



## Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to sub criterion 1b).

### Brief Measure Information

**NQF #: 2510**

**Corresponding Measures:**

**De.2. Measure Title:** Skilled Nursing Facility 30-Day All-Cause Readmission Measure (SNFRM)

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

**De.3. Brief Description of Measure:** The SNFRM estimates the risk-standardized rate of all-cause, unplanned hospital readmissions for Skilled Nursing Facility (SNF) Medicare fee-for-service (FFS) beneficiaries within 30 days of discharge from a prior proximal acute hospitalization. The prior proximal hospitalization is defined as an admission to an IPPS, CAH, psychiatric, or cancer hospital. The measure is risk-adjusted for patient demographics, principal diagnosis from the prior hospitalization, comorbidities, and other health status variables that affect the probability of a hospital readmission. The SNFRM includes Medicare FFS beneficiaries who were admitted to a SNF within 1 day of discharge from a hospital. The measure is calculated annually using a 12-month period.

**1b.1. Developer Rationale:** The anticipated benefit of this quality measure is that if consumers are informed of SNF readmission rates, they will make more educated choices with regard to SNF providers. The SNFRM was designed based on FFS claims to harmonize with CMS' current Hospital-Wide Readmission measure and other readmission measures being developed for other post-acute care settings (i.e., inpatient rehabilitation facilities (IRF), long-term care hospitals (LTCH), home health agencies (HHA), and end-stage renal facilities (ESRD)), and to promote shared accountability for improving care transitions across all settings. Additionally, providers will be encouraged to compete on quality for beneficiaries by focusing on quality improvement efforts to reduce readmissions. The measure can also be used by providers for tracking results of their internal quality improvement initiatives.

Hospital readmissions of Medicare beneficiaries discharged from a hospital to a SNF are prevalent and expensive, and prior studies suggest that a large proportion of readmissions are preventable (Mor et al., 2010). According to Mor et al., based on an analysis of SNF data from 2006 Medicare claims merged with the Minimum Data Set (MDS), 23.5 percent of SNF stays resulted in a rehospitalization within 30 days of the initial hospital discharge. The average Medicare payment for each readmission was \$10,352 per hospitalization, for a total of \$4.34 billion. Of these rehospitalizations, 78 percent were deemed potentially avoidable, and applying this figure to the aggregate cost indicates that avoidable hospitalizations resulted in an excess cost of \$3.39 billion (78 percent of \$4.34 billion) to Medicare (Mor, Intrator, Feng, et al., 2010). Several analyses of hospital readmissions of SNF patients suggest there is opportunity for reducing hospital readmissions among SNF patients (Li et al., 2012; Mor et al., 2010), and multiple studies suggest SNF structural and process characteristics that impact readmission rates (Coleman et al., 2004; MedPAC 2011).

In an analysis the 2008 MDS and the Online, Survey, Certification, and Reporting file, Li and colleagues found that hospital readmission rates varied by SNF patient volume, with a 16.4 percent readmission rate for low volume SNFs (< 45 annual SNF admissions), 15.9 percent for medium volume SNFs (45-107 annual SNF admissions), and 14.3 percent for high volume SNFs (=108 annual SNF admissions) ( $P < 0.0001$ ) (Li, Cai, Yin 2012). In addition to being costly, readmission to the hospital interrupts the SNF patient's therapy and care plan, causes anxiety and discomfort, and exposes the patient to hospital-acquired adverse events such as loss of functional status, healthcare-associated infections or medication errors (Covinsky, Palmer, Fortinsky 2003; Boockvar, Fishman, Kyriacou 2004; Ouslander et al. 2011).

Boockvar K, Fishman E, Kyriacou CK, et al. Adverse Events Due to Discontinuations in Drug Use and Dose Changes in Patients Transferred Between Acute and Long Term Care Facilities. *Archives of Internal Medicine* 2004. 164(5); 545-550.

Coleman EA, Smith JD, Frank JC, Min SJ, Parry C, Kramer AM. Preparing patients and caregivers to participate in care delivered across settings: the Care Transitions Intervention. *Journal of the American Geriatrics Society*. Nov 2004;52(11):1817-1825.

Covinsky K, Palmer R, Fortinsky R, et al. Loss of Independence in Activities of Daily Living in Older Adults Hospitalized with Medical Illnesses: Increased Vulnerability with Age. *Journal of the American Geriatrics Society*, 2003. 51:451-458.

Jencks SF, Williams MV, and Coleman EA. Rehospitalizations among patients in the Medicare fee-for-service program. *N. Engl. J. Med.* 360: 1418-1428, 2009.

Li Y, Cai X, Yin J, Glance LG, Mukamel DB. Is higher volume of postacute care patients associated with a lower rehospitalization rate in skilled nursing facilities? *Medical Care Research and Review : MCRR*. Feb 2012;69(1):103-118.

Medicare Payment Advisory Commission (U.S.). Trends in Risk Adjusted Skilled Nursing Facility Rates of Community Discharge and Potentially Avoidable Rehospitalization 2000-2008. Washington, DC: Medicare Payment Advisory Commission, June 2011

Mor V, Intrator O, Feng Z, Grabowski DC. The revolving door of rehospitalization from skilled nursing facilities. *Health Aff (Millwood)*. Jan-Feb 2010;29(1):57-64.

Ouslander JG, Diaz S, Hain D, Tappen R. Frequency and diagnoses associated with 7- and 30-day readmission of skilled nursing facility patients to a nonteaching community hospital. *JAMDA*. March 2011. 12(3):195-203.

**S.4. Numerator Statement:** The outcome for this measure is 30-day unplanned all-cause hospital readmissions of SNF patients. We define readmission as an inpatient admission for any cause, with the exception of certain planned admissions, within 30 days from the date of discharge from the patient's prior proximal acute hospitalization. The prior proximal hospitalization is defined as an admission to an inpatient prospective payment system (IPPS) hospital, critical access hospital (CAH), or PPS-exempt psychiatric or cancer hospital. Because the measure denominator is based on SNF admissions, it is possible that Medicare beneficiaries with more than one eligible admission may be included in the measure multiple times within a given year.

**S.6. Denominator Statement:** The measure includes admissions for SNF Medicare fee for service (FFS) beneficiaries who have been admitted to a SNF within 1 day of discharge from a prior proximal hospitalization.

Additional details are provided in S.7 Denominator Details.

**S.8. Denominator Exclusions:** The following are excluded from the denominator:

1. SNF stays where the patient had one or more intervening post-acute care (PAC) admissions (inpatient rehabilitation facility [IRF] or long-term care hospital [LTCH]) which occurred either between the prior proximal hospital discharge and SNF admission or after the SNF discharge, within the 30-day risk window. Also excluded are SNF admissions where the patient had multiple SNF admissions after the prior proximal hospitalization, within the 30-day risk window.

Rationale: For patients who have IRF or LTCH admissions prior to their first SNF admission, these patients are starting their SNF admission later in the 30-day risk window and receiving other additional types of services as compared to patients admitted directly to the SNF from the prior proximal hospitalization and their risk for readmission is different than the rest of SNF admissions. Additionally, when patients have multiple PAC admissions, evaluating quality of care coordination is confounded and even controversial in terms of attributing responsibility for a readmission among multiple PAC providers. Similarly, assigning responsibility for a readmission for patients who have multiple SNF admissions subsequent to their prior proximal hospitalization is also controversial.

2. SNF stays with a gap of greater than 1 day between discharge from the prior proximal hospitalization and the SNF admission.

Rationale: These patients are starting their SNF admissions later in the 30-day risk window than patients admitted directly to the SNF from the prior proximal hospitalization. They are clinically different and their risk for readmission is different than the rest of SNF admissions.

3. SNF stays where the patient did not have at least 12 months of FFS Medicare enrollment prior to the proximal hospital discharge and throughout the entire risk period (measured as enrollment during the month of proximal hospital discharge, for 11 months prior to that discharge, and the month after the month of discharge).

Rationale: FFS Medicare claims are used to identify comorbidities during the 12-month period prior to the proximal hospital discharge for risk adjustment. Readmissions occurring within the 30-day risk window when the patient does not have FFS Medicare coverage cannot be detected using claims.

4. SNF stays where the patient was discharged from the SNF against medical advice.

Rationale: The SNF was not able to complete care as needed.

5. SNF stays in which the principal diagnosis for the prior proximal hospitalization was for the medical treatment of cancer. Patients with cancer whose principal diagnosis from the prior proximal hospitalization was for other diagnoses or for surgical treatment of their cancer remain in the measure.

Rationale: Patients with a principal diagnosis of cancer for the prior hospitalization have a very different mortality and readmission risk than the rest of the Medicare population, and outcomes for these admissions do not correlate well with outcomes for other admissions.

6. SNF stays in which the principal primary diagnosis for the prior proximal hospitalization was for “rehabilitation care; fitting of prostheses and for the adjustment of devices”.

Rationale: Hospital admissions for these conditions are not for acute care.

7. SNF stays in which the prior proximal hospitalization was for pregnancy.

Rationale: While SNF stays in which the prior proximal hospitalization for pregnancy are very rare (for example, there were only 9 instances in FY2017) this measure is not intended to measure care related to pregnancy.

8. SNF stays in which data were missing or problematic on any covariate or variable used in the measure’s constructions.

Rationale: The needed data are not available to reliably calculate the measure score for the SNF.

9. SNF stays that took place in a CAH swing bed.

Rationale: CAHs are not paid on the SNF Prospective Payment System (PPS), therefore they are not eligible for the SNF VBP Program.

**De.1. Measure Type:** Outcome

**S.17. Data Source:** Claims, Enrollment Data

**S.20. Level of Analysis:** Facility

**IF Endorsement Maintenance – Original Endorsement Date:** Dec 23, 2014 **Most Recent Endorsement Date:** Dec 09, 2016

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

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

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

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

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

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

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

Do not remove any existing information. If there have been any changes to evidence, the Committee will consider the new evidence.

Please use the most current version of the evidence attachment (v7.1). Please use red font to indicate updated evidence.

### 1b. Performance Gap

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

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

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

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

The anticipated benefit of this quality measure is that if consumers are informed of SNF readmission rates, they will make more educated choices with regard to SNF providers. The SNFRM was designed based on FFS claims to harmonize with CMS' current Hospital-Wide Readmission measure and other readmission measures being developed for other post-acute care settings (i.e., inpatient rehabilitation facilities (IRF), long-term care hospitals (LTCH), home health agencies (HHA), and end-stage renal facilities (ESRD)), and to promote shared accountability for improving care transitions across all settings. Additionally, providers will be encouraged to compete on quality for beneficiaries by focusing on quality improvement efforts to reduce readmissions. The measure can also be used by providers for tracking results of their internal quality improvement initiatives.

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Covinsky K, Palmer R, Fortinsky R, et al. Loss of Independence in Activities of Daily Living in Older Adults Hospitalized with Medical Illnesses: Increased Vulnerability with Age. Journal of the American Geriatrics Society, 2003. 51:451-458.

Jencks SF, Williams MV, and Coleman EA. Rehospitalizations among patients in the Medicare fee-for-service program. N. Engl. J. Med. 360: 1418-1428, 2009.

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**1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis.** *(This is required for maintenance of endorsement. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*

As shown in Appendix Table 11, the SNFRM Risk-Stratified Readmission Rate as calculated using 2009 data has a range from 13.1 percent to 36.5 percent, with a median of 21.7 percent and an interquartile range of 19.9-23.7 percent. The mean RSRR is 21.9 percent and the scores have a standard deviation of 2.9 percent.(1) The 2011 data shows a wider total range, with a minimum 11.9 percent to a maximum of 41.7 percent, but a slightly narrower interquartile range of 19.4-22.8 percent. The median RSRR was 21.0 percent, and the mean 21.3 percent with a standard deviation of 2.7 percent.(2)

The distribution of the unadjusted and SNF-level risk-standardized readmission rates (RSRR) is illustrated in Appendix Figures 2 and 3, respectively, where the vertical axis indicates the percentage of SNFs and the horizontal axis the RSRR.

(1) Source: RTI analysis of 2009 MedPAR data (output: readmit085\_HLMFinal\_RiskEstDescript01\_2009.xls)

(2) Source: RTI analysis of 2011 MedPAR data (output: readmit085\_HLMFinal\_RiskEstDescript01\_20011.xls)

**1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.**

Hospital readmissions of Medicare beneficiaries discharged from a hospital to a SNF are prevalent and expensive, and prior studies suggest that a large proportion of readmissions are preventable (Mor et al. 2010). Hospital readmissions also put beneficiaries at risk for complications (Ouslander et al., 2011). Several analyses of hospital readmissions of SNF patients suggest there is opportunity for reducing hospital readmissions among SNF patients (Li et al., 2012; Mor et al., 2010), and multiple studies suggest SNF structural and process characteristics that impact readmission rates (Coleman et al., 2004; MedPAC 2011).

There are significant geographic differences in hospital readmission rates for SNF patients. Across the 50 states, readmission rate ranges from a low of 15.1 percent in Utah to a high of 28.1 percent in Mississippi. Within that range, nine states have readmission rates below 17 percent and nine states have rates above 25 percent (Mor et al. 2010). These differences are not aligned neatly with income: the state with the highest 2006 median income, New Jersey, had a readmission rate of 26.1 percent, while the poorest state, Mississippi, had a similarly high readmission rate of 28.1 percent (Mor et al., 2010). This indicates that state-by-state variation in readmission rates is likely the result of multiple factors, including access to services, cultural preferences, and urban/rural differences.

In addition to geographic variation, readmission rates vary by facility characteristics. Facility characteristics that increase the likelihood of readmission include larger bed size, free-standing status (as opposed to hospital-based), a higher percentage of Medicaid patients, and for-profit status (Li et al. 2012). More hours per resident day of registered nurses, licensed practical nurses, and certified nurse aides are associated with a decrease in the rate of potentially avoidable readmissions (MedPAC 2011).

Coleman EA, Smith JD, Frank JC, Min SJ, Parry C, Kramer AM. Preparing patients and caregivers to participate in care delivered across settings: the Care Transitions Intervention. *Journal of the American Geriatrics Society*. Nov 2004;52(11):1817-1825.

Li Y, Cai X, Yin J, Glance LG, Mukamel DB. Is higher volume of postacute care patients associated with a lower rehospitalization rate in skilled nursing facilities? *Medical Care Research and Review* : MCRR. Feb 2012;69(1):103-118.

Mor V, Intrator O, Feng Z, Grabowski DC. The revolving door of rehospitalization from skilled nursing facilities. *Health Aff (Millwood)*. Jan-Feb 2010;29(1):57-64.

Ouslander JG, Diaz S, Hain D, Tappen R. Frequency and diagnoses associated with 7- and 30-day readmission of skilled nursing facility

patients to a nonteaching community hospital. JAMDA. March 2011. 12(3):195-203.

Medicare Payment Advisory Commission (U.S.). Trends in Risk Adjusted Skilled Nursing Facility Rates of Community Discharge and Potentially Avoidable Rehospitalization 2000-2008. Washington, DC: Medicare Payment Advisory Commission, June 2011

**1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability.** *(This is required for maintenance of endorsement. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included.) For measures that show high levels of performance, i.e., “topped out”, disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*

Analyses of the distribution of patients by race suggest that non-White populations are not evenly distributed across facilities. When the total number of SNFs is broken down by the percentage of patients who are non-white, there are a large proportion of facilities that have non-White populations smaller than the national average (16.5% of US population 60 and older ). Under 30 percent (27.1%) of facilities have more than 16.5 percent of their patients who are non-White. 10 percent of facilities have over 40 percent non-white patients. Approximately 6 percent of facilities have a majority non-White patients.(1)

When examining whether facilities with higher percentages of non-White patients have different performance scores for the SNFRM, the data suggest that the RSRR increases slightly as the percentage of non-White patients increases (see Appendix Table 12).(1) This is consistent with prior literature showing that hospitals deemed as “minority serving” (defined as over 30% of patient served are minority) had higher readmission rates (25.5% readmitted within 30 days) than those that were “non-minority serving” (22.0% readmitted within 30 days) (Joynt 2011). Our data showed results that are less pronounced, with patients in facilities with over 30 percent non-White patients having readmission rates of 23.2 percent, versus facilities with less than 30 percent non-White patients having rates between 21.7-22.6 percent.(1) The clustering of patients by race in facilities makes it difficult to argue for taking steps like reporting stratified measures because many facilities have very small minority populations. Prior literature examining other health outcomes has suggested that disparities in outcomes are due to differential access to quality care facilities, rather than differences in care being received by residents of different races in the same facility (Li, Yue, et al. 2011a; Li, Yue, Mukamel, 2010).

For dual eligible patients (patients enrolled in both Medicare and Medicaid, which serves as a proxy for low-income), the results were similar, in that the RSRR was higher for facilities with larger percentages of Medicaid enrollees. However, differences were small (ranging from 20.8% for facilities with the lowest percentage of dual eligible patients, to 21.6 for facilities with the highest percentage).(2) The results are presented in Appendix Table 12.

(1) SOURCE: RTI analyses of 2011 MedPAR files (N=16,656). (output: readmit138\_HLMFinal\_Disparity03.xls .xls)

(2) SOURCE: RTI analyses of 2011 MedPAR files (N=16,712). (output: readmit138\_HLMFinal\_Disparity03.xls)

**1b.5. If no or limited data on disparities from the measure as specified is reported in 1b.4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in 1b.4**

Research has found that racial disparities exist both in the quality of nursing facilities as well as in hospital readmission rates. Any discussion of disparities in hospitalization or hospital readmission rates should acknowledge the potential influence of differences in preferences for intensity of intervention by patient subgroups. Additionally, previous studies suggest that these disparities arise from vulnerable populations being admitted disproportionately into poorer quality homes, rather than patients or residents receiving care at different levels of quality within the same facility. Multiple studies have found that nursing facilities with higher proportions of African-American residents tend to have poorer results on quality of care indicators, that African-Americans have higher rates of hospital readmission, and that hospitals serving more African-Americans have a higher overall rate of readmission (Howard et al., 2002; Mor et al., 2004; Grabowski 2004; Silverstein et al., 2008; Jencks, Williams, and Coleman 2009).

Prior research has shown that racial disparities exist in care provided to nursing home residents with respect to occurrence of pressure sores (Li, Yue, et al., 2011a) and provision of influenza and pneumococcal vaccination (Li, Yue, Mukamel, 2010), and data indicate that these racial disparities persist for hospital readmissions. African-Americans have higher rates of hospital readmission (Jencks, Williams & Coleman, 2009) and hospitals serving larger percentages of African-Americans than Whites have a higher overall readmission rates. Using data from a large health maintenance organization and FFS Medicare claims for patients with a stroke occurring in the 2-year period 1998-2000, African-American race was a significant predictor of experiencing at least one complicated



transition defined as moving from a less to a more intense care setting after hospital discharge. Patients who had had multiple complicated transitions were 38 percent more likely to be African-American (Kind et al., 2008). Another study analyzing hospital readmission rates using Medicare claims data from 2003-2004 found that African-Americans had a nearly 6 percent higher risk of rehospitalization within 30 days of hospital discharge than those of other races (Jencks, Williams & Coleman, 2009).

However, recent research has pointed to the fact that racial disparities associated with pressure ulcer rates are not due to differences in the way that White and non-White residents are treated within facilities, but instead at least partially attributable to differences across facilities. In other words, results suggest that Black nursing home residents tend to have poorer outcomes than White residents because they are more likely to be receiving services from poorer performing facilities, not that Black residents residing in the same facility as White residents receive systematically poorer quality services than White residents in the same facility. For example, a recent study of 619 New York state nursing homes using 2006-2007 MDS 2.0 data examined whether differences in the prevalence of pressure ulcers in the high-risk, long-term care residents were due to disparities within facilities or among facilities. Results suggested that, while overall pressure ulcer prevalence for Blacks was higher than Whites (18.2% compared to 13.8%), the higher prevalence for Black nursing home residents was most likely due to the fact that Black residents more often received care in lower quality nursing homes, rather than differential treatment of Black and White residents within nursing homes (Cai, Mukamel, Temkin-Greener 2010).

For the overall Hospital-Wide Readmission Measure, hospitals with greater percentages of African-American patients had higher rates of readmission (and therefore performed worse on the quality measure). This was also true for the acute myocardial infarction (AMI) readmission measure, but not true of the readmission measures for patients with heart failure, pneumonia, or hip/knee replacement, where the results for both patients were similar (Suter et al., 2012). An article utilizing the same statistical approach to measure the CMS hospital readmission measures to determine whether or not disparities exist in Medicare readmission rates found no statistically significant difference between Blacks and Whites (Dombrowski et al., 2012). However, the two studies utilized different years of Medicare claims data, as well as different statistical analysis methods, both of which could have contributed to the different findings. Among studies specifically of hospital readmissions for patients in SNFs, one national study using MDS data found that the unadjusted 30-day readmission rate was 18.6 percent for African-American patients and 14.3 percent for White patients, resulting in an odds ratio of 1.37 (Li et al., 2011b). These numbers were even more dramatic when analyzing the 90-day readmission rate: the readmission rate for African-American patients was 29.5 percent compared to 22.1 percent for White patients, with an odds ratio of 1.48. An underlying question is whether race is a standalone predictor of worse outcomes, or if race acts as a proxy for socioeconomic status and its associated impact on the quality of clinical care. For these reasons, we did not stratify the measure by race/ethnicity or adjust for race/ethnicity in the risk adjustment models. Lastly, we do acknowledge that race and ethnicity may be associated with systematic differences in patient preferences for care, which may impact decisions to hospitalize patients.

Cai S, Mukamel DB, Temkin-Greener H. Pressure ulcer prevalence among black and white nursing home residents in New York state: evidence of racial disparity? *Med Care*. Mar 2010;48(3):233-239.

Dombrowski, Wen et al. "Factors Predicting Rehospitalization of Elderly Patients in a Postacute Skilled Nursing Facility Rehabilitation Program." *Archives of Physical Medicine and Rehabilitation*, October 2012. 93 pp. 1808-1813.

Grabowski DC. The admission of blacks to high-deficiency nursing homes. *Medical Care*. May 2004;42(5):456-464.

Howard DL, Sloane PD, Zimmerman S, et al. Distribution of African Americans in residential care/assisted living and nursing homes: more evidence of racial disparity? *American Journal of Public Health*. Aug 2002;92(8):1272-1277.

Jencks SF, Williams MV, Coleman EA. Rehospitalizations among patients in the Medicare fee-for-service program. *The New England Journal of Medicine*. Apr 2 2009;360(14):1418-1428.

Kind, AJH, et al. "Bouncing Back: Patterns and Predictors of Complicated Transitions 30 Days after Hospitalization for Acute Ischemic Stroke." *Journal of the American Geriatric Society*, 2007 March, 55(3): 365-373.

Li Y, et al. "Association of Race and Sites of Care with Pressure Ulcers in High-Risk Nursing Home Residents." *Journal of the American Medical Association*, July 13, 2011(a). 306:2, pp 179-186.

Li Y, Mukamel DB. "Racial disparities in receipt of influenza and pneumococcus vaccinations among US nursing-home residents." *American Journal of Public Health*. 2010; 100(suppl 1) 256-262.

Li Y, Glance LG, Yin J, and Mukamel DB. Racial disparities in rehospitalization among Medicare patients in skilled nursing facilities. *American Journal of Public Health*: May 2011; 101(5):875-882.

Mor V, Zinn J, Angelelli J, Teno JM, Miller SC. Driven to tiers: socioeconomic and racial disparities in the quality of nursing home care. *The Milbank Quarterly*. 2004;82(2):227-256.

Silverstein MD, Qin H, Mercer SQ, Fong J, Haydar Z. Risk factors for 30-day hospital readmission in patients  $\geq 65$  years of age. *Proc (Bayl Univ Med Cent)*. Oct 2008;21(4):363-372.

Suter LG, et al. "Medicare Hospital Quality Chartbook 2012: Performance Report on Outcome Measures". Center for Outcomes Research and Evaluation.

## 2. Reliability and Validity—Scientific Acceptability of Measure Properties

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

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

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

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

Care Coordination : Readmissions, Safety, Safety : Overuse

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

Elderly

**S.1. Measure-specific Web Page** (Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)

<https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/SNF-VBP/Measure>

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

This is not an eMeasure Attachment:

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

No data dictionary Attachment:

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

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

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

Not an instrument-based measure

**S.3.1. For maintenance of endorsement:** Are there changes to the specifications since the last updates/submission. If yes, update



the specifications for S1-2 and S4-22 and explain reasons for the changes in S3.2.

No

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

Not applicable

**S.4. Numerator Statement** (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome) DO NOT include the rationale for the measure.

*IF an OUTCOME MEASURE*, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

The outcome for this measure is 30-day unplanned all-cause hospital readmissions of SNF patients. We define readmission as an inpatient admission for any cause, with the exception of certain planned admissions, within 30 days from the date of discharge from the patient's prior proximal acute hospitalization. The prior proximal hospitalization is defined as an admission to an inpatient prospective payment system (IPPS) hospital, critical access hospital (CAH), or PPS-exempt psychiatric or cancer hospital. Because the measure denominator is based on SNF admissions, it is possible that Medicare beneficiaries with more than one eligible admission may be included in the measure multiple times within a given year.

**S.5. Numerator Details** (All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

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

**Outcome definition**

The measure counts unplanned hospital inpatient readmissions of SNF patients to any short-term acute care hospital for any cause within 30 days from the date of discharge from the patient's prior proximal acute hospitalization, excluding planned readmissions as defined below.

**Observation stays:** This measure does not include observation stays as a readmission.

**Planned readmissions:** Planned readmissions are not counted as readmissions. In order to define whether a readmission is planned or unplanned, the measure uses an RTI-modified version of the CMS Planned Readmission Algorithm (PRA), which includes additional procedures specific to post-acute care (PAC) settings (see <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/SNF-VBP/Downloads/SNF-Planned-Readmission-Algorithm-v30.xlsx> for the codes with this modified PRA). Planned readmissions should not be counted against facilities, because planned readmissions are not a signal of quality of care. More information about planned readmission can be found in section 2.5 of the April 2019 technical report.

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

The measure includes admissions for SNF Medicare fee for service (FFS) beneficiaries who have been admitted to a SNF within 1 day of discharge from a prior proximal hospitalization.

Additional details are provided in S.7 Denominator Details.

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

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

The denominator includes all patients who have been admitted to a SNF within 1 day of discharge from a prior proximal hospitalization, taking denominator exclusions into account (see Section S.8).

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

The following are excluded from the denominator:

1. SNF stays where the patient had one or more intervening post-acute care (PAC) admissions (inpatient rehabilitation facility [IRF] or long-term care hospital [LTCH]) which occurred either between the prior proximal hospital discharge and SNF admission or after the SNF discharge, within the 30-day risk window. Also excluded are SNF admissions where the patient had multiple SNF admissions after the prior proximal hospitalization, within the 30-day risk window.

Rationale: For patients who have IRF or LTCH admissions prior to their first SNF admission, these patients are starting their SNF admission later in the 30-day risk window and receiving other additional types of services as compared to patients admitted directly to the SNF from the prior proximal hospitalization and their risk for readmission is different than the rest of SNF admissions. Additionally, when patients have multiple PAC admissions, evaluating quality of care coordination is confounded and even controversial in terms of attributing responsibility for a readmission among multiple PAC providers. Similarly, assigning responsibility for a readmission for patients who have multiple SNF admissions subsequent to their prior proximal hospitalization is also controversial.

2. SNF stays with a gap of greater than 1 day between discharge from the prior proximal hospitalization and the SNF admission.

Rationale: These patients are starting their SNF admissions later in the 30-day risk window than patients admitted directly to the SNF from the prior proximal hospitalization. They are clinically different and their risk for readmission is different than the rest of SNF admissions.

3. SNF stays where the patient did not have at least 12 months of FFS Medicare enrollment prior to the proximal hospital discharge and throughout the entire risk period (measured as enrollment during the month of proximal hospital discharge, for 11 months prior to that discharge, and the month after the month of discharge).

Rationale: FFS Medicare claims are used to identify comorbidities during the 12-month period prior to the proximal hospital discharge for risk adjustment. Readmissions occurring within the 30-day risk window when the patient does not have FFS Medicare coverage cannot be detected using claims.

4. SNF stays where the patient was discharged from the SNF against medical advice.

Rationale: The SNF was not able to complete care as needed.

5. SNF stays in which the principal diagnosis for the prior proximal hospitalization was for the medical treatment of cancer. Patients with cancer whose principal diagnosis from the prior proximal hospitalization was for other diagnoses or for surgical treatment of their cancer remain in the measure.

Rationale: Patients with a principal diagnosis of cancer for the prior hospitalization have a very different mortality and readmission risk than the rest of the Medicare population, and outcomes for these admissions do not correlate well with outcomes for other admissions.

6. SNF stays in which the principal primary diagnosis for the prior proximal hospitalization was for “rehabilitation care; fitting of prostheses and for the adjustment of devices”.

Rationale: Hospital admissions for these conditions are not for acute care.

7. SNF stays in which the prior proximal hospitalization was for pregnancy.

Rationale: While SNF stays in which the prior proximal hospitalization for pregnancy are very rare (for example, there were only 9 instances in FY2017) this measure is not intended to measure care related to pregnancy.

8. SNF stays in which data were missing or problematic on any covariate or variable used in the measure’s constructions.

Rationale: The needed data are not available to reliably calculate the measure score for the SNF.

9. SNF stays that took place in a CAH swing bed.

Rationale: CAHs are not paid on the SNF Prospective Payment System (PPS), therefore they are not eligible for the SNF VBP Program.

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

Denominator exclusions are based on data from the MedPAR and the Medicare Denominator files, specifically:

1. SNF stays where the patient had one or more intervening PAC admissions (IRF or LTCH), which occurred either between the prior proximal hospital discharge and SNF admission or after the SNF discharge, within the 30-day risk window or where the patient had multiple SNF admissions after the prior proximal hospitalization were identified using the MedPAR files.
2. SNF stays with a gap of greater than 1 day between discharge from the prior proximal hospitalization and the SNF admission were identified using the MedPAR files.
3. Lack of 12 months of FFS Medicare enrollment prior to the proximal hospital discharge was identified by patient enrollment status in Part A FFS using the Medicare Denominator file. Enrollment must be indicated during the month of prior proximal hospital discharge and the 11 months preceding the prior proximal hospital discharge. Lack of FFS Medicare enrollment during the 30 days after discharge from the prior proximal hospitalization was identified by patient enrollment status in Part A FFS using the Medicare Denominator file. Enrollment must be indicated for the month(s) falling within 30 days of discharge from the prior proximal hospitalization.
4. Discharges from the SNF against medical advice were identified using the discharge disposition indicator on the corresponding SNF claim from the MedPAR files.
5. Cancer discharge condition categories excluded from the measure are identified using claims in the MedPAR files for prior proximal hospitalization.
6. “Rehabilitation care: fitting of prostheses and for the adjustment of devices” are identified by principal diagnosis codes (ICD-10 codes) included in CCS 254, using claims from the MedPAR files for prior proximal hospitalization.
7. SNF stays in which the prior proximal hospitalization was for pregnancy are identified based on the principal diagnosis from the prior proximal hospitalization mapping to CCS categories 176-196, using claims from the MedPAR files for prior proximal hospitalization.
8. SNF stays in which data were missing or problematic on any covariate or variable used in the measure’s constructions are identified in both the MedPAR and denominator files.
9. SNF stays that took place in a CAH swing bed are identified based on the CCN number (the 3rd position of the CCN=Z) which identifies a CAH swing bed, in the MedPAR file.

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

Not applicable. This measure is not stratified.

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

Statistical risk model

If other:

**S.12. Type of score:**

Rate/proportion

If other:

**S.13. Interpretation of Score** (Classifies interpretation of score according to whether better quality is associated with a higher score,

a lower score, a score falling within a defined interval, or a passing score)

Better quality = Lower score

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

Figure 1 in section 2.4 of the April 2019 technical report depicts the SNF readmission measure 30-day risk window starting from the prior proximal hospitalization discharge date. If the readmission occurred during the SNF stay within the 30-day risk window or after the SNF stay but still within the 30-day risk window, it is counted in the numerator.

Step one: Identify patients meeting the denominator criteria.

Step two: Identify patients meeting the numerator criteria taking into account the planned readmission algorithm.

Step three: Identify presence or absence of risk adjustment variables for each patient.

Step four: Calculate the predicted and expected number of readmissions for each SNF using the hierarchical logistic regression model, and the SNF standardized risk ratio. These calculations are specified in more detail with equations in the Sections 2.8 and 2.9 of the April 2019 technical report.

Step five: Calculate the risk-standardized SNF 30-day readmission rate

To aid interpretation, the SNF standardized risk ratio, or SRR, which is calculated in Step four, is then multiplied by the overall national raw readmission rate for all SNF stays to produce the SNF risk-standardized readmission rate (RSRR). See Section 2.9 of the April 2019 technical report for details.

NOTE: Because the statistic described in step five is a complex function of parameter estimates, re-sampling and simulation techniques (e.g., bootstrapping) are necessary to derive a confidence interval estimate for the final risk-standardized rate, to characterize the uncertainty of the estimate.

**S.15. Sampling** (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)

IF an instrument-based performance measure (e.g., PRO-PM), identify whether (and how) proxy responses are allowed.

This measure is not based on a sample.

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

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

Not applicable

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

If other, please describe in S.18.

Claims, Enrollment Data

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

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

This measure is for Medicare beneficiaries and uses the data in the Medicare eligibility files and inpatient claims data. The eligibility files provide information on date of birth, sex, reasons for Medicare eligibility, periods of Part A coverage and periods in the fee-for-service program. The data elements from the Medicare FFS claims are those basic to the operation of the Medicare payment systems and include date of admission, date of discharge, diagnoses, procedures, indicators for use of dialysis services and indicators of whether the Part A benefit is exhausted. The inpatient claims data files contain beneficiary-level SNF and other hospital records. No data beyond the bills submitted in the normal course of business are required from the providers for the calculation of this measure.

The measure uses one year of data to calculate the measure rate for the Skilled Nursing Facility Readmission Measure, which we

believe is sufficient to calculate this measure in a statistically reliable manner. This is because the reliability of a SNF's measure rate is related to its sample size.

Following are the specific files and links to the documentation:

- Medicare Inpatient claims - standard analytical files (2007-2012), index SNF claims (2009-2011)

Documentation for the Medicare claims data is provided online by the CMS contractor, Research Data Assistance Center (ResDAC) at the University of Minnesota. The following web page includes data dictionaries for these files: Standard analytical files (Inpatient RIF): <http://www.resdac.org/cms-data/files/ip-rif/data-documentation>

- Medicare Enrollment Database

Information about the Enrollment Database may be found here:

<http://aspe.hhs.gov/datacncl/datadir/cms.htm>

- Medicare Denominator files (2009-2011)

Documentation available at:

<http://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/IdentifiableDataFiles/DenominatorFile.html>

- AHRQ CCS groupings of ICD-9 codes

Documentation available at:

<http://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp>

- CMS-HCC mappings of ICD-9 codes

Mappings are included in the software at the following website: <http://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Risk-Adjustors.html>

**S.19. Data Source or Collection Instrument** (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

No data collection instrument provided

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

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

Other: Skilled Nursing Facilities, Post-Acute Care

If other:

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

Not applicable

## 2. Validity – See attached Measure Testing Submission Form

### 2.1 For maintenance of endorsement

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

### 2.2 For maintenance of endorsement

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

### 2.3 For maintenance of endorsement

Risk adjustment: For outcome, resource use, cost, and some process measures, risk-adjustment that includes social risk factors is not prohibited at present. Please update sections 1.8, 2a2, 2b1, 2b4.3 and 2b5 in the Testing attachment and S.140 and S.11 in the online submission form. NOTE: These sections must be updated even if social risk factors are not included in the risk-adjustment strategy.

You **MUST** use the most current version of the Testing Attachment (v7.1) -- older versions of the form will not have all required questions.

### 3. Feasibility

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

#### 3a. Byproduct of Care Processes

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

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

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

If other:

#### 3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

**3b.1. To what extent are the specified data elements available electronically in defined fields (i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields)** Update this field for **maintenance of endorsement**.

ALL data elements are in defined fields in a combination of electronic sources

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

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

Attachment:

#### 3c. Data Collection Strategy

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

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

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

The creation of this measure requires Medicare Part A claims data for both hospital inpatient claims and SNF claims. Both types of claims are electronically available from the CMS and can be used to define and track the measure in a timely fashion. However, allowing a lag of up to six months is preferable to account for delays in claims submissions, and revisions to submitted claims to be processed. Data are already collected as part of Medicare payment process, so this measure poses no additional data collection burden on providers, and because claims are used for payment data are complete, and subject to audit.

**3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm).**

Not applicable



## 4. Usability and Use

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

### 4a. Accountability and Transparency

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

#### 4.1. Current and Planned Use

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

Specific Plan for Use	Current Use (for current use provide URL)

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

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

Not applicable

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

The measure is not currently publicly reported or used in at least one other accountability application but is currently under consideration for public reporting. The measure production has not been finalized.

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

The measure is not currently publicly reported or used in at least one other accountability application but is under consideration for public reporting. The measure production has not been finalized. Because the measure is based on Medicare fee-for-service claims, no new data collection mechanisms need to be put into place.

#### 4a2.1.1. Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.

How many and which types of measured entities and/or others were included? If only a sample of measured entities were included, describe the full population and how the sample was selected.

The SNF 30-Day All-Cause Readmission Measure (SNFRM) was adopted for the SNF Value-Based Purchasing (SNF VBP) Program beginning in the SNF PPS FY 2016 final rule. It was first used to determine payment in FY 2019. SNFs have received quarterly confidential feedback reports with facility-specific measure data since December 2016.

The SNF VBP Program has performed provider outreach through National Providers Calls, the Medicare Learning Network, a CMS website, which includes a Frequently Asked Questions (FAQ) document, and other outreach activities.

Baseline Period (CY 2015) measure data were posted on Nursing Home Compare, and, more recently, full FY 2020 Program year/2018 performance period results. The SNF VBP Program has a Help Desk available for providers who have questions about the measure, Program, or are requesting a correction to data.

Per statute, the SNF VBP Program applies to all SNFs paid under the SNF PPS nationally. To be scored in the Program, SNFs that have at least one eligible stay receive a facility-specific quarterly confidential feedback report via the Certification and Survey Provider Enhanced Report (CASPER) reporting system.

For the first four quarterly reports, SNFs received annual performance data (CY 2013, CY 2014, CY 2015, and FY 2016). In December 2017, CMS began providing SNFs with a “snap shot” of their performance period stay-level data as it became available, on a quarterly basis, as a full year of data was not yet available. The first performance score report was issued on August 2nd, 2018. This report contained baseline and performance period measure performance information, along with achievement scores, improvement scores, performance scores and payment incentive information for the FY 2019 SNF VBP Program Year. CMS conducted targeted provider outreach including a national call and YouTube video to assist SNFs in using these reports.

**4a2.1.2. Describe the process(es) involved, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.**

As part of the implementation process, SNFs have received quarterly interim stay-level reports which include information about all stays in the measurement period, such as the readmitting hospital, readmission diagnosis, and date of readmission for stays included in the measure numerator (if applicable). SNFs also received a performance score report, which provides information about resident stays for the performance period as well as risk-standardized readmission rates, improvement scores, achievement scores, performance scores and incentive payments as part of the SNF VBP Program. All reports contained a detailed data dictionary explaining the contents of the report. An online tutorial was developed by CMS to help providers understand the performance score reports.

All facility-level information contained in the performance score reports has been made publicly available to date. A FAQ document is also available on the SNF VBP website.

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

**Describe how feedback was obtained.**

The SNFRM was finalized for implementation for the SNF VBP Program in the FY 2016 SNF PPS Final Rule (80 FR 46411-46427). CMS received feedback from stakeholders as part of public comment during rulemaking; SNF PPS rules with public comment and CMS responses can be accessed from this URL: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/SNF-VBP/SNF-VBP-Page>

CMS has conducted user-centered design interviews with key stakeholders to determine how these stakeholders use these reports, including information about measure performance and resultant payment, and solicit input on enhancements that could be made to improve the reports.

CMS also currently collects ongoing feedback from stakeholders through the SNF VBP helpdesk.

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

Following implementation, providers have largely requested clarification with interpretation of their measure scores and the calculation of incentives based on measure performance. Specifically, providers requested that patient-level data be made available to facilities (which was subsequently incorporated into the quarterly reports). Key stakeholders, interviewed during user-centered design testing, suggested including plain language definitions of the measure and its exclusions as well as plain language interpretations of measure performance their feedback reports.

Other feedback on the SNFRM has included comments about the readmission risk window. Notably, some stakeholders supported either a longer readmission risk window or the use of two measures, one to measure readmissions during the SNF stay and a second to measure readmissions after SNF discharge. Lastly, we have received feedback through rulemaking supporting the risk-adjustment for social risk factors. Given this measure was included in the trial period for SES testing, measure development contractors (RTI International) have conducted extensive empirical testing which did not support adding these factors to the risk model. More specifically, the measure developer tested dual eligibility (DE) as a potential risk adjuster and found it was associated with a lower odds of readmission.

Questions from measured entities are answered directly through the SNF VBP help desk emails. Measure-specific questions from measured entities have mostly focused on specific questions related to their claims data, including coding errors, patient attribution to their facility, patients that fall into one of the exclusion categories, and questions about procedures covered by the Planned

Admissions Algorithm.

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

Not applicable.

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

The quarterly reports were revised to include patient-level data so that providers can determine which patients were readmitted. CMS is also in process of considering refinements to reports, including adding plain language explanations of the measure and SNF's performance on it, to help address stakeholder feedback obtained through user-centered design interviews.

Initial social-risk factor testing did not support the addition dual eligibility as a risk factor. However, CMS continues to monitor the effects of the SNF VBP program on SNFs that serve different types of populations, and will consider an upcoming MedPAC report on the topic (due in 2021) as well as ongoing stakeholder feedback.

**Improvement**

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

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

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

No improvement was demonstrated because this measure is not currently used for performance improvement at the time of the initial endorsement submission.

**4b2. Unintended Consequences**

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

**4b2.1. Please explain any unexpected findings (positive or negative) during implementation of this measure including unintended impacts on patients.**

No unintended or negative consequences were identified during testing, and this measure has not yet been publicly reported. A potential unintended consequence that should be monitored is that SNFs may be deterred from sending patients back to the hospital for a readmission, even when a hospital admission may be warranted. This potential issue could be mitigated by training, and making it clear that there is no expectation of perfect scores (no patients readmitted). Additionally, we recommend ongoing monitoring and evaluation for these unintended consequences.

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

**5. Comparison to Related or Competing Measures**

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

**5. Relation to Other NQF-endorsed Measures**

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

Yes

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

0001 : Asthma assessment

0330 : Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following heart failure (HF) hospitalization

0505 : Hospital 30-day all-cause risk-standardized readmission rate (RSRR) following acute myocardial infarction (AMI) hospitalization.

0506 : Hospital 30-day, all-cause, risk-standardized readmission rate (RSRR) following pneumonia hospitalization

0695 : Hospital 30-Day Risk-Standardized Readmission Rates following Percutaneous Coronary Intervention (PCI)

1550 : Hospital-level risk-standardized complication rate (RSCR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)

1551 : Hospital-level 30-day risk-standardized readmission rate (RSRR) following elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)

1768 : Plan All-Cause Readmissions (PCR)

1789 : Hospital-Wide All-Cause Unplanned Readmission Measure (HWR)

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

Competing Measures: Same Target Population and Same Measure Focus

There are no measures with the same SNF target population and same measure focus.

Measures with Same Target Population and Similar Focus

One measure, "Heart failure: percentage of patients with heart failure readmitted for acute episode of heart" failure (not NQF endorsed and recently withdrawn from the AHRQ National Measures Clearinghouse) has the same target population (nursing facility patients) and a similar focus (readmissions). However, this measure is only measuring readmissions for patients with heart failure who are readmitted for complications relating to heart failure, as opposed to the SNFRM, which is much more broadly focused.

Measures with Similar Focus and Similar Target Population that are Not NQF-Endorsed

PacifiCare Hospital Readmission: This is an all-cause hospital readmission measure examining readmissions, but the patient population is both the Medicare and commercial payer populations (excluding maternity and pediatric discharges) and therefore not competing with the SNFRM. The measure is calculated using an "observed/expected" ratio, but utilizing much simpler statistical analysis techniques than were utilized in the SNFRM. Additionally, the American Health Care Association (AHCA) is developing a 30-day re-hospitalization measure, called the Pointright30. The Pointright30 is not claims-based, but instead uses MDS 3.0 data, and includes planned and unplanned readmissions in the numerator. It also has no patient-level exclusions.

Measures with Similar Focus and Different Target Population that are Not NQF-Endorsed

Heart failure: percentage of patients with heart failure readmitted for acute episode of heart failure: this is a condition-specific measure with a broad patient population (measure population: patients 18 and older). The importance of this issue is not ignored, as incidence of heart failure within this population resulting in hospitalization would be captured in the SNFRM measure. This measure was recently withdrawn from the AHRQ National Measures Clearinghouse.

Venous thromboembolism (VTE) prophylaxis: percentage of discharged patients who are readmitted to the hospital for conditions related to VTE within 30 days of discharge: this is a condition-specific measure with a broad patient population (measure population: patients 18 and older). The importance of this issue is not ignored, as incidence of VTE within this population resulting in hospitalization would be captured in the SNFRM measure.

Diagnosis and management of asthma: percentage of discharged patients with asthma who are readmitted to hospital within 30 days of discharge: This measure is disease specific, and also has a much broader patient population that includes children (measure population: patients 5 years of age and older) and is therefore not a relevant measure for comparison.

CMS is submitting four other measures focusing on readmissions of patients from other post-acute care providers (i.e., inpatient rehabilitation facilities (IRFs), long-term care hospitals (LTCHs), home health agencies (HHAs)) as well as from end-stage renal (ESRD) facilities. These measures are all claims based and have been harmonized with CMS' Hospital-Wide Readmission Measure (NQF #1768), like the SNFRM, and the other measures under development for the IRF and LTCH settings.

**5a. Harmonization of Related Measures**

The measure specifications are harmonized with related measures;

**OR**

The differences in specifications are justified

**5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):**

**Are the measure specifications harmonized to the extent possible?**

No

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

The SNFRM is harmonized to the greatest extent possible with CMS' 30-day All-Cause Hospital-Wide Unplanned Readmission Measure (HWR), developed by Yale University. The SNFRM is harmonized to some extent with the several other measures (listed below) developed using the same modeling techniques and applied to disease specific patient populations. However, the HWR measure is the primary focus for harmonization, as it has the same general population approach (as opposed to a disease specific approach) as the SNFRM. As the HWR population is different from the SNFRM population, this necessitates different approaches to stratification, risk adjustment, and the exclusion of planned readmissions; however, the overall analytic approach is harmonized as much as possible. The risk adjustment method is similar in that hierarchical logistic regression is applied to account for SNFs as clusters, but the exact covariates used to adjust the model are different to account for the differences in patient population. The HWR measure has created different stratifications (i.e., cohorts), based on the principal diagnosis, which correspond to hospital care teams. The SNFRM tested the use of SNF cohorts and found that they did not improve the risk adjustment model, so SNF cohorts were not applied in the final model. Patient frailty over the previous 12 months was taken into account by including a count of the number of HCCs for each patient as well as a quadratic term to account for nonlinearity of the effect of additional comorbidities (i.e., that a patient's readmission risk increases exponentially as the number of HCCs increases.) Also, the list of planned readmissions excluded from the HWR measure was expanded for the SNFRM measure, to include procedures commonly seen in the SNF population that may not be seen in the general Medicare population (See Appendix A). The other measure specifications, with regard to other exclusions, numerator/denominator specifications, time windows, and others, are harmonized.

Additionally, the American Health Care Association (AHCA) is developing a Re-Hospitalization Metric, AHCA's PointRight's OnPoint30 Re-Hospitalization Metric, which was examined for potential alignment and harmonization. The SNFRM and PointRight's OnPoint30 Re-Hospitalization Metric each provide different insights into the issue of hospital readmissions from Skilled Nursing Facilities (SNFs). Although both are all-cause hospital readmission measures, these two measures provide SNFs with two different perspectives on their hospital readmission rates. The SNFRM is designed more for quality reporting purposes by focusing on the readmissions most likely to be attributable to the facility, by reporting the rate of unplanned readmissions on a more selected set of patients. The SNFRM excludes certain types of hospitalizations, including planned readmissions, observation stays, and readmissions for medical cancer treatment, whereas PointRight's measure does not contain any such exclusions. The broader population captured by the PointRight metric, provides a more comprehensive general rate useful for quality improvement efforts. SNFs may even find it useful to compare the readmission rates, to determine what factors are driving their individual results. Additionally, the two measures rely on different data sources - the SNFRM uses Medicare fee-for-service claims (FFS), whereas PointRight uses the MDS. There are distinct advantages and disadvantages to each. The SNFRM was designed based on FFS claims, in order to be harmonized with CMS' current Hospital-Wide Readmission measure as well as other readmission measures being developed for other settings (i.e., inpatient rehabilitation facilities (IRFs), long-term care hospitals (LTCHs), home health agencies (HHAs), and end-stage renal (ESRD) facilities), and to promote shared accountability for improving care transitions across all settings. One disadvantage to claims data however, is that there is a six month lag in the availability of claims, meaning that it is more difficult for SNFs to use claims to monitor the results of quality improvement efforts, whereas MDS data is available sooner. Therefore, the PointRight measure can provide facilities with information about their readmission rates on a faster and more frequent time scale. Facilities may find it useful to supplement their annual readmission rates as determined from the claims data with more real-time information from the MDS in order to evaluate rapid-cycle quality improvement activities, allowing for both measures to add value to the process.

**5b. Competing Measures**

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

**OR**

Multiple measures are justified.

**5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s):**

**Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)**

There are no measures with the same SNF target population and same measure focus.

<b>Appendix</b>
<p><b>A.1 Supplemental materials may be provided in an appendix.</b> All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.</p> <p><b>Attachment Attachment:</b></p>
<b>Contact Information</b>
<p><b>Co.1 Measure Steward (Intellectual Property Owner):</b> Centers for Medicare &amp; Medicaid Services</p> <p><b>Co.2 Point of Contact:</b> Corette, Byrd, MMSSupport@Battelle.org, 202-786-1158-</p> <p><b>Co.3 Measure Developer if different from Measure Steward:</b> RTI International</p> <p><b>Co.4 Point of Contact:</b> Karen, Reilly, kreilly@rti.org, 781-434-1791-</p>
<b>Additional Information</b>
<p><b>Ad.1 Workgroup/Expert Panel involved in measure development</b></p> <p><b>Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.</b></p> <ul style="list-style-type: none"> <li>• Gregory Arling, PhD- Indiana University Center for Aging Research and IU School of Medicine</li> <li>• Debra Bakerjian, PhD, FNP, RN- UC Davis Betty Irene Moore School of Nursing</li> <li>• Susannah Bernheim, MD, MHS- Yale/Yale New Haven Health Services Corporation (YNHHSC) Center for Outcomes Research and Evaluation (CORE)</li> <li>• Toby Edelman, JD- Center for Medicare Advocacy</li> <li>• David Gifford, MD, MPH-American Health Care Association</li> <li>• Lawrence Martinelli, FACP, FIDSA- Infectious Diseases Society of America</li> <li>• Vincent Mor, PhD- Brown University</li> <li>• Dana Mukamel, PhD- University of California, Irvine</li> <li>• Joseph Ouslander, MD- Charles E. Schmidt College of Medicine</li> <li>• Marilyn Rantz, PhD, RN, FAAN/Curators' Professor- Sinclair School of Nursing, University of Missouri</li> <li>• Ellen Strunk, PT, MS, GCS, CEEA- Rehab Resources and Consulting, Inc.</li> </ul> <p>Members participated in multiple technical expert panels spanning from 2011-2013. The panels provided technical insight as to the development of measure specifications, but also discussed the implications of the measure's implementation, including potential unintended consequences. Specific topics discussed included measure exclusions (including the list of planned readmissions, and options for handling decedents), potential covariates to be considered for risk adjustment, and how the measure could be used to promote care coordination between acute care and post-acute care facilities. Additionally, a broader list of stakeholders was asked to publicly comment on the measure specifications.</p>
<p><b>Measure Developer/Steward Updates and Ongoing Maintenance</b></p> <p><b>Ad.2 Year the measure was first released:</b></p> <p><b>Ad.3 Month and Year of most recent revision:</b></p> <p><b>Ad.4 What is your frequency for review/update of this measure?</b></p> <p><b>Ad.5 When is the next scheduled review/update for this measure?</b></p>
<p><b>Ad.6 Copyright statement:</b> Not applicable</p> <p><b>Ad.7 Disclaimers:</b> Not Applicable</p>
<b>Ad.8 Additional Information/Comments:</b>