quality Reporting program (CMIT ID: 01299-C-LTCHQR), and Home Health Quality Reporting program (CMIT ID: 03493-C-HHQR).

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** According to the developer, all data elements for this measure are in defined fields in electronic sources. This measure uses data from standardized patient assessments as part of the Minimum Data Set (MDS) 3.0. The collection instrument is the Resident Assessment Instrument (RAI). The MDS 3.0 is currently mandatory reporting for all Medicare/Medicaid certified nursing facilities.

The Measure Applications Partnership (MAP) reviewed a version of this measure in 2013 as part of the pre-rulemaking process and reviewed a different version of this measure as part of the 2022 Measure Set Review. However, the settings and programs for those measures (specifically, inpatient rehabilitation and home health) differ from the program and setting that apply to this measure under consideration and therefore, the MAP recommendations may not be applicable to this measure.

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** Yes

**Justification and Notes:** The measure is specified at the facility level of analysis and tested in nursing homes. The measure is endorsed by a CBE (NQF #0674) and has been endorsed since 2011. The measure is fully developed, full specifications are provided, and measure testing has demonstrated reliability and validity for the level of analysis and setting for which it is being considered; however, the denominator exclusions in the endorsed version of this measure differ from this submission by including the following additional statement, "If the facility sample includes fewer than 20 residents after all other resident-level exclusions are applied, then the facility is suppressed from public reporting because of small sample size."

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** The measure developer notes the potential unintended negative consequence of this measure is that accounting for falls with major injury may influence providers to increase the use of unwanted or unnecessary physical and/or chemical restraints and cites studies related to this ([Leahy-Warren et al](#), [Bronskill et al](#), [Heckman et al](#), [Lan et al](#)).

**PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** This measure addresses the PAC/LTC Core Concept of Safety by tracking falls with major injury at skilled nursing facilities.

### Impact Act Domain

**Yes/No:** Yes

**Justification:** This measure's evidence draws from a 2016 position statement from the American Academy of Physical Medicine and Rehabilitation that supports the measure domains, assessment categories, and data elements set forth by the IMPACT Act, including the quality measure domain of incidence of major falls

### Hospice High-Priority Areas

**Yes/No:** N/A

### MAP Rural Health Advisory Group Input:

**Votes:** [Not yet available.]

### MAP Health Equity Advisory Group Input:

**Votes:** [Not yet available.]

## Recommendation

### Preliminary Analysis Recommendation:

Support for Rulemaking

### Summary: What is the potential value of the program measure set?

This measure directly addresses a CMS high priority for future measure consideration for the Skilled Nursing Facility Value-Based Purchasing Program (SNF VBP): Percent of Residents Experiencing One or More Falls With Major Injury. The Skilled Nursing Facility Quality Reporting Program (SNF QRP) includes a measure: Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay) (CMIT ref no. 01299-C-SNFQRP). The measure under consideration is similar to the existing measure; however, the current measure in the program is topped out with a mean rate of 0.9 percent and does not include long-stay residents in its denominator. Currently, there are no existing measures of falls in the SNF quality reporting or value-based purchasing programs that assess the long-stay population and that have been endorsed by a consensus-based entity (CBE).

### Summary: What is the potential impact of this measure on the quality of care for patients?

This is an outcome measure of the percentage of long-stay residents in a nursing home who have experienced one or more falls resulting in major injury. There are several evidence-based interventions that accountable entities can take to influence this outcome, including interventions seeking to improve or increase physical activity to maintain functional capacity and reduce the risk of injurious falls, and proper management of patients using multiple medications or polypharmacy. The evidence cited in the developer's submission to the National Quality Forum (NQF) for endorsement also highlights that nursing home characteristics can influence the risk of experiencing a fall with major injury, including adequate staffing levels, staff education, and adequate levels of facility equipment.

The developer found that among 14,586 facilities included in the study population, performance measure scores ranged from 0.0 percent (min) to 20.6 percent (max) with a mean score of 3.4 percent and a standard deviation of 2.4 percent. This range of performance suggests that there is room for improvement in this measure.

## Preliminary Analysis – MUC2022-099 Skilled Nursing Facility (SNF) Within-Stay (WS) Potentially Preventable Readmissions (PPR) Measure

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### Measure Description:

This measure estimates the risk-standardized rate of unplanned, potentially preventable readmissions that occur during SNF stays among Medicare fee-for-service [FFS] beneficiaries. This measure applies two substantive refinements to the original measure (described in detail with the numerator and denominator), which was submitted and published to the MUC list in 2015 and finalized in the fiscal year (FY) 2017 SNF PPS final rule for use in the SNF VBP program in 2016. The measure is calculated in an identical manner using the following formula: (risk-adjusted numerator/risk-adjusted denominator)\*national observed rate. The measure is calculated using two years of Medicare FFS claims data.

### Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?

**Yes/No:** Yes

**Justification and Notes:** This measure under consideration (MUC) addresses unplanned, potentially preventable readmissions, which are disruptive and burdensome to patients. This measure addresses the Care Coordination domain of the Meaningful Measures 2.0 initiative. The 2022 Measures Under Consideration List Program-Specific Measure Needs and Priorities document from the Centers for Medicare & Medicaid Services (CMS) identifies that for the Skilled Nursing Facility Value-Based Purchasing Program (SNF VBP) “per the statute”, the all-cause readmission measure currently implemented in the SNF VBP will be replaced by a potentially preventable readmissions measure as soon as practicable.

### Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?

**Yes/No:** Yes

**Justification and Notes:** This measure is an outcome measure. According to the measure developer, evidence suggests that potentially preventable readmission rates and variations in rates can be reasonably mitigated by SNFs through the use of existing tools such as person-centered care plans, care coordination pathways, and predictive models. The developer notes that quality improvement initiatives aimed at decreasing the rate of avoidable 30-day, SNF-to-hospital readmissions determined that incorporation of specialized staff (non-standard facility employees, such as pharmacists, nurse practitioners, telehealth neurologic consultants, nurse navigators, and post-discharge advocate nurses), tailored intervention in high-risk patients, and collaborative case management between SNFs and hospitals facilitated the lowering of within-stay readmission rates ([Mileski et al., 2017](#)).

### Does the measure address a quality challenge?

**Yes/No:** Yes

**Justification and Notes:** Data from the developer demonstrate that in FY 2019-2020, the interquartile range of risk-standardized potentially preventable readmission rates (i.e., the measure scores) among 14,254 SNFs was 9.25 percent to 13.20 percent, with a standard deviation of 3.00 percent, indicating a gap and variation in care.



**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** This MUC is a refinement of a previous measure finalized for adoption into the SNF VBP in 2016 (FY2017 SNF final rule), but that has not yet been implemented into the program. There were two major refinements made to the measure, reflected in the MUC: (1) the numerator is the number of SNF residents in the target population who have a potentially preventable readmission to a short-stay acute care or long-term care hospital during the SNF stay (previously the measure had a 30-day observation window immediately following the prior acute care hospital discharge associated with the SNF stay), and (2) the index SNF admission must have occurred within 30 days of discharge from a prior proximal hospital stay (which was refined from one day, in the previous measure).

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** The developer identified that all data elements are in defined fields in electronic sources. All data elements used to calculate the measure appear in administrative data, which CMS uses for provider payments in the SNF Prospective Payment System (PPS) and SNF Value-Based Program (VBP), as well as in a wide variety of SNF Quality Reporting Program (QRP) measures.

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** Yes

**Justification and Notes:** This measure has not yet been submitted for endorsement by a consensus-based entity; however, the measure is fully developed and tested. For reliability testing, the developer conducted a random split-half correlation. With a sample size of 14,579 SNFs, the developer reported an intraclass correlation coefficient of 0.71, indicating good reliability. For validating testing, the developer conducted convergent validity testing. Scores for the MUC were compared to those of nine other measures, most of which are currently included in the SNF QRP. Scores for the MUC were positively associated with scores of measures that assess negative outcomes and negatively associated with scores of short-stay measures assessing positive outcomes. Most correlation coefficients were small (absolute values ranging from 0.01 to 0.51), and all but one were statistically significant at the 0.05 level. The developer shared that the face validity was not assessed; however, TEP members agreed with the conceptual and operational definition of the measure.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** The measure is not yet in use; however, the measure developer identified it is possible that a SNF could try to avoid a within-stay potentially preventable readmission in this measure by discharging a resident on the verge of hospitalization to the community. However, no unintended negative consequences have been reported since the measure is not in use.

**PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** Avoidable admissions

### Impact Act Domain

**Yes/No:** Yes

**Justification:** Seamless Care Coordination

### Hospice High-Priority Areas

**Yes/No:** N/A

### MAP Rural Health Advisory Group Input:

**Votes:** [Not yet available.]

### MAP Health Equity Advisory Group Input:

**Votes:** [Not yet available.]

## Recommendation

### Preliminary Analysis Recommendation:

Conditional Support for Rulemaking

Support of this measure is conditional on endorsement by a consensus-based entity (CBE).

### Summary: What is the potential value of the program measure set?

This measure under consideration (MUC) addresses unplanned, potentially preventable readmissions, which are disruptive and burdensome to patients. This measure addresses the Care Coordination domain of the Meaningful Measures 2.0 initiative. The 2022 Measures Under Consideration List Program-Specific Measure Needs and Priorities document from the Centers for Medicare & Medicaid Services (CMS) identifies that for the Skilled Nursing Facility Value-Based Purchasing Program (SNF VBP) “per the statute”, the all-cause readmission measure currently implemented in the SNF VBP will be replaced by a potentially preventable readmissions measure as soon as practicable.

This MUC is a refinement of a previous measure finalized for adoption into the SNF VBP in 2016 (FY2017 SNF final rule), but that has not yet been implemented into the program. There were two major refinements made to the measure, reflected in the MUC: (1) the numerator is the number of SNF residents in the target population who have a potentially preventable readmission to a short-stay acute care or long-term care hospital during the SNF stay (previously the measure had a 30-day observation window immediately following the prior acute care hospital discharge associated with the SNF stay), and (2) the index SNF admission must have occurred within 30 days of discharge from a prior proximal hospital stay (which was refined from one day, in the previous measure).

### Summary: What is the potential impact of this measure on the quality of care for patients?

This measure is an outcome measure. According to the measure developer, evidence suggests that potentially preventable readmission rates and variations in rates can be reasonably mitigated by SNFs through the use of existing tools such as person-centered care plans, care coordination pathways, and predictive models. The developer notes that quality improvement initiatives aimed at decreasing the rate of avoidable 30-day, SNF-to-hospital readmissions determined that incorporation of specialized

staff (non-standard facility employees, such as pharmacists, nurse practitioners, telehealth neurologic consultants, nurse navigators, and post-discharge advocate nurses), tailored intervention in high-risk patients, and collaborative case management between SNFs and hospitals facilitated the lowering of within-stay readmission rates (Mileski et al., 2017).

Data from the developer demonstrate that in FY 2019-2020, the interquartile range of risk-standardized potentially preventable readmission rates (i.e., the measure scores) among 14,254 SNFs was 9.25 percent to 13.20 percent, with a standard deviation of 3.00 percent, indicating a gap and variation in care.

## Preliminary Analysis – MUC2022-113 Number of hospitalizations per 1,000 long-stay resident days

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### Measure Description:

The number of unplanned hospitalizations (including observation stays) for long-stay residents per 1,000 long-stay resident days. For this measure, long-stay resident days are all days after the resident's 100th cumulative day in the nursing home

### Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?

**Yes/No:** Yes

**Justification and Notes:** This measure under consideration (MUC) addresses unplanned hospitalizations, which are disruptive and burdensome to patients. This measure is specifically noted as a high priority for future measure consideration for the Skilled Nursing Facility Value-Based Purchasing Program (SNF VBP), and addresses the Care Coordination domain of the Meaningful Measures 2.0 initiative. According to the [National Center for Health Statistics](#), there were 1.3 million long-stay residents in nursing homes in 2015, and [the Centers for Medicare and Medicaid Services](#) reports that in 2020 the rate of unplanned hospitalizations was 1.4 per 1,000 nursing home resident days, suggesting these disruptive events are fairly common.

### Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?

**Yes/No:** Yes

**Justification and Notes:** This outcome measure is concerned with hospitalizations, which are highly impactful to long-stay skilled nursing facility residents. An [evaluation](#) of a CMS initiative to reduce potentially avoidable hospitalizations by improving facility-wide communication, early identification and treatment of changes in condition, and additional nurse staffing led to a 17 percent reduction in the probability of hospitalization. In addition, the Missouri Quality Initiative reduced nursing facility hospitalizations by 30 percent by increasing access to advanced practice registered nurses ([Rantz et al., 2017](#)).

### Does the measure address a quality challenge?

**Yes/No:** Yes

**Justification and Notes:** One structured review by expert clinicians of hospitalizations of skilled nursing facility residents found that two-thirds were potentially avoidable, citing lack of primary care clinicians on-site and delays in assessments and lab orders as primary reasons ([Ouslander et al., 2010](#)). There is also considerable variation in performance on the measure. Based on testing done from the current implementation of the measure in Nursing Home Compare, the 10<sup>th</sup> percentile of performance is 0.841 observed hospitalizations relative to the number that would be expected based on the resident's clinical condition, the 25<sup>th</sup> percentile is 1.186, the 75<sup>th</sup> percentile is 2.318, and the 90<sup>th</sup> percentile is 2.656. In other words, the top quartile of SNF performers have half the number of hospitalizations of the bottom quartile.

### Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?

**Yes/No:** Yes

**Justification and Notes:** At present, the SNF VBP program has only one measure, the SNF 30-Day All-Cause Readmission Measure (National Quality Forum (NQF) #2510). Though the readmissions-focused measure currently adopted in the program is conceptually related to this hospitalizations-focused MUC, this measure distinguishes itself by being more broadly applicable to the population of long-stay skilled nursing facility residents who have not already been hospitalized.

This measure is currently in use in the Nursing Home Care Compare initiative, which features a rating system based on quality measures that awards one to five stars to each skilled nursing facility. Adopting this measure in the SNF VBP will align measures between these two programs without increasing the reporting burden.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** The developer reports that all data elements are in defined fields in electronic sources, and notes that the measure has been reported as part of the Nursing Home Care Compare initiative since 2018.

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** Yes

**Justification and Notes:** This measure is fully specified for the appropriate setting and level of analysis and already implemented in a program assessing quality of care for skilled nursing facilities. The developer reported an intraclass correlation coefficient of 0.61, indicating the measure is moderately reliable. They assessed convergent validity by comparing performance on this MUC to other measures of quality in the Nursing Home Compare initiative. The developer reported a moderate -0.44 correlation between the overall star rating of the facility and performance on this measure, and reported analyses found a consistent relationship between lower hospitalization rates and better performance on other dimensions of quality such as health inspection survey results, staffing level, other quality measures, and overall ratings. This measure has not yet been submitted for endorsement by a consensus-based entity.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** No unintended consequences have been reported from the measure's current use in the Nursing Home Care Compare initiative.

**PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** Avoidable admissions is a PAC/LTC Core Concept.

**Impact Act Domain**

**Yes/No:** No

**Justification:** There is no relevant IMPACT Act domain that applies to this measure.

### Hospice High-Priority Areas

**Yes/No:** N/A

### MAP Rural Health Advisory Group Input:

**Votes:** [Not yet available.]

### MAP Health Equity Advisory Group Input:

**Votes:** [Not yet available.]

## Recommendation

### Preliminary Analysis Recommendation:

Conditional Support for Rulemaking

Support of this measure is conditional on endorsement by a consensus-based entity (CBE).

### Summary: What is the potential value of the program measure set?

This measure under consideration (MUC) addresses unplanned hospitalizations, which are disruptive and burdensome to patients. This measure is specifically noted as a high priority for future measure consideration for the Skilled Nursing Facility Value-Based Purchasing Program (SNF VBP), and addresses the Care Coordination domain of the Meaningful Measures 2.0 initiative. According to the [National Center for Health Statistics](#), there were 1.3 million long-stay residents in nursing homes in 2015, and [the Centers for Medicare and Medicaid Services](#) reports that in 2020 the rate of unplanned hospitalizations was 1.4 per 1,000 nursing home resident days, suggest these disruptive events are fairly common.

### Summary: What is the potential impact of this measure on the quality of care for patients?

This outcome measure is concerned with hospitalizations, which are highly impactful to long-stay skilled nursing facility residents. An evaluation of a CMS initiative to reduce potentially avoidable hospitalizations by improving facility-wide communication, early identification and treatment of changes in condition, and additional nurse staffing led to a 17 percent reduction in the probability of hospitalization. In addition, the Missouri Quality Initiative reduced nursing facility hospitalizations by 30 percent by increasing access to advanced practice registered nurses (Rantz et al., 2017). One structured review by expert clinicians of hospitalizations of skilled nursing facility residents found that two-thirds were potentially avoidable, citing lack of primary care clinicians on-site and delays in assessments and lab orders as primary reasons (Ouslander et al., 2010).

There is also considerable variation in performance on the measure. Based on testing done from the current implementation of the measure in Nursing Home Compare, the 10th percentile of performance is 0.841 observed hospitalizations relative to the number that would be expected based on the resident's clinical condition, the 25th percentile is 1.186, the 75th percentile is 2.318, and the 90th percentile is 2.656. In other words, the top quartile of performers have half the number of hospitalizations of the bottom quartile.

## Preliminary Analysis – MUC2022-126 Total nursing staff turnover

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### Measure Description:

The percent of nursing staff that stop working in a facility within a given year.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** This measure under consideration (MUC) addresses nursing staff turnover, a longstanding indicator of nursing home quality ([Gandhi et al., 2021](#)) that can be connected to quality of care by longer-tenured nurses being better able to detect changes in condition for residents they are more familiar with, as well as these nurses being more acclimated to an individual facility's procedures and thus operating more efficiently.

This measure addresses the Care Coordination domain of the Meaningful Measures 2.0 initiative, though is not specifically described as a high priority for future measure consideration by the Skilled Nursing Facility Value-Based Purchasing (SNF VBP) Program.

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** The average turnover in nursing home staff is 46 percent per year, and higher turnover is associated with lower quality of care, measured by other nursing home quality measures in Nursing Home Quality Compare ([Zheng et al., 2022](#)). Another study comparing nursing home annualized turnover rates with the overall five-star ratings for the facilities found that facilities rated one star had annual turnover rates of 135.3 percent on average, whereas five-star facilities had 76.7 percent turnover. Three-star facilities averaged 100.7 percent turnover. In testing, the developer found a statistically significant relationship between turnover rates and clinical quality measures, including hospitalization rates, readmission rates, and emergency department visits.

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** There is considerable variation in performance on the measure. Based on testing from the current implementation of the measure in Nursing Home Compare, the 10th percentile of performance is 28.8 percent turnover, the 25th percentile is 36.6 percent, the 75th percentile is 54.9 percent, and the 90th percentile is 64.1 percent. In other words, the top quartile of performers experience just two-thirds the turnover of facilities in the bottom quartile of performance.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** At present, the SNF VBP program has only one measure, the SNF 30-Day All-Cause Readmission Measure (National Quality Forum (NQF) #2510). Thus, this measure addresses an entirely new concept for the program.

This measure is currently in use in the Nursing Home Care Compare initiative, which features a rating system based on quality measures that awards one to five stars to each skilled nursing facility. Adopting this measure in the SNF VBP will align measures between these two programs without increasing the reporting burden.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** The developer reports that all measures are in defined fields in electronic sources, and notes that the measure is currently implemented as part of the Nursing Home Care Compare initiative. The measure is calculated based on data collected by the CMS Payroll-Based Journal (PBJ) System that was introduced in 2016.

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** Yes

**Justification and Notes:** This measure is fully specified for the appropriate setting and level of analysis and already implemented in a program assessing quality of care for skilled nursing facilities. The developer reported an intraclass correlation coefficient of 0.834, indicating the measure has strong reliability. They assessed convergent validity by comparing performance on this MUC to other measures of quality in the Nursing Home Compare initiative, finding statistically significant relationships between this measure and clinical quality measures, including hospitalization rates, readmission rates, and emergency department visits.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** The developer anticipates a possible unintended consequence where skilled nursing facilities might involuntarily dismiss employees they anticipate will count against them in the turnover before the employee meets the 120 hour threshold for hours worked in the baseline quarter for calculation. However, this phenomenon has not been reported in the measure's current implementation in Nursing Home Compare.

**PAC/LTC Core Concept?**

**Yes/No:** No

**Justification:** This measure does not meet one of the 13 PAC/LTC core concepts. Per the final report, staffing measures were not mapped to a core set concept.

**Impact Act Domain**

**Yes/No:** No

**Justification:** There is no relevant IMPACT Act domain that applies to this measure.

**Hospice High-Priority Areas**



Yes/No: N/A

**MAP Rural Health Advisory Group Input:**

Votes: [Not yet available.]

**MAP Health Equity Advisory Group Input:**

Votes: [Not yet available.]

## **Recommendation**

**Preliminary Analysis Recommendation:**

Conditional Support for Rulemaking

Support of this measure is conditional on endorsement by a consensus-based entity (CBE).

**Summary: What is the potential value of the program measure set?**

This measure under consideration (MUC) addresses nursing staff turnover, a longstanding indicator of nursing home quality ([Gandhi et al., 2021](#)) that can be connected to quality of care by longer-tenured nurses being better able to detect changes in condition for residents they are more familiar with, as well as these nurses being more acclimated to an individual facility's procedures and thus operating more efficiently.

This measure addresses the Care Coordination domain of the Meaningful Measures 2.0 initiative, though is not specifically described as a high priority for future measure consideration by the Skilled Nursing Facility Value-Based Purchasing (SNF VBP) Program.

**Summary: What is the potential impact of this measure on the quality of care for patients?**

The average turnover in nursing home staff is 46 percent per year, and higher turnover is associated with lower quality of care, measured by other nursing home quality measures in Nursing Home Quality Compare ([Zheng et al., 2022](#)). Another study comparing nursing home annualized turnover rates with the overall five-star ratings for the facilities found that facilities rated one star had annual turnover rates of 135.3 percent on average, whereas five-star facilities had 76.7 percent turnover. Three-star facilities averaged 100.7 percent turnover. In testing, the developer found a statistically significant relationship between turnover rates and clinical quality measures, including hospitalization rates, readmission rates, and emergency department visits.

There is considerable variation in performance on the measure. Based on testing done from the current implementation of the measure in Nursing Home Compare, the 10th percentile of performance is 28.8 percent turnover, the 25th percentile is 36.6 percent, the 75th percentile is 54.9 percent, and the 90th percentile is 64.1 percent. In other words, the top quartile of performers experience just two-thirds the turnover of facilities in the bottom quartile of performance.

## Cross-Program Measures

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*These measures were submitted to multiple federal programs.*

## Preliminary Analysis – MUC2022-084 COVID-19 Vaccination Coverage among Healthcare Personnel (HCP) (2022 revision) (IRF QRP)

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**Program:** Inpatient Rehabilitation Facility Quality Reporting Program

### Measure Description:

Percentage of healthcare personnel who are considered up to date with recommended COVID-19 vaccines.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** SARS-CoV-2 vaccination is a national healthcare priority. The measure under consideration (MUC) is a revision to the current Coronavirus Disease 19 (COVID-19) vaccination rate of healthcare personnel measure (CMIT: 08062-C-IRFQR) in use within the Inpatient Rehabilitation Facility Quality Reporting Program (IRF QRP), which only captures primary series vaccination data. Because Centers for Disease Control and Prevention (CDC) recommendations for COVID-19 vaccination have been updated since the initial formulation of the measure, this revision includes reporting up-to-date vaccination. Up-to-date COVID-19 vaccination is defined as completion of the COVID-19 vaccine primary series and the most recent booster dose recommended by the [CDC](#). This MUC aligns with the preventive care domain of the Centers for Medicare & Medicaid Services (CMS) Meaningful Measures 2.0 initiative. Besides the current COVID-19 personnel measure, there is a healthcare personnel influenza vaccination measure in longstanding use within IRF QRP (CMIT: 00854-C-IRFQR).

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** Healthcare practice requires close personal exposure to patients, contaminated environments, or infectious material from patients with SARS-CoV-2, putting healthcare workers at high risk of infection and contributing to further spread of COVID-19 ([Nguyen et al., 2020](#)). Observational data supports the positive impact of COVID-19 vaccination and booster/additional dosing for healthcare personnel. COVID-19 vaccination is highly effective against infection for healthcare workers ([Pilishvili et al., 2021](#)) and is associated with reduced patient infections and deaths. In the presence of high community prevalence of COVID-19, nursing homes with low staff vaccination coverage had COVID-19 infections and death rates 132 percent and 195 percent higher, respectively, than those with high staff vaccination coverage ([McGarry et al., 2022](#)). Furthermore, additional/booster dosing is associated with a greater reduction in infections among both healthcare workers and patients relative to those who only received primary series vaccination ([Prasad et al., 2022](#); [Oster et al., 2022](#)).

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** Existing healthcare personnel vaccination measures demonstrate variation in performance across facilities. Clinically significant differences in booster/additional dose vaccination coverage rates exist among facilities, indicating that revisions to the measure would be meaningful. For the first quarter of 2022, IRFs reported a median coverage rate of booster/additional doses of 20.3

percent, with an interquartile range of 8.9 to 37.7 percent. This difference of 28.8 percentage points is indicative of a substantial quality challenge among IRFs.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** This revision of the current measure captures up-to-date vaccination information in accordance with CDC recommendations updated since its initial development. The measure is under consideration for use in 11 CMS quality reporting programs. Additionally, the re-specification of the target population is broader and simplified from seven categories of healthcare personnel to four.

This measure was reviewed by the Measure Applications Partnership (MAP) during the 2020-2021 pre-rulemaking cycle (MUC20-0044). MAP reviewed the measure for nine programs, giving it “conditional support for rulemaking” contingent on CMS bringing the measures back to MAP once the specifications are further refined, CMS considering an expedited process for the measures for both NQF and CMS, and CMS exploring the inclusion of pediatric hospitals within the COVID measures.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** The measure is expected to be reported to CDC’s National Healthcare Safety Network (NHSN). CMS quality reporting programs already require facilities to report data on COVID-19 primary series vaccination among healthcare personnel. The developer notes that the feasibility of reporting additional/booster doses is evident by the proportion of facilities nationwide that have already reported this data to NHSN. Ahead of the August 2022 deadline, 63.9 percent of IRFs already reported additional/booster coverage as of May 2022. This high rate of reporting suggests that the measure can be feasibly reported.

**Is the measure applicable to and appropriately specified for the program’s intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** No

**Justification and Notes:** A prior version of this measure recently received consensus-based entity (CBE) endorsement (National Quality Forum (NQF) #3636). However, the MUC is not yet developed fully and is undergoing beta testing to assess the feasibility of collecting additional/booster vaccine dose data among healthcare personnel. In addition, the measure developer has not provided reliability or validity testing results for the MUC.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** A prior version of the measure is currently in use in six CMS quality reporting programs. No unintended consequences to the patient were identified during implementation.

**PAC/LTC Core Concept?**

**Yes/No:** No

**Justification:** This measure is not one of the 13 PAC/LTC core measure concepts.

### Impact Act Domain

**Yes/No:** No

**Justification:** This measure is not one of the designated IMPACT Act quality measure domains, nor is it a resource use, discharge to community, hospitalization, or assessment category measure.

### Hospice High-Priority Areas

**Yes/No:** N/A

### MAP Rural Health Advisory Group Input:

**Votes:** [Not yet available.]

### MAP Health Equity Advisory Group Input:

**Votes:** [Not yet available.]

## Recommendation

### Preliminary Analysis Recommendation:

Conditional Support for Rulemaking

Support of this measure is conditional on testing indicating the measure is reliable and valid, and endorsement by a consensus-based entity (CBE).

### Summary: What is the potential value of the program measure set?

The measure under consideration (MUC) is a revision to the current Coronavirus Disease 19 (COVID-19) vaccination rate of healthcare personnel measure (CMIT ID 08062), which only captures primary series vaccination data. Because Centers for Disease Control and Prevention (CDC) recommendations for COVID-19 vaccination have been updated since the initial formulation of the measure, this revision includes reporting up-to-date vaccination (additional/booster dosing). This measure aligns with the preventive care domain of the Centers for Medicare & Medicaid Services (CMS) Meaningful Measures 2.0 initiative. However, this MUC has not been fully tested or reviewed for endorsement by a consensus-based entity (CBE).

This measure was reviewed by the Measure Applications Partnership (MAP) during the 2020-2021 pre-rulemaking cycle (MUC20-0044). MAP reviewed the measure for nine programs, giving it “conditional support for rulemaking” contingent on CMS bringing the measures back to MAP once the specifications are further refined, CMS considering an expedited process for the measures for both NQF and CMS, and CMS exploring the inclusion of pediatric hospitals within the COVID measures.

### Summary: What is the potential impact of this measure on the quality of care for patients?

COVID-19 vaccination is highly effective against infection for healthcare workers and is associated with reduced patient infections and deaths. Existing healthcare personnel vaccination measures demonstrate variation in performance across facilities. Clinically significant differences in booster/additional dose vaccination coverage rates exist among facilities, indicating that revisions to the measure would be

meaningful. For the first quarter of 2022, inpatient rehabilitation facilities (IRFs) reported a median coverage rate of booster/additional doses of 20.3 percent, with an interquartile range of 8.9 to 37.7 percent. This difference of 28.8 percentage points is indicative of a substantial quality challenge among IRFs.

## Preliminary Analysis – MUC2022-084 COVID-19 Vaccination Coverage among Healthcare Personnel (HCP) (2022 revision) (LTCH QRP)

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**Program:** Long-Term Care (LTC) Hospital Quality Reporting Program

### Measure Description:

Percentage of healthcare personnel who are considered up to date with recommended COVID-19 vaccines.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** SARS-CoV-2 vaccination is a national healthcare priority. The measure under consideration (MUC) is a revision to the current Coronavirus Disease 19 (COVID-19) vaccination rate of healthcare personnel measure (CMIT: 08062-C-LTCHQR) in use within the Long-Term Care Hospital Quality Reporting Program (LTCHQR), which only captures primary series vaccination data. Because Centers for Disease Control and Prevention (CDC) recommendations for COVID-19 vaccination have been updated since the initial formulation of the measure, this revision includes reporting up-to-date vaccination. Up-to-date COVID-19 vaccination is defined as completion of the COVID-19 vaccine primary series and the most recent booster dose recommended by the [CDC](#). This MUC aligns with the preventive care domain of the Centers for Medicare & Medicaid Services (CMS) Meaningful Measures 2.0 initiative. Besides the current COVID-19 personnel measure, there is a healthcare personnel influenza vaccination measure in longstanding use within the LTCH QRP (CMIT: 00854-C-LTCHQR).

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** No

**Justification and Notes:** Healthcare practice requires close personal exposure to patients, contaminated environments, or infectious material from patients with SARS-CoV-2, putting healthcare workers at high risk of infection and contributing to further spread of COVID-19 ([Nguyen et al., 2020](#)). Observational data supports the positive impact of COVID-19 vaccination and booster/additional dosing for healthcare personnel. COVID-19 vaccination is highly effective against infection for healthcare workers ([Pilishvili et al., 2021](#)) and is associated with reduced patient infections and deaths. In the presence of high community prevalence of COVID-19, nursing homes with low staff vaccination coverage had COVID-19 infections and death rates 132 percent and 195 percent higher, respectively, than those with high staff vaccination coverage ([McGarry et al., 2022](#)). Furthermore, additional/booster dosing is associated with a greater reduction in infections among both healthcare workers and patients relative to those who only received primary series vaccination ([Prasad et al., 2022](#); [Oster et al., 2022](#)).

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** Existing healthcare personnel vaccination measures demonstrate variation in performance across facilities. Clinically significant differences in booster/additional dose vaccination coverage rates exist among facilities, indicating that revisions to the measure would be meaningful. For the first quarter of 2022, LTCHs reported a median coverage rate of booster/additional dose of 22.6 percent, with an interquartile range of 10.8 percent to 36.9 percent. This difference of 26.1 percentage

points is indicative of a substantial quality challenge among LTCHs.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** This revision of the current measure captures up-to-date vaccination information in accordance with CDC recommendations updated since its initial development. The measure is under consideration for use in 11 CMS quality reporting programs. Additionally, the re-specification of the target population is broader and simplified from seven categories of healthcare personnel to four.

This measure was reviewed by the Measure Applications Partnership (MAP) during the 2020-2021 pre-rulemaking cycle (MUC20-0044). MAP reviewed the measure for nine programs, giving it “conditional support for rulemaking” contingent on CMS bringing the measures back to MAP once the specifications are further refined, CMS considering an expedited process for the measures for both NQF and CMS, and CMS exploring the inclusion of pediatric hospitals within the COVID measures.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** The measure is expected to be reported to CDC’s National Healthcare Safety Network (NHSN). CMS quality reporting programs already require facilities to report data on COVID-19 primary series vaccination among health care personnel. The developer notes that the feasibility of reporting additional/booster doses is evident by the proportion of facilities nationwide that have already reported this data to NHSN. Ahead of the August 2022 deadline, 90.3 percent of facilities already reported additional/booster coverage as of May 2022. This high rate of reporting suggests that the measure can be feasibly reported.

**Is the measure applicable to and appropriately specified for the program’s intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** No

**Justification and Notes:** A prior version of this measure recently received consensus-based entity (CBE) endorsement (National Quality Forum (NQF) #3636). However, the revised measure is not yet developed fully and is undergoing beta testing to assess the feasibility of collecting additional/booster vaccine dose data among healthcare personnel. In addition, the measure developer has not provided reliability or validity testing results for the MUC.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** A prior version of the measure is currently in use in six CMS quality reporting programs. The developer did identify any potential unintended issues or implementation challenges that can negatively impact the measure being identified.

**PAC/LTC Core Concept?**



**Yes/No:** No

**Justification:** This measure is not one of the 13 PAC/LTC core measure concepts

### Impact Act Domain

**Yes/No:** No

**Justification:** This measure is not one of the designated IMPACT Act quality measure domains, nor is it a resource use, discharge to community, hospitalization, or assessment category measure.

### Hospice High-Priority Areas

**Yes/No:** N/A

### MAP Rural Health Advisory Group Input:

**Votes:** [Not yet available.]

### MAP Health Equity Advisory Group Input:

**Votes:** [Not yet available.]

## Recommendation

### Preliminary Analysis Recommendation:

Conditional Support for Rulemaking

Support of this measure is conditional on testing indicating the measure is reliable and valid, and endorsement by a consensus-based entity (CBE).

### Summary: What is the potential value of the program measure set?

The measure under consideration (MUC) is a revision to the current Coronavirus Disease 19 (COVID-19) vaccination rate of healthcare personnel measure (CMIT: 08062-C-LTCHQR) in use within the Long-Term Care Hospital Quality Reporting Program (LTCHQRP), which only captures primary series vaccination data. Because Centers for Disease Control and Prevention (CDC) recommendations for COVID-19 vaccination have been updated since the initial formulation of the measure, this revision includes reporting up-to-date vaccination. <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html> This MUC aligns with the preventive care domain of the Centers for Medicare & Medicaid Services (CMS) Meaningful Measures 2.0 initiative. However, this MUC has not been fully tested or reviewed for endorsement by a consensus-based entity (CBE).

This measure was reviewed by the Measure Applications Partnership (MAP) during the 2020-2021 pre-rulemaking cycle (MUC20-0044). MAP reviewed the measure for nine programs, giving it “conditional support for rulemaking” contingent on CMS bringing the measures back to MAP once the specifications are further refined, CMS considering an expedited process for the measures for both NQF and CMS, and CMS exploring the inclusion of pediatric hospitals within the COVID measures.

### Summary: What is the potential impact of this measure on the quality of care for patients?

COVID-19 vaccination is highly effective against infection for healthcare workers and is associated with reduced patient infections and deaths. Existing healthcare personnel vaccination measures demonstrate variation in performance across facilities. Clinically significant differences in booster/additional dose vaccination coverage rates exist among facilities, indicating that revisions to the measure would be

meaningful. For the first quarter of 2022, LTCHs reported a median coverage rate of booster/additional doses of 22.6 percent, with an interquartile range of 10.8 percent to 36.9 percent. This difference of 26.1 percentage points is indicative of a substantial quality challenge among LTCHs.

## Preliminary Analysis – MUC2022-084 COVID-19 Vaccination Coverage among Healthcare Personnel (HCP) (2022 revision) (SNF QRP)

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**Program:** Skilled Nursing Facility Quality Reporting Program

### Measure Description:

Percentage of healthcare personnel who are considered up to date with recommended COVID-19 vaccines.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** SARS-CoV-2 vaccination is a national healthcare priority. The measure under consideration (MUC) is a revision to the current Coronavirus Disease 19 (COVID-19) vaccination rate of healthcare personnel measure (CMIT: 08062-C-SNFQRP) in use within the Skilled Nursing Facility Quality Reporting Program (SNF QRP), which only captures primary series vaccination data. Because Centers for Disease Control and Prevention (CDC) recommendations for COVID-19 vaccination have been updated since the initial formulation of the measure, this revision includes reporting up-to-date vaccination. Up-to-date COVID-19 vaccination is defined as completion of the COVID-19 vaccine primary series and the most recent booster dose recommended by the [CDC](#). This MUC aligns with the preventive care domain of the Centers for Medicare & Medicaid Services (CMS) Meaningful Measures 2.0 initiative.

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** Healthcare practice requires close personal exposure to patients, contaminated environments, or infectious material from patients with SARS-CoV-2, putting healthcare workers at high risk of infection and contributing to further spread of COVID-19 ([Nguyen et al., 2020](#)). Observational data supports the positive impact of COVID-19 vaccination and booster/additional dosing for healthcare personnel. COVID-19 vaccination is highly effective against infection for healthcare workers ([Pilishvili et al., 2021](#)) and is associated with reduced patient infections and deaths. In the presence of high community prevalence of COVID-19, nursing homes with low staff vaccination coverage had COVID-19 infections and death rates 132 percent and 195 percent higher, respectively, than those with high staff vaccination coverage ([McGarry et al., 2022](#)). Furthermore, additional/booster dosing is associated with a greater reduction in infections among both healthcare workers and patients relative to those who only received primary series vaccination ([Prasad et al., 2022](#); [Oster et al., 2022](#)).

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** Existing healthcare personnel vaccinations measures demonstrate variation in performance across facilities. Clinically significant differences in booster/additional dose vaccination coverage rates exist among facilities, indicating that revisions to the measure would be meaningful. For the first quarter of 2022, SNFs reported a median coverage rate of booster/additional dose of 31.8 percent, with an interquartile range of 18.9 to 49.7 percent. This difference of 30.8 percentage points is indicative of a substantial quality challenge among SNFs.

**Does the measure contribute to the efficient use of measurement resources and/or support the**

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**alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** This revision of the current measure captures up-to-date vaccination information in accordance with CDC recommendations updated since its initial development. The measure is under consideration for use in 11 CMS quality reporting programs. Additionally, the re-specification of the target population is broader and simplified from seven categories of healthcare personnel to four.

This measure was reviewed by the Measure Applications Partnership (MAP) during the 2020-2021 pre-rulemaking cycle (MUC20-0044). MAP reviewed the measure for nine programs, giving it “conditional support for rulemaking” contingent on CMS bringing the measures back to MAP once the specifications are further refined, CMS considering an expedited process for the measures for both NQF and CMS, and CMS exploring the inclusion of pediatric hospitals within the COVID measures.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** The measure is expected to be reported to CDC’s National Healthcare Safety Network (NHSN). CMS quality reporting programs already require facilities to report data on COVID-19 primary series vaccination among health care personnel. The developer notes that the feasibility of reporting additional/booster doses is evident by the proportion of facilities nationwide that have already reported this data to NHSN. Ahead of the August 2022 deadline, 99.2 percent of SNFs already reported additional/booster coverage as of May 2022. This high rate of reporting suggests that the measure can be feasibly reported.

**Is the measure applicable to and appropriately specified for the program’s intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** No

**Justification and Notes:** A prior version of this measure recently received consensus-based entity (CBE) endorsement (National Quality Forum (NQF) #3636). However, the revised measure is not yet developed fully and is undergoing beta testing to assess the feasibility of collecting additional/booster vaccine dose data among healthcare personnel. In addition, the measure developer has not provided reliability or validity testing results for the MUC.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** A prior version of the measure is currently in use in six CMS quality reporting programs. No unintended consequences to the patient were identified during implementation.

**PAC/LTC Core Concept?**

**Yes/No:** No

**Justification:** This measure is not one of the 13 PAC/LTC core measure concepts.

**Impact Act Domain**

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**Yes/No:** No

**Justification:** This measure is not one of the designated IMPACT Act quality measure domains, nor is it a resource use, discharge to community, hospitalization, or assessment category measure.

### Hospice High-Priority Areas

**Yes/No:** N/A

### MAP Rural Health Advisory Group Input:

**Votes:** [Not yet available.]

### MAP Health Equity Advisory Group Input:

**Votes:** [Not yet available.]

## Recommendation

### Preliminary Analysis Recommendation:

Conditional Support for Rulemaking

Support of this measure is conditional on testing indicating the measure is reliable and valid, and endorsement by a consensus-based entity (CBE).

### Summary: What is the potential value of the program measure set?

The measure under consideration (MUC) is a revision to the current Coronavirus Disease 19 (COVID-19) vaccination rate of healthcare personnel measure (CMT: 08062-C-SNFQRP) in use within the Skilled Nursing Facility Quality Reporting Program (SNF QRP), which only captures primary series vaccination data. Because Centers for Disease Control and Prevention (CDC) recommendations for COVID-19 vaccination have changed since the initial formulation of the measure, this revision includes reporting up-to-date vaccination. This MUC aligns with the preventive care domain of the Centers for Medicare & Medicaid Services (CMS) Meaningful Measures 2.0 initiative. However, this MUC has not been fully tested or reviewed for endorsement by a consensus-based entity (CBE).

This measure was reviewed by the Measure Applications Partnership (MAP) during the 2020-2021 pre-rulemaking cycle (MUC20-0044). MAP reviewed the measure for nine programs, giving it “conditional support for rulemaking” contingent on CMS bringing the measures back to MAP once the specifications are further refined, CMS considering an expedited process for the measures for both NQF and CMS, and CMS exploring the inclusion of pediatric hospitals within the COVID measures.

### Summary: What is the potential impact of this measure on the quality of care for patients?

COVID-19 vaccination is highly effective against infection for healthcare workers and is associated with reduced patient infections and deaths. Existing healthcare personnel vaccination measures demonstrate variation in performance across facilities. Clinically significant differences in booster/additional dose vaccination coverage rates exist among facilities, indicating that revisions to the measure would be meaningful. For the first quarter of 2022, SNFs reported a median coverage rate of booster/additional dose of 31.8 percent, with an interquartile range of 18.9 to 49.7 percent. This difference of 30.8 percentage points is indicative of a substantial quality challenge among SNFs.

## Preliminary Analysis – MUC2022-083 Cross-Setting Discharge Function Score (IRF QRP)

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**Program:** Inpatient Rehabilitation Facility Quality Reporting Program

### Measure Description:

This measure estimates the percentage of Inpatient Rehabilitation Facility (IRF) patients who meet or exceed an expected discharge function score.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** This functional status outcome measure under consideration (MUC) addresses the critical measurement domain of functional impairment, consistent with the Meaningful Measures 2.0 Healthcare Priority of Person-Centered Care, and the Functional Ability at Discharge High-Priority Area for the Inpatient Rehabilitation Facility Quality Reporting Program (IRF QRP).

There are several related measures in the current IRF QRP including a measure (CMIT: 02595-C-IRFQRP) that assesses Application of Percent of Patients with an Admission and Discharge Functional Assessment and a Care Plan that addresses function. There are also two measures that assess the change in self-care and mobility scores (CMIT: 01870-C-IRFQRP, 01869-C-IRFQRP), and two measures that assess a self-care and mobility score at discharge (CMIT: 02596-C-IRPQRP, 02597-C-IRPQRP). However, this MUC captures a more comprehensive set of functional status elements at discharge not captured in the existing measure set.

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** Physical function is a critical quality domain for IRFs as it predicts several outcomes including successful discharge to the community and re-hospitalization rates ([Minor et al., 2021](#); [Deutsch et al., 2022](#); [Li et al., 2021](#)). Several studies have reported that IRF care can improve patients' motor function at discharge for patients with various diagnoses, including traumatic brain injury and stroke ([Evans et al., 2021](#); [Kowalski et al., 2021](#); [Li et al., 2020](#); [O'Dell et al., 2021](#)). The goal of inpatient rehabilitation facilities is the provision of rehabilitation therapy for those individuals experiencing functional deficits following discharge from a hospital stay. Several interventions by the IRF can be used to improve function, including specific physical activities, motivational interviewing, home-based exercise, structured exercise routines, multidisciplinary care teams, and patient-tailored intensity and frequency levels.

The Academy of Orthopaedic Physical Therapy of the American Physical Therapy Association also created clinical practice guidelines to identify evidence-based physical therapy outcomes and interventions to address functional impairment. The developers cite Grade A (United States Preventive Services Task Force scale) guidelines that include evidence-based best practices to improve physical function among patients after a hip fracture to meet their individual goals for recovery.

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** In a 2019 evaluation of over 1,100 IRFs, the mean performance on this measure was 56.4 percent, median performance was 57.2 percent, with a minimum performance score of 8.0 percent and maximum performance score of 95.2 percent. This range of performance suggests variation in IRF performance and a gap in care that is evidence of a quality challenge.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** This measure adds to the current program measure set in four specific ways. First, this measure is a cross-setting functional outcome measure. Second, this measure assesses self-care and mobility activities in the same measure. Third, the developer notes that the risk adjustment models have been modified to align across settings, where appropriate, and include terms that are relevant for both self-care and mobility. Finally, the measure allows for item scores to be imputed for items with Not Attempted (NA) codes. The developer noted that statistical imputation predicts item scores based on patient clinical characteristics and function scores.

The measure is concurrently submitted for the quality reporting programs of the inpatient rehabilitation facility, skilled nursing, long-term care hospital, and home health settings, facilitating cross-setting comparisons of performance and supporting measure alignment across programs.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** This measure uses data from the Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF-PAI). The IRF-PAI data are collected on all Medicare patients who receive services from an inpatient rehabilitation unit or hospital. There will be no additional data collection or submission burden for IRF providers.

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** Yes

**Justification and Notes:** The measure has not yet been submitted for endorsement by a consensus-based entity (CBE). However, the measure is fully developed and has been specified for the facility level of analysis. The developer provided reliability testing using a random split half correlation of 0.95. The developer also provides empirical testing results using convergent validity. Specifically, the developer measured the Spearman's rank correlation between the Cross-Setting Discharge Function Score measure and other IRF QRP measures. In this analysis, higher functional status demonstrated a statistically significant positive correlation with the Discharge to Community measure (0.26) ( $p < 0.05$ ). A Technical Expert Panel (TEP) was convened by the developer for a face validity assessment; although there was no vote, the developer reports that the TEP agreed with the measure specifications and showed strong support for the face validity of the measure. Likewise, the developer hosted a listening session with patients and family caregivers, who supported the measure. Finally, the developer empirically assessed validity by comparing the measure result to other publicly reported measures related to function in the IRF QRP program (such as Improvement in Ambulation, Improvement in Bathing), finding statistically significant ( $p < 0.01$ ) but modest positive correlations.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** This measure is currently not in use. However, the developer identified a potential unintended consequence where inpatient rehabilitation facilities might select patients they expect will have higher functional status scores. The developer proposes to mitigate this concern through the case mix adjustment.

#### **PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** Functional and cognitive status

#### **Impact Act Domain**

**Yes/No:** Yes

**Justification:** Quality measure domain - Functional status

#### **Hospice High-Priority Areas**

**Yes/No:** N/A

#### **MAP Rural Health Advisory Group Input:**

**Votes:** [Not yet available.]

#### **MAP Health Equity Advisory Group Input:**

**Votes:** [Not yet available.]

### **Recommendation**

#### **Preliminary Analysis Recommendation:**

Conditional Support for Rulemaking

Support of this measure is conditional on endorsement of the measure by a consensus-based entity (CBE).

#### **Summary: What is the potential value of the program measure set?**

This functional status outcome measure under consideration (MUC) addresses the critical measurement domain of functional impairment, consistent with the Meaningful Measures 2.0 Healthcare Priority of Person-Centered Care, and the Functional Ability at Discharge High-Priority Area for the Inpatient Rehabilitation Facility Quality Reporting Program (IRF QRP).

This measure adds to the current program measure set in four specific ways. First, this measure is a cross-setting functional outcome measure. Second, this measure assesses self-care and mobility activities in the same measure. Third, the developer notes that the risk adjustment models have been modified to align across settings, where appropriate, and include terms that are relevant for both self-care and mobility. Finally, the measure allows for item scores to be imputed for items with Not Attempted (NA) codes. The developer noted that statistical imputation predicts item scores based on



patient clinical characteristics and function scores.

The measure is concurrently submitted for the quality reporting programs of the inpatient rehabilitation facility, skilled nursing, long-term care hospital, and home health settings, facilitating cross-setting comparisons of performance and supporting measure alignment across programs

**Summary: What is the potential impact of this measure on the quality of care for patients?**

Physical function is a critical quality domain for IRFs as it predicts several outcomes including successful discharge to the community and re-hospitalization rates ([Minor et al., 2021](#); [Deutsch et al., 2022](#); [Li et al., 2021](#)). Several studies have reported that IRF care can improve patients' motor function at discharge for patients with various diagnoses, including traumatic brain injury and stroke ([Evans et al., 2021](#); [Kowalski et al., 2021](#); [Li et al., 2020](#); [O'Dell et al., 2021](#)). The goal of inpatient rehabilitation facilities is the provision of rehabilitation therapy for those individuals experiencing functional deficits following discharge from a hospital stay. Several interventions by the IRF can be used to improve function, including specific physical activities, motivational interviewing, home-based exercise, structured exercise routines, multidisciplinary care teams, and patient-tailored intensity and frequency levels.

In a 2019 evaluation of over 1,100 IRFs, the mean performance on this measure was 56.4 percent, median performance was 57.2 percent, with a minimum performance score of 8.0 percent and maximum performance score of 95.2 percent. This range of performance suggests variation in IRF performance and a gap in care that is evidence of a quality challenge.

## Preliminary Analysis – MUC2022-085 Cross-Setting Discharge Function Score (HH QRP)

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**Program:** Home Health Quality Reporting Program

### Measure Description:

This measure estimates the percentage of Home Health (HH) Medicare patients who meet or exceed an expected discharge function score.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** This functional status outcome measure under consideration (MUC) addresses the critical measurement domain of functional impairment, consistent with the Meaningful Measures 2.0 Healthcare Priority of Person-Centered Care, and the Functional Ability at Discharge High-Priority Area for the Home Health Quality Reporting Program (HH QRP). Although there are existing measures of functional status at discharge in the HH QRP that overlap with the concepts captured in this MUC (including toileting hygiene, toilet transferring, ambulation, and bed transferring), other concepts in the MUC are not captured in the existing measure set (including eating, oral hygiene).

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** Physical function is a critical quality domain for home health care as it predicts health outcomes, including preventable readmission rates ([Middleton et al., 2019](#)), and higher rates of falls and mortality ([Zaslavsky et al., 2016](#)). As the goal of home health care is typically to treat an illness or injury, functional status at discharge is a proxy for whether the care has been effective and high quality. Studies have reported that home health care can improve health outcomes, including unplanned admissions for Alzheimer's patients ([Wang et al., 2019](#)), as well as improve functional status of care recipients ([Han et al., 2013](#)).

The Academy of Orthopaedic Physical Therapy of the American Physical Therapy Association also created clinical practice guidelines to identify evidence-based physical therapy outcomes and interventions to address functional impairment. The developer cites Grade A (United States Preventive Services Task Force scale) guidelines that include evidence-based best practices to improve physical function among patients after a hip fracture to meet their individual goals for recovery.

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** In a 2019 evaluation of over 8,000 home health agencies, the median performance on this measure was 61.9 percent, with a standard deviation of 17.7 percent, 25<sup>th</sup> percentile scores at 50.7 percent and 75<sup>th</sup> percentile scores at 69.8 percent. This range of performance suggests variation in agency performance and a gap in care that is evidence of a quality challenge.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** This measure adds to the current program measure set in four specific ways. First, this measure is a cross-setting functional outcome measure. Second, this measure assesses self-care and mobility activities in the same measure. Third, the developer notes that the risk adjustment models have been modified to align across settings, where appropriate, and include terms that are relevant for both self-care and mobility. Finally, the measure allows for item scores to be imputed for items with Not Attempted (NA) codes. The developer noted that statistical imputation predicts item scores based on patient clinical characteristics and function scores.

The measure is concurrently submitted for the quality reporting programs of the inpatient rehabilitation facility, skilled nursing, long-term care hospital, and home health settings, facilitating cross-setting comparisons of performance and supporting measure alignment across programs.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** This measure uses data from the Outcome and Assessment Information Set (OASIS). The OASIS data are collected on all Medicare patients who receive home health services. This measure is calculated entirely using administrative data. There will be no additional data collection or submission burden for home health agencies.

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** Yes

**Justification and Notes:** The measure has not yet been submitted for endorsement by a consensus-based entity (CBE). However, the measure is fully developed and has been specified for the facility level of analysis. The developer provided reliability testing using a random split half correlation of 0.94. The developer also provides empirical testing results using convergent validity. Specifically, the developer measured the Spearman's rank correlation between the Cross-Setting Discharge Function Score measure and other HH QRP measures. In this analysis, higher functional status demonstrated a statistically significant positive correlation with the Discharge to Community measure (0.23) ( $p < 0.05$ ). A Technical Expert Panel (TEP) was convened by the developer for a face validity assessment; although there was no vote, the developer reports that the TEP agreed with the measure specifications and showed strong support for the face validity of the measure. Likewise, the developer hosted a listening session with patients and family caregivers, who supported the measure. Finally, the developer empirically assessed validity by comparing the measure result to other publicly reported measures related to function in the HH QRP program (such as Improvement in Ambulation, Improvement in Bathing), finding statistically significant ( $p < 0.01$ ) but modest positive correlations.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** This measure is currently not in use. However, the developer identified a potential unintended consequence where home health agencies might purposefully select patients they expect will have higher functional status scores. The developer proposes to mitigate this concern through the case mix adjustment.

#### **PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** Functional and cognitive status

#### **Impact Act Domain**

**Yes/No:** Yes

**Justification:** Quality measure domain - Functional status

#### **Hospice High-Priority Areas**

**Yes/No:** N/A

#### **MAP Rural Health Advisory Group Input:**

**Votes:** [Not yet available.]

#### **MAP Health Equity Advisory Group Input:**

**Votes:** [Not yet available.]

### **Recommendation**

#### **Preliminary Analysis Recommendation:**

Conditional Support for Rulemaking

Support of this measure is conditional on endorsement of the measure by a consensus-based entity (CBE).

#### **Summary: What is the potential value of the program measure set?**

This functional status outcome measure under consideration (MUC) addresses the critical measurement domain of functional impairment, consistent with the Meaningful Measures 2.0 Healthcare Priority of Person-Centered Care, and the Functional Ability at Discharge High-Priority Area for the Home Health Quality Reporting Program (HH QRP). Although there are some existing measures of functional status at discharge in the HH QRP that overlap with the concepts captured in the MUC (including toileting hygiene, toilet transferring, ambulation, and bed transferring), other concepts in the MUC are not captured in the existing measure set (including eating, oral hygiene).

This measure adds to the current program measure set in four specific ways. First, this measure is a cross-setting functional outcome measure. Second, this measure assesses self-care and mobility activities in the same measure. Third, the developer notes that the risk adjustment models have been modified to align across settings, where appropriate, and include terms that are relevant for both self-care and mobility. Finally, the measure allows for item scores to be imputed for items with Not Attempted (NA) codes. The developer noted that statistical imputation predicts item scores based on patient clinical characteristics and function scores.

The measure is concurrently submitted for the quality reporting programs of the inpatient rehabilitation facility, skilled nursing, long-term care hospital, and home health settings, facilitating cross-setting comparisons of performance and supporting measure alignment across programs.

**Summary: What is the potential impact of this measure on the quality of care for patients?**

Physical function is a critical quality domain for home health care as it predicts health outcomes, including preventable readmission rates ([Middleton et al., 2019](#)), and higher rates of falls and mortality ([Zaslavsky et al., 2016](#)). Studies have reported that home health care can improve health outcomes, including unplanned admissions for Alzheimer's patients ([Wang et al., 2019](#)), as well as improve functional status of care recipients ([Han et al., 2013](#)).

In a 2019 evaluation of over 8,000 home health agencies, the median performance on this measure was 61.9 percent, with a standard deviation of 17.7 percent, 25<sup>th</sup> percentile scores at 50.7 percent and 75<sup>th</sup> percentile scores at 69.8 percent. This range of performance suggests variation in agency performance and a gap in care that is evidence of a quality challenge.

## Preliminary Analysis – MUC2022-086 Cross-Setting Discharge Function Score (SNF QRP)

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**Program:** Skilled Nursing Facility Quality Reporting Program

### Measure Description:

This measure estimates the percentage of Medicare Part A SNF stays that meet or exceed an expected discharge function score.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** This functional status outcome measure under consideration (MUC) addresses the critical measurement domain of functional impairment, consistent with the Meaningful Measures 2.0 Healthcare Priority of Person-Centered Care, and the Functional Ability at Discharge High-Priority Area for the Skilled Nursing Facility Quality Reporting Program (SNF QRP).

There are several related measures in the current SNF QRP including an existing measure (CMIT: 02595-C-SNFQRP) that assesses Application of Percent of Patients with an Admission and Discharge Functional Assessment and a Care Plan that addresses function. There are also two measures that assess the change in self-care and mobility scores (CMIT: 05463-C-SNFQRP, 05524-C-SNFQRP), and two measures that assess a self-care score and mobility at discharge (CMIT: 05526-C-SNFQRP, 05525-C-SNFQRP). However, this MUC captures a more comprehensive set of functional status elements at discharge not captured in the existing measure set.

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** Physical function is a critical quality domain for skilled nursing care as it predicts health outcomes, including preventable readmission rates ([Gustavon et al., 2020](#)), and mobility and self-care scores at SNF discharge ([Cogan et al., 2020](#)). As the goal of skilled nursing facilities is typically to treat an illness or injury, functional status at discharge is a proxy for whether the care has been effective and high quality.

The Academy of Orthopaedic Physical Therapy of the American Physical Therapy Association also created clinical practice guidelines to identify evidence-based physical therapy outcomes and interventions to address functional impairment. The developer cites Grade A (United States Preventive Services Task Force scale) guidelines that include evidence-based best practices to improve physical function among patients after a hip fracture to meet their individual goals for recovery.

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** According to data submitted by the developer, among 12,703 SNFs included, risk-adjusted measure scores ranged from 0.0 percent (min) to 100.0 percent (max) with a mean score of 54.7 percent and a standard deviation of 15.1 percent. The 25th percentile, median, and 75th percentile were 45.0 percent 55.8 percent, and 65.4 percent, respectively. This range of performance

suggests variation in SNF performance and a gap in care that is evidence of a quality challenge.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** This measure adds to the current program measure set in four specific ways. First, this measure is a cross-setting functional outcome measure. Second, this measure assesses self-care and mobility activities in the same measure. Third, the developer notes that the risk adjustment models have been modified to align across settings, where appropriate, and include terms that are relevant for both self-care and mobility. Finally, the measure allows for item scores to be imputed for items with Not Attempted (NA) codes. The developer noted that statistical imputation predicts item scores based on patient clinical characteristics and function scores.

The measure is concurrently submitted for the quality reporting programs of the inpatient rehabilitation facility, skilled nursing, long-term care hospital, and home health settings, facilitating cross-setting comparisons of performance and supporting measure alignment across programs.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** According to the developer, all data elements are in defined fields in electronic sources. The Minimum Data Set (MDS) data elements used for measure construction are part of the standard data collection processes for SNF providers and are already used in existing SNF QRP measures.

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** Yes

**Justification and Notes:** The measure has not yet been submitted for endorsement by a consensus-based entity (CBE). However, the measure is fully developed and has been specified for the facility level of analysis. The developer provided a reliability intraclass correlation coefficient (ICC) for SNFs with more than 20 eligible stays of 0.81. The developer also provides empirical testing results using convergent validity. Specifically, the developer measured the Spearman's rank correlation between the Cross-Setting Discharge Function Score measure and other SNF QRP measures. In this analysis, higher functional status demonstrated a statistically significant positive correlation with the Discharge to Community measure (0.15) ( $p < 0.01$ ) and a negative correlation with the Potentially Preventable Readmissions within 30-Days Post-Discharge measure (-0.10). A Technical Expert Panel (TEP) was convened by the developer for a face validity assessment; although there was no vote, the developer reports that the TEP agreed with the measure specifications and showed strong support for the face validity of the measure. Likewise, the developer hosted a listening session with patients and family caregivers, who supported the measure. Finally, the developer empirically assessed validity by comparing the measure result to other publicly reported measures related to function in the SNF QRP, such as Change in Self-Care (0.74), Discharge Self-Care (0.78), finding statistically significant ( $p < 0.01$ ) but modest positive correlations.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** This measure is currently not in use. However, the developer identified a potential unintended consequence where SNFs might purposefully select patients they expect will have higher functional status scores, either by encouraging or avoiding admission of certain types of residents and residents with certain characteristics. The developer proposes to mitigate this concern through the case mix adjustment.

### **PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** Functional and cognitive status assessment

### **Impact Act Domain**

**Yes/No:** Yes

**Justification:** Quality measure domain – Functional Status

### **Hospice High-Priority Areas**

**Yes/No:** N/A

### **MAP Rural Health Advisory Group Input:**

**Votes:** [Not yet available.]

### **MAP Health Equity Advisory Group Input:**

**Votes:** [Not yet available.]

## **Recommendation**

### **Preliminary Analysis Recommendation:**

Conditional Support for Rulemaking

Support of this measure is conditional on endorsement of the measure by a consensus-based entity (CBE).

### **Summary: What is the potential value of the program measure set?**

This functional status outcome measure under consideration (MUC) addresses the critical measurement domain of functional impairment, consistent with the Meaningful Measures 2.0 Healthcare Priority of Person-Centered Care, and the Functional Ability at Discharge High-Priority Area for the Skilled Nursing Facility Quality Reporting Program (SNF QRP).

This measure adds to the current program measure set in four specific ways. First, this measure is a cross-setting functional outcome measure. Second, this measure assesses self-care and mobility activities in the same measure. Third, the developer notes that the risk adjustment models have been modified to align across settings, where appropriate, and include terms that are relevant for both self-care and mobility. Finally, the measure allows for item scores to be imputed for items with Not



Attempted (NA) codes. The developer noted that statistical imputation predicts item scores based on patient clinical characteristics and function scores.

The measure is concurrently submitted for the quality reporting programs of the inpatient rehabilitation facility, skilled nursing, long-term care hospital, and home health settings, facilitating cross-setting comparisons of performance and supporting measure alignment across programs.

**Summary: What is the potential impact of this measure on the quality of care for patients?**

Physical function is a critical quality domain for skilled nursing care as it predicts health outcomes, including preventable readmission rates ([Gustavon et al., 2020](#)), and mobility and self-care scores at SNF discharge ([Cogan et al., 2020](#)). As the goal of skilled nursing facilities is typically to treat an illness or injury, functional status at discharge is a proxy for whether the care has been effective and high quality.

According to data submitted by the developer, among 12,703 SNFs included, risk-adjusted measure scores ranged from 0.0 percent (min) to 100.0 percent (max) with a mean score of 54.7 percent and a standard deviation of 15.1 percent. The 25th percentile, median, and 75th percentile were 45.0 percent, 55.8 percent, and 65.4 percent, respectively. This range of performance suggests variation in SNF performance and a gap in care that is evidence of a quality challenge.

## Preliminary Analysis – MUC2022-086 Cross-Setting Discharge Function Score (SNF VBP)

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**Program:** Skilled Nursing Facility Value-Based Purchasing Program

### Measure Description:

This measure estimates the percentage of Medicare Part A SNF stays that meet or exceed an expected discharge function score.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** There are currently no measures in the Skilled Nursing Facility Value-Based Purchasing (SNF VBP) Program related to functional status. This functional status outcome measure under consideration (MUC) addresses the critical measurement domain of functional impairment, consistent with the Meaningful Measures 2.0 Healthcare Priority of Person-Centered Care, and the Functional Ability at Discharge High-Priority Area for the SNF VBP Program.

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** Physical function is a critical quality domain for skilled nursing care as it predicts health outcomes, including preventable readmission rates ([Gustavon et al., 2020](#)), and mobility and self-care scores at SNF discharge ([Cogan et al., 2020](#)). As the goal of skilled nursing facilities is typically to treat an illness or injury, functional status at discharge is a proxy for whether the care has been effective and high quality.

The Academy of Orthopaedic Physical Therapy of the American Physical Therapy Association also created clinical practice guidelines to identify evidence-based physical therapy outcomes and interventions to address functional impairment. The developer cites Grade A (United States Preventive Services Task Force scale) guidelines that include evidence-based best practices to improve physical function among patients after a hip fracture to meet their individual goals for recovery.

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** According to data submitted by the developer, among 12,703 SNFs included, risk-adjusted measure scores ranged from 0.0 percent (min) to 100.0 percent (max) with a mean score of 54.7 percent and a standard deviation of 15.1 percent. The 25th percentile, median, and 75th percentile were 45.0 percent, 55.8 percent, and 65.4 percent, respectively. This range of performance suggests variation in SNF performance and a gap in care that is evidence of a quality challenge.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** This measure adds to the current program measure set in four specific ways. First, this measure is a cross-setting functional outcome measure. Second, this measure assesses self-care and mobility activities in the same measure. Third, the developer notes that the risk adjustment models have been modified to align across settings, where appropriate, and include terms that are relevant for both self-care and mobility. Finally, the measure allows for item scores to be imputed for items with Not Attempted (NA) codes. The developer noted that statistical imputation predicts item scores based on patient clinical characteristics and function scores.

The measure is concurrently submitted for the quality reporting programs of the inpatient rehabilitation facility, skilled nursing, long-term care hospital, and home health settings, facilitating cross-setting comparisons of performance and supporting measure alignment across programs.

#### **Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** According to the developer, all data elements are in defined fields in electronic sources. The Minimum Data Set (MDS) data elements used for measure construction are part of the standard data collection processes for SNF providers and are already used in existing SNF VBP measures.

#### **Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** Yes

**Justification and Notes:** The measure has not yet been submitted for endorsement by a consensus-based entity (CBE). However, the measure is fully developed and has been specified for the facility level of analysis. The developer provided a reliability intraclass correlation coefficient (ICC) for SNFs with more than 20 eligible stays of 0.81. The developer also provides empirical testing results using convergent validity. Specifically, the developer measured the Spearman's rank correlation between the Cross-Setting Discharge Function Score measure and SNF QRP measures. In this analysis, higher functional status demonstrated a statistically significant positive correlation with the Discharge to Community measure (0.15) ( $p < 0.01$ ) and a negative correlation with the Potentially Preventable Readmissions within 30-Days Post-Discharge measure (-0.10). A Technical Expert Panel (TEP) was convened by the developer for a face validity assessment; although there was no vote, the developer reports that the TEP agreed with the measure specifications and showed strong support for the face validity of the measure. Likewise, the developer hosted a listening session with patients and family caregivers, who supported the measure. Finally, the developer empirically assessed validity by comparing the measure result to other publicly reported measures related to function in the Skilled Nursing Facility Quality Reporting Program (SNF QRP), such as Change in Self-Care (0.74), Discharge Self-Care (0.78), finding statistically significant ( $p < 0.01$ ) but modest positive correlations.

#### **If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** This measure is currently not in use. However, the developer identified a

potential unintended consequence where SNFs might purposefully select patients they expect will have higher functional status scores, either by encouraging or avoiding admission of certain types of residents and residents with certain characteristics. The developer proposes to mitigate this concern through the case mix adjustment

**PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** Functional and cognitive status assessment

**Impact Act Domain**

**Yes/No:** Yes

**Justification:** Quality measure domain – Functional Status

**Hospice High-Priority Areas**

**Yes/No:** N/A

**MAP Rural Health Advisory Group Input:**

**Votes:** [Not yet available.]

**MAP Health Equity Advisory Group Input:**

**Votes:** [Not yet available.]

**Recommendation**

**Preliminary Analysis Recommendation:**

Conditional Support for Rulemaking

Support of this measure is conditional on endorsement of the measure by a consensus-based entity (CBE).

**Summary: What is the potential value of the program measure set?**

There are currently no measures in the Skilled Nursing Facility Value-Based Purchasing (SNF VBP) Program related to functional status. This functional status outcome measure under consideration (MUC) addresses the critical measurement domain of functional impairment, consistent with the Meaningful Measures 2.0 Healthcare Priority of Person-Centered Care, and the Functional Ability at Discharge High-Priority Area for the SNF VBP Program.

This measure adds to the current program measure set in four specific ways. First, this measure is a cross-setting functional outcome measure. Second, this measure assesses self-care and mobility activities in the same measure. Third, the developer notes that the risk adjustment models have been modified to align across settings, where appropriate, and include terms that are relevant for both self-care and mobility. Finally, the measure allows for item scores to be imputed for items with Not Attempted (NA) codes. The developer noted that statistical imputation predicts item scores based on patient clinical characteristics and function scores.

The measure is concurrently submitted for the quality reporting programs of the inpatient rehabilitation facility, skilled nursing, long-term care hospital, and home health settings, facilitating cross-setting comparisons of performance and supporting measure alignment across programs.

**Summary: What is the potential impact of this measure on the quality of care for patients?**

Physical function is a critical quality domain for skilled nursing care as it predicts health outcomes, including preventable readmission rates ([Gustavon et al., 2020](#)), and mobility and self-care scores at SNF discharge ([Cogan et al., 2020](#)). As the goal of skilled nursing facilities is typically to treat an illness or injury, functional status at discharge is a proxy for whether the care has been effective and high quality.

According to data submitted by the developer, among 12,703 SNFs included, risk-adjusted measure scores ranged from 0.0 percent (min) to 100.0 percent (max) with a mean score of 54.7 percent and a standard deviation of 15.1 percent. The 25th percentile, median, and 75th percentile were 45.0 percent, 55.8 percent, and 65.4 percent, respectively. This range of performance suggests variation in SNF performance and a gap in care that is evidence of a quality challenge.

## Preliminary Analysis – MUC2022-087 Cross-Setting Discharge Function Score (LTCH QRP)

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**Program:** Long-Term Care (LTC) Hospital Quality Reporting Program

### Measure Description:

This measure estimates the percentage of Long-Term Care Hospital (LTCH) patients who meet or exceed an expected discharge function score.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** This functional status outcome measure under consideration (MUC) addresses the critical measurement domain of functional impairment, consistent with the Meaningful Measures 2.0 Healthcare Priority of Person-centered Care, and the Functional Ability at Discharge High-Priority Area for the Long-Term Care Hospital Quality Reporting Program (LTCH QRP). Although there is an existing measure of functional status at discharge in the LTCH QRP that overlaps with the concepts captured in the MUC, the MUC varies in that it does not require ventilator usage, is measured as function at discharge, and uses self-care and mobility activities in the same measure.

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** As the goal of LTCHs is typically to treat an illness or injury, functional status at discharge is a proxy for whether the care has been effective and high quality. The developers cite a study of inpatient rehabilitation facilities and skilled nursing facilities in the United States that found providers can improve functional status at discharge by customizing care plans and extending length of stay where needed ([Cogan et al., 2020](#)).

The Academy of Orthopaedic Physical Therapy of the American Physical Therapy Association also created clinical practice guidelines to identify evidence-based physical therapy outcomes and interventions to address functional impairment. The developer cites Grade A (United States Preventive Services Task Force scale) guidelines that include evidence-based best practices to improve physical function among patients after a hip fracture to meet their individual goals for recovery.

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** In a 2019 evaluation of over 350 LTCHs, the median performance on this measure was 49.7 percent, with a standard deviation of 14.4 percent, 25<sup>th</sup> percentile scores at 40.0 percent and 75<sup>th</sup> percentile scores at 60.6 percent. This range of performance suggests variation in LTCH performance and a gap in care that is evidence of a quality challenge.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** This measure adds to the current program measure set in four specific ways. First, this measure is a cross-setting functional outcome measure. Second, this measure assesses self-care and mobility activities in the same measure. Third, the developer notes that the risk adjustment models have been modified to align across settings, where appropriate, and include terms that are relevant for both self-care and mobility. Finally, the measure allows for item scores to be imputed for items with Not Attempted (NA) codes. The developer noted that statistical imputation predicts item scores based on patient clinical characteristics and function scores.

The measure is concurrently submitted for the quality reporting programs of the inpatient rehabilitation facility, skilled nursing, long-term care hospital, and home health settings, facilitating cross-setting comparisons of performance and supporting measure alignment across programs

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** The developer notes that all data elements are in defined fields in electronic sources, and the measure uses Long-Term Care Hospital (LTCH) Continuity Assessment Record and Evaluation (CARE) Data Set (LCDS) data elements that are part of the standard data collection processes for LTCH providers and are already used in existing LTCH QRP. The data elements are already also in use to calculate existing measures in the LTCH QRP. There will be no additional data collection or submission burden for LTCH

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** Yes

**Justification and Notes:** The measure has not yet been submitted for endorsement by a consensus-based entity (CBE). However, the measure is fully developed and has been specified for the facility level of analysis. The developer provided reliability testing using a random split half correlation of 0.94. The developer also provides empirical testing results using convergent validity. Specifically, the developer measured the Spearman's rank correlation between the Cross-Setting Discharge Function Score measure and the Discharge to Community (DTC) measure. In this analysis, higher functional status demonstrated a statistically significant positive correlation with the Discharge to Community measure (0.37) ( $p < 0.05$ ). A Technical Expert Panel (TEP) was convened by the developer for a face validity assessment; although there was no vote, the developer reports that the TEP agreed with the measure specifications and that the measure would add value. Likewise, the developer hosted a listening session with patients and family caregivers, who supported the measure. Finally, the developer empirically assessed validity by comparing the measure result to other publicly reported measures in the LTCH QRP, finding negative correlations with measures where a lower score is better, including the Medicare Spending per Beneficiary measure (-0.13,  $p < 0.05$ ), the Potentially Preventable Readmissions within 30-Days Post-Discharge measure (-0.17,  $p < 0.05$ ), and a positive correlation with the other outcome measure of functional status in the program, Change in Mobility for Ventilated LTCH Patients (0.73,  $p < 0.05$ ).

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** This measure is currently not in use. However, the developer identified a potential unintended consequence where LTCHs might selectively enroll patients with certain

characteristics. The developer proposes to mitigate this concern by applying risk adjustment methodology to this measure, specifically by evaluating providers' performance among their peers after adjusting for differences in resident case-mix across LTCHs.

**PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** Functional and cognitive status

**Impact Act Domain**

**Yes/No:** Yes

**Justification:** Quality measure domain - Functional status

**Hospice High-Priority Areas**

**Yes/No:** N/A

**Justification:** [Text.]

**MAP Rural Health Advisory Group Input:**

**Votes:** [Not yet available.]

**MAP Health Equity Advisory Group Input:**

**Votes:** [Not yet available.]

**Recommendation**

**Preliminary Analysis Recommendation:**

Conditional Support for Rulemaking

Support of this measure is conditional on endorsement of the measure by a consensus-based entity (CBE).

**Summary: What is the potential value of the program measure set?**

This functional status outcome measure under consideration (MUC) addresses the critical measurement domain of functional impairment, consistent with the Meaningful Measures 2.0 Healthcare Priority of Person-centered Care, and the Functional Ability at Discharge High-Priority Area for the Long-Term Care Hospital Quality Reporting Program (LTCH QRP). Although there is an existing measure of functional status at discharge in the LTCH QRP that overlaps with the concepts captured in the MUC, the MUC varies in that it does not require ventilator usage, is measured as function at discharge, and uses self-care and mobility activities in the same measure.

This measure adds to the current program measure set in four specific ways. First, this measure is a cross-setting functional outcome measure. Second, this measure assesses self-care and mobility activities in the same measure. Third, the developer notes that the risk adjustment models have been modified to align across settings, where appropriate, and include terms that are relevant for both self-care and mobility. Finally, the measure allows for item scores to be imputed for items with Not Attempted (NA) codes. The developer noted that statistical imputation predicts item scores based on



patient clinical characteristics and function scores.

The measure is concurrently submitted for the quality reporting programs of the inpatient rehabilitation facility, skilled nursing, long-term care hospital, and home health settings, facilitating cross-setting comparisons of performance and supporting measure alignment across programs.

**Summary: What is the potential impact of this measure on the quality of care for patients?**

This functional status outcome MUC addresses the critical measurement domain of functional impairment. As the goal of LTCHs is typically to treat an illness or injury, functional status at discharge is a proxy for whether the care has been effective and high quality. The developers cite a study of inpatient rehabilitation facilities and skilled nursing facilities in the United States that found providers can improve functional status at discharge by customizing care plans and extending length of stay where needed ([Cogan et al., 2020](#)).

In a 2019 evaluation of over 350 LTCHs, the median performance on this measure was 49.7 percent, with a standard deviation of 14.4 percent, 25<sup>th</sup> percentile scores at 40.0 percent and 75<sup>th</sup> percentile scores at 60.6 percent. This range of performance suggests variation in LTCH performance and a gap in care that is evidence of a quality challenge.

## Preliminary Analysis – MUC2022-089 COVID-19 Vaccine: Percent of Patients/Residents Who Are Up to Date (IRF QRP)

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**Program:** Inpatient Rehabilitation Facility Quality Reporting Program

### Measure Description:

This one-quarter measure reports the percentage of patients in an inpatient rehabilitation facility (IRF) who are up-to-date on their COVID-19 vaccinations per the Centers for Disease Control and Prevention's (CDC) latest guidance.

The definition of up-to-date may change based on the CDC's latest guidance and can be found on the CDC webpage, "Stay Up to Date with Your COVID-19 Vaccines", at <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html> (last accessed 5/18/2022).

This measure is based on data obtained through the Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF-PAI) discharge assessments during the selected quarter.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** This measure under consideration (MUC), assessing inpatient rehabilitation facilities (IRFs) based on the Coronavirus Disease 19 (COVID-19) vaccination rate of patients, is a specific high priority area for future measurement identified by CMS. Although one other measure is included in the program to address the COVID-19 pandemic, it is specific to the health care workers at these facilities (CMIT: 08062-C-IRFQR); this new MUC captures a broader and more at-risk population, addressing the high impact condition of COVID-19, which could potentially impact every resident at an IRF. All five patients surveyed by the developer agreed this measure result would be useful to patients making decisions about their healthcare.

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** Several systematic reviews, along with the recommendations of the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP), have concluded that the COVID-19 vaccine is safe and highly effective at preventing symptomatic COVID-19. This is particularly important for patients at inpatient rehabilitation facilities, who tend to be older and thus more vulnerable to serious complications from COVID-19. One study ([Thompson et al., 2021](#)) found that vaccines were at least 89 percent effective in preventing hospitalization, intensive care unit (ICU) admissions, and emergency department visits for older adults. Another found similar results in effectiveness against the later Delta and Omicron variants ([Lauring et al., 2022](#)).

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** The developers submitted an internal analysis of National Healthcare Safety Network (NHSN) data from nursing homes showing that the median facility had vaccinated 84.5 percent of residents, and the 25<sup>th</sup> percentile facility had vaccinated just 75.8 percent of residents. While these

data are from nursing homes, and this MUC is intended for IRFs, it is reasonable to assume that the variation in nursing home vaccination performance would be present in IRFs as well. Other data suggest that vaccination rates vary considerably [by region](#), and by race and ethnicity ([Pingali et al., 2021](#)), suggesting there are many facilities where vaccination rates could be considerably improved.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** Due to possibility of the COVID-19 virus to potentially (re)infect every patient in an inpatient rehabilitation facility, with potentially serious negative outcomes for an older population, it is important to have widespread increases in vaccination rates. In addition, this measure is submitted for the other programs governed by the Improving Medicare Post-Acute Care Transformation Act (IMPACT Act) of 2014, meaning it would be implemented in the quality reporting programs for skilled nursing facilities, home health, and long-term care hospitals, supporting alignment across programs.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** Once implemented in the program, the IRF-Patient Assessment Instrument (IRF-PAI) will be used to collect and electronically report these vaccination data, consistent with several other measures in the program. A technical expert panel convened by the developer did not identify any concerns with the data collection necessary to implement this measure.

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** No

**Justification and Notes:** The measure has been specified for the appropriate setting, level of analysis, and population, and is currently being trialed in the field through a beta test. In a trial at nine facilities using 45 data abstractors, the developer found strong (84 percent) agreement with a gold standard established by clinical experts, suggesting at least moderate reliability of the data elements. However, the developer did not provide validity testing of the measure result, and the measure has not been evaluated by a consensus-based entity (CBE) for endorsement.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** The developer raised a potential low-risk unintended consequence: facilities may not accept patients that are not vaccinated for COVID-19.

**PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** This measure meets one of the 13 core concepts, infection rates.

**Impact Act Domain**

**Yes/No:** No

**Justification:** This measure is not specific to any of the IMPACT Act domains.

### Hospice High-Priority Areas

**Yes/No:** N/A

### MAP Rural Health Advisory Group Input:

**Votes:** [Not yet available.]

### MAP Health Equity Advisory Group Input:

**Votes:** [Not yet available.]

## Recommendation

### Preliminary Analysis Recommendation:

Conditional Support for Rulemaking

Support of this measure is conditional on testing indicating the measure is reliable and valid, and endorsement by a consensus-based entity (CBE).

### Summary: What is the potential value of the program measure set?

This measure under consideration (MUC) directly addresses a leading priority for the Centers for Medicare and Medicaid Services (CMS) for the Inpatient Rehabilitation Facility Quality Reporting Program (IRF QRP). This new MUC captures a broader and more at-risk population than the existing personnel-specific Coronavirus Disease 19 (COVID-19) measure (CMIT: 08062-C-IRFQR), addressing the high impact condition of COVID-19 which could potentially impact every resident at an inpatient rehabilitation facility. All five patients surveyed by the developer agreed this measure result would be useful to patients making decisions about their healthcare.

This measure will continue to advance the alignment of post-acute care programs, as it is submitted for the quality reporting programs for skilled nursing facilities, home health, and long-term care hospitals. However, the measure has not been fully tested or reviewed for endorsement by a consensus-based entity (CBE).

### Summary: What is the potential impact of this measure on the quality of care for patients?

Several systematic reviews, along with the recommendations of the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP), have concluded that the COVID-19 vaccine is safe and highly effective at preventing symptomatic COVID-19. This is particularly important for patients at inpatient rehabilitation facilities, who tend to be older and thus more vulnerable to serious complications from COVID-19. One study ([Thompson et al., 2021](#)) found that vaccines were at least 89 percent effective in preventing hospitalization, intensive care unit (ICU) admissions, and emergency department visits for older adults. Another found similar results in effectiveness against the later Delta and Omicron variants ([Lauring et al., 2022](#)).

This measure addresses an important performance gap: in a study of nursing homes, the 25<sup>th</sup> percentile facility had vaccinated just 75.8 percent of residents. While these data are from nursing homes, and this MUC is intended for IRFs, it is reasonable to assume that the variation in nursing home vaccination performance would be present in IRFs as well.

## Preliminary Analysis – MUC2022-090 COVID-19 Vaccine: Percent of Patients/Residents Who Are up to Date (HH QRP)

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**Program:** Home Health Quality Reporting Program

### Measure Description:

The measure assesses the percentage of home health patients that are up to date on their COVID-19 vaccinations as defined by CDC guidelines on current vaccination.

Up to date as defined by CDC is outlined at <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html>

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** This measure under consideration (MUC), assessing home health agencies (HHAs) based on the Coronavirus Disease 19 (COVID-19) vaccination rate of patients, is a Centers for Medicare and Medicaid Services (CMS) high priority area for future measure consideration in the Home Health Quality Reporting Program (HH QRP). There is currently one patient vaccination measure in HH QRP, an Influenza Vaccination measure which has been in use since 2010 (CMIT: 00212-C-HHQR). All five patient and family/caregiver advocates surveyed by the developer during a focus group agreed this measure would be useful to patients making decisions about their healthcare.

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** Several peer-reviewed systematic reviews, along with the recommendations of the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP), have concluded that the COVID-19 vaccine is safe and highly effective at preventing symptomatic COVID-19. This is particularly important for home health patients, who tend to be older and thus more vulnerable to serious complications from COVID-19. One study ([Thompson et al., 2021](#)) found that vaccines were at least 89 percent effective in preventing hospitalization, intensive care unit (ICU) admissions, and emergency department visits for older adults. Another study found similar results in effectiveness against the later Delta and Omicron variants ([Lauring et al., 2022](#)).

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** Home health patients tend to be older and/or have a medical condition that may predispose them to a potentially serious outcome from a COVID-19 infection. The developer submitted data that indicated a vaccination rate of 63.8 percent among individuals with medical conditions deemed high-risk for severe COVID-19 infections ([Pingali et al., 2021](#)). Data also suggests that vaccination rates vary considerably [by region](#), and by race and ethnicity ([Pingali et al., 2021](#)), suggesting there are home health coverage areas where vaccination rates could be considerably improved.

**Does the measure contribute to the efficient use of measurement resources and/or support the**

**alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** Due to the possibility of the COVID-19 virus to potentially (re)infect home health patients exposed to multiple home health providers, with potentially serious outcomes for an older and/or vulnerable population, it is important to have widespread increases in vaccination rates. Additionally, this measure is submitted for the other programs governed by the Improving Medicare Post-Acute Care Transformation Act (IMPACT Act) of 2014, meaning it would be implemented in the quality reporting programs for inpatient rehabilitation facilities, long-term care hospitals, and skilled nursing facilities, supporting alignment across programs.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** Once implemented in the Home Health Quality Reporting Program (HH QRP), the Outcome and Assessment Information Set (OASIS) will be utilized to collect and electronically report the vaccination data. OASIS is one of the three data sources currently used for HH QRP measures. Two technical expert panels convened by the developer did not identify any concerns with data collection necessary to implement this measure.

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** No

**Justification and Notes:** The measure has been specified for the appropriate setting, level of analysis, and population, and is currently being trialed in the home health setting through a beta test. In a trial using 45 patient scenarios, the developer found 66.8 percent agreement with a gold standard established by clinical experts, indicating a moderate reliability of the data. Relative to other post-acute care (PAC) settings, home health testing results were lower. The developer did not provide validity testing of the measure, and the measure has not been evaluated by a consensus-based entity (CBE) for endorsement.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** The developer noted a potential low-risk unintended consequence: HHAs may not accept patients who are not up to date on their COVID-19 vaccination.

**PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** This measure is one of the 13 PAC/LTC core measure concepts, infection rates.

**Impact Act Domain**

**Yes/No:** No

**Justification:** This measure is not one of the designated IMPACT Act quality measure domains, nor is it a

resource use, discharge to community, hospitalization, or assessment category measure.

### Hospice High-Priority Areas

Yes/No: N/A

#### MAP Rural Health Advisory Group Input:

Votes: [Not yet available.]

#### MAP Health Equity Advisory Group Input:

Votes: [Not yet available.]

## Recommendation

### Preliminary Analysis Recommendation:

Conditional Support for Rulemaking

Support of this measure is conditional on testing indicating the measure is reliable and valid, and endorsement by a consensus-based entity.

### Summary: What is the potential value of the program measure set?

This measure under consideration (MUC) directly addresses a high priority area for the Centers for Medicare and Medicaid Services (CMS) for the Home Health Quality Reporting Program (HH QRP). This MUC aligns with the patient Influenza Vaccination measure in long-standing use within HH QRP. This new MUC captures an older and/or more at-risk population, addressing the high impact condition of COVID-19 which could potentially impact home health patients. All five patient and family/caregiver advocates surveyed by the developer during a focus group agreed this measure would be useful to patients making decisions about their healthcare.

This measure will continue to advance the alignment of post-acute long-term care programs, as it is submitted for the quality reporting programs for inpatient rehabilitation facilities, long-term care hospitals, and skilled nursing facilities. However, this MUC has not been fully tested or reviewed for endorsement by a consensus-based entity (CBE).

### Summary: What is the potential impact of this measure on the quality of care for patients?

Several peer-reviewed systematic reviews, along with the recommendations of the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP), have concluded that the COVID-19 vaccine is safe and highly effective at preventing symptomatic COVID-19. This is particularly important for home health patients, who tend to be older and thus more vulnerable to serious complications from COVID-19. One study ([Thompson et al., 2021](#)) found that vaccines were at least 89 percent effective in preventing hospitalization, intensive care unit (ICU) admissions, and emergency department visits for older adults. Another study found similar results in effectiveness against the later Delta and Omicron variants ([Lauring et al., 2022](#)).

This MUC addresses an important performance gap: data indicated a vaccination rate of 63.8 percent among individuals with medical conditions deemed high-risk for severe COVID-19 infections.



## Preliminary Analysis – MUC2022-091 COVID-19 Vaccine: Percent of Patients/Residents Who Are Up to Date (LTCH QRP)

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**Program:** Long-Term Care (LTC) Hospital Quality Reporting Program

### Measure Description:

This one-quarter measure reports the percentage of patients in a long-term care hospital (LTCH) who are up-to-date on their COVID-19 vaccinations per the Centers for Disease Control and Prevention's (CDC) latest guidance.

The definition of up-to-date may change based on the CDC's latest guidance and can be found on the CDC webpage, "Stay Up to Date with Your COVID-19 Vaccines", at <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html> (last accessed 5/18/2022).

This measure is based on data obtained through the LTCH Continuity Assessment Record and Evaluation (CARE) Data Set (LCDS) discharge assessments during the selected quarter.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** This measure under consideration (MUC), assessing long-term care hospitals (LTCHs) based on the Coronavirus Disease 19 (COVID-19) vaccination rate of patients, is a Centers for Medicare and Medicaid Services (CMS) high priority area for future measure consideration in the Long-Term Care Hospital Quality Reporting Program (LTCH QRP). There are currently two measures that assess healthcare personnel vaccination rates in LTCH QRP, influenza vaccination coverage (CMIT: 00854-C-LTCHQR) and COVID-19 vaccination coverage (CMIT: 08062-C-LTCHQRP). This new MUC captures a broader and more at-risk population, addressing the high impact condition of COVID-19, which could potentially impact every patient at an LTCH. All five patient and family/caregiver advocates surveyed by the developer during a focus group agreed this measure would be useful to patients making decisions about their healthcare.

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** Several peer-reviewed systematic reviews, along with the recommendations of the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP), have concluded that the COVID-19 vaccine is safe and highly effective at preventing symptomatic COVID-19. This is particularly important for patients at LTCHs, who tend to be older and thus more vulnerable to serious complications from COVID-19. One study ([Thompson et al., 2021](#)) found that vaccines were at least 89 percent effective in preventing hospitalization, intensive care unit (ICU) admissions, and emergency department visits for older adults. Another study found similar results in effectiveness against the later Delta and Omicron variants ([Lauring et al., 2022](#)).

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** The developers submitted an internal analysis of National Healthcare Safety

Network (NHSN) data from nursing homes showing that the median facility had vaccinated 84.5 percent of residents, and the 25<sup>th</sup> percentile facility had vaccinated just 75.8 percent of residents. While these data are from nursing homes, and this MUC is intended for LTCHs, it is reasonable to assume that the variation in nursing home vaccination performance would be present in LTCHs as well. Other data suggest that vaccination rates vary considerably [by region](#), and by race and ethnicity ([Pingali et al., 2021](#)), suggesting there are many facilities where vaccination rates could be considerably improved.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** Due to the possibility of the COVID-19 virus to potentially (re)infect every patient in an LTCH, with potentially serious outcomes for an older and/or vulnerable population, it is important to have widespread increases in vaccination rates. Additionally, this measure is submitted for the other programs governed by the Improving Medicare Post-Acute Care Transformation Act (IMPACT Act) of 2014, meaning it would be implemented in the quality reporting programs for inpatient rehabilitation facilities, long-term care hospitals, and skilled nursing facilities, supporting alignment across programs.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** Once implemented in the LTCH QRP, the Long-Term Care Hospital (LTCH) Continuity Assessment Record and Evaluation (CARE) Data Set (LCDS) will be utilized to collect and electronically report the vaccination data. LCDS is the assessment instrument LTCHs currently use to collect data for the LTCH QRP. The technical expert panel convened by the developer did not identify any concerns with data collection necessary to implement this measure.

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** No

**Justification and Notes:** The measure has been specified for the appropriate setting, level of analysis, and population, and is currently being trialed in the LTCH setting through a beta test. In a trial using 45 patient scenarios, the developer found 80.0 percent agreement with a gold standard established by clinical experts, indicating a good reliability of the data. Relative to other post-acute care (PAC) settings, long-term care hospital testing results were lower. The developer did not provide validity testing of the measure, and the measure has not been evaluated by a consensus-based entity (CBE) for endorsement.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** The developer noted a potential low-risk unintended consequence: LTCHs may not accept patients who are not up to date on their COVID-19 vaccination.

**PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** This measure is one of the 13 PAC/LTC core measure concepts, infection rates.

### Impact Act Domain

**Yes/No:** No

**Justification:** This measure is not one of the designated IMPACT Act quality measure domains, nor is it a resource use, discharge to community, hospitalization, or assessment category measure.

### Hospice High-Priority Areas

**Yes/No:** N/A

### MAP Rural Health Advisory Group Input:

**Votes:** [Not yet available.]

### MAP Health Equity Advisory Group Input:

**Votes:** [Not yet available.]

## Recommendation

### Preliminary Analysis Recommendation:

Conditional Support for Rulemaking

Support of this measure is conditional on testing indicating the measure is reliable and valid, and endorsement by a consensus-based entity (CBE).

### Summary: What is the potential value of the program measure set?

This measure under consideration (MUC) directly addresses a high priority area for the Centers for Medicare and Medicaid Services (CMS) for the Long-Term Care Hospital Quality Reporting Program (LTCH QRP). This new MUC captures a broader and more at-risk population than the existing personnel-specific Coronavirus Disease 19 (COVID-19) measure (CMIT: 08062-C-LTCHQRP), addressing the high impact condition of COVID-19 which could potentially impact every resident at an LTCH. All five patient and family/caregiver advocates surveyed by the developer during a focus group agreed this measure would be useful to patients making decisions about their healthcare.

This measure will continue to advance the alignment of post-acute long-term care programs, as it is submitted for the quality reporting programs for home health, inpatient rehabilitation facilities, and skilled nursing facilities. However, this MUC has not been fully tested or reviewed for endorsement by a consensus-based entity (CBE).

### Summary: What is the potential impact of this measure on the quality of care for patients?

Several peer-reviewed systematic reviews, along with the recommendations of the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP), have concluded that the COVID-19 vaccine is safe and highly effective at preventing symptomatic COVID-19. This is particularly important for patients at LTCHs, who tend to be older and thus more vulnerable to serious complications from COVID-19. One study ([Thompson et al., 2021](#)) found that vaccines were at least 89 percent effective in preventing hospitalization, intensive care unit (ICU) admissions, and emergency department visits for older adults. Another study found similar results in effectiveness against the later Delta and Omicron variants ([Lauring et al., 2022](#)).

This MUC addresses an important performance gap: in a study of nursing homes, the 25<sup>th</sup> percentile facility had vaccinated just 75.8 percent of residents. While these data are from nursing homes, and this MUC is intended for LTCHs, it is reasonable to assume that the variation in nursing home vaccination performance would be present in LTCHs as well.

## Preliminary Analysis – MUC2022-092 COVID-19 Vaccine: Percent of Patients/Residents Who Are Up to Date (SNF QRP)

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**Program:** Skilled Nursing Facility Quality Reporting Program

### Measure Description:

This one-quarter measure reports the percentage of patients in a Skilled Nursing Facility (SNF) who are up-to-date on their COVID-19 vaccinations per the Centers for Disease Control and Prevention's (CDC) latest guidance.

The definition of up-to-date may change based on the CDC's latest guidance and can be found on the CDC webpage, "Stay Up to Date with Your COVID-19 Vaccines", at <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html> (last accessed 5/18/2022).

This measure is based on data obtained through the Minimum Data Set (MDS) discharge assessments during the selected quarter.

**Does the measure address a critical quality objective not currently adequately addressed by the measures in the program set?**

**Yes/No:** Yes

**Justification and Notes:** This measure under consideration (MUC), assessing skilled nursing facilities (SNFs) based on the Coronavirus Disease 19 (COVID-19) vaccination rate of patients, is a specific high priority area for future measurement identified by the Centers for Medicare & Medicaid Services (CMS). Although one other measure is included in the program to address the COVID-19 pandemic, it is specific to the health care workers at these facilities (CMIT: 08062-C-SNFQRP); this new MUC captures a broader and more at-risk population, addressing the high impact condition of COVID-19, which could potentially impact every resident at a SNF. All five patients surveyed by the developer agreed this measure result would be useful to patients making decisions about their healthcare.

**Is the measure evidence-based and either strongly linked to outcomes or an outcome measure?**

**Yes/No:** Yes

**Justification and Notes:** Several systematic reviews, along with the recommendations of the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP), have concluded that the COVID-19 vaccine is safe and highly effective at preventing symptomatic COVID-19. This is particularly important for patients at skilled nursing facilities, who tend to be older and thus more vulnerable to serious complications from COVID-19. One study ([Thompson et al., 2021](#)) found that vaccines were at least 89 percent effective in preventing hospitalization, intensive care unit (ICU) admissions, and emergency department visits for older adults. Another found similar results in effectiveness against the later Delta and Omicron variants ([Lauring et al., 2022](#)).

**Does the measure address a quality challenge?**

**Yes/No:** Yes

**Justification and Notes:** The developers submitted an internal analysis of National Healthcare Safety Network (NHSN) data from nursing homes showing that the median facility had vaccinated 84.5 percent of residents, and the 25<sup>th</sup> percentile facility had vaccinated just 75.8 percent of residents. Other data

suggest that vaccination rates vary considerably [by region](#), and by race and ethnicity ([Pingali et al., 2021](#)), suggesting there are many facilities where vaccination rates could be considerably improved.

**Does the measure contribute to the efficient use of measurement resources and/or support the alignment of measurement across programs?**

**Yes/No:** Yes

**Justification and Notes:** Due to possibility of the COVID-19 virus to potentially (re)infect every patient in a skilled nursing facility, with potentially serious negative outcomes for an older population, it is important to have widespread increases in vaccination rates. In addition, this measure is submitted for the other programs governed by the Improving Medicare Post-Acute Care Transformation Act (IMPACT Act) of 2014, meaning it would be implemented in the quality reporting programs for skilled nursing facilities, home health, and long-term care hospitals, supporting alignment across programs.

**Can the measure be feasibly reported?**

**Yes/No:** Yes

**Justification and Notes:** The developer identified all data elements are in defined fields in electronic sources. The MDS COVID-19 vaccination item will be completed to obtain raw rates of COVID-19 vaccination. This item is yet to exist on the MDS assessment instrument, but will be added to the MDS assessment instrument to electronically capture this information. Providers will be able to use patients' medical records and vaccination data/cards, proxy responses, and patient interviews.

**Is the measure applicable to and appropriately specified for the program's intended care setting(s), level(s) of analysis, and population(s)?**

**Yes/No:** No

**Justification and Notes:** The measure has been specified for the appropriate setting, level of analysis, and population, and is currently being trialed in the field through a beta test. In a trial at nine facilities using 45 data abstractors, the developer found strong (84 percent) agreement with a gold standard established by clinical experts, suggesting at least moderate reliability of the data elements. However, the developer did not provide validity testing of the measure result, and the measure has not been evaluated by a consensus-based entity (CBE) for endorsement.

**If the measure is in current use, have negative unintended issues to the patient been identified? Have implementation challenges outweighed the benefits of the measure been identified?**

**Yes/No:** No

**Justification and Notes:** The developer raised a potential low-risk unintended consequence: facilities may not accept patients that are not vaccinated for COVID-19.

**PAC/LTC Core Concept?**

**Yes/No:** Yes

**Justification:** This MUC is one of the 13 PAC/LTC core measure concepts, infection rates.

**Impact Act Domain**

**Yes/No:** No

**Justification:** This measure is not specific to any of the IMPACT Act domains.

### Hospice High-Priority Areas

**Yes/No:** N/A

### MAP Rural Health Advisory Group Input:

**Votes:** [Not yet available.]

### MAP Health Equity Advisory Group Input:

**Votes:** [Not yet available.]

## Recommendation

### Preliminary Analysis Recommendation:

Conditional Support for Rulemaking

Support of this measure is conditional on testing indicating the measure is reliable and valid, and endorsement by a consensus-based entity (CBE).

### Summary: What is the potential value of the program measure set?

This measure under consideration (MUC), assessing skilled nursing facilities (SNFs) based on the Coronavirus Disease 19 (COVID-19) vaccination rate of patients, is a specific high priority area for future measurement identified by the Centers for Medicare & Medicaid Services (CMS). Although one other measure is included in the program to address the COVID-19 pandemic, it is specific to the health care workers at these facilities (CMIT: 08062-C-SNFQRP); this new MUC captures a broader and more at-risk population, addressing the high impact condition of COVID-19, which could potentially impact every resident at a SNF. All five patients surveyed by the developer agreed this measure result would be useful to patients making decisions about their healthcare.

This measure will continue to advance the alignment of post-acute care programs, as it is submitted for the quality reporting programs for skilled nursing facilities, home health, and long-term care hospitals. However, the measure has not been fully tested or reviewed for endorsement by a consensus-based entity (CBE).

### Summary: What is the potential impact of this measure on the quality of care for patients?

Several systematic reviews, along with the recommendations of the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP), have concluded that the COVID-19 vaccine is safe and highly effective at preventing symptomatic COVID-19. This is particularly important for patients at skilled nursing facilities, who tend to be older and thus more vulnerable to serious complications from COVID-19. One study ([Thompson et al., 2021](#)) found that vaccines were at least 89 percent effective in preventing hospitalization, intensive care unit (ICU) admissions, and emergency department visits for older adults. Another found similar results in effectiveness against the later Delta and Omicron variants ([Lauring et al., 2022](#)).

This measure addresses an important performance gap: in a study of nursing homes, the 25<sup>th</sup> percentile facility had vaccinated just 75.8 percent of residents.