August 2018

Specifications for the Function Quality Measures Adopted in the Skilled Nursing Facility Quality Reporting Program

Prepared for

Center for Clinical Standards and Quality
Centers for Medicare & Medicaid Services
7500 Security Boulevard
Baltimore, MD 21244-1850

CMS Contract No. HHSM-500-2013-13015I (HHSM-500-T0001)

RTI INTERNATIONAL

SPECIFICATIONS FOR THE FUNCTION QUALITY MEASURES ADOPTED IN THE SKILLED NURSING FACILITY QUALITY REPORTING PROGRAM

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This project was funded by the Centers for Medicare & Medicaid Services under contract no. HHSM-500-2013-13015I (HHSM-500-T0001).

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SECTION 1
BACKGROUND

The Improving Medicare Post-Acute Care Transformation (IMPACT) Act, enacted Oct. 6, 2014, directs the Secretary of Health and Human Services to specify quality measures on which Post-Acute Care (PAC) providers are required under the applicable reporting provisions to submit standardized patient assessment data in several domains, including incidence of major falls, skin integrity, and function. The IMPACT Act requires the implementation of quality measures to address these measure domains in home health agencies (HHAs), skilled nursing facilities (SNFs), long-term care hospitals (LTCHs), and inpatient rehabilitation facilities (IRFs).

The IMPACT Act also requires, to the extent possible, the submission of such quality measure data through the use of a PAC assessment instrument and the modification of such instrument as necessary to enable such use; for SNFs, this requirement refers to the Minimum Data Set (MDS) 3.0.

For more information on the statutory history of the SNF QRP, please refer to the FY 2016 SNF PPS final rule (80 FR 46427 through 46429). More information on the IMPACT Act is available at https://www.govtrack.us/congress/bills/113/hr4994.

This document describes the specifications for the function quality measures adopted in the SNF QRP. The quality measures are:

1. Application of Percent of Long-Term Care Hospital Patients with an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function (NQF #2631)[1]
2. SNF Functional Outcome Measure: Change in Self-Care Score for Skilled Nursing Facility Residents (NQF #2633)[2]
3. SNF Functional Outcome Measure: Change in Mobility Score for Skilled Nursing Facility Residents (NQF #2634)[3]
4. SNF Functional Outcome Measure: Discharge Self-Care Score for Skilled Nursing Facility Residents (NQF #2635)[4]
5. SNF Functional Outcome Measure: Discharge Mobility Score for Skilled Nursing Facility Residents (NQF #2636)[5]

[1] This measure is NQF-endorsed for use in the LTCH setting (https://www.qualityforum.org/QPS/2631)

[2] This measure is NQF-endorsed for use in the IRF setting (https://www.qualityforum.org/QPS/2633)

[3] This measure is NQF-endorsed for use in the IRF setting (https://www.qualityforum.org/QPS/2634)

[4] This measure is NQF-endorsed for use in the IRF setting (https://www.qualityforum.org/QPS/2635)

[5] This measure is NQF-endorsed for use in the IRF setting (https://www.qualityforum.org/QPS/2636)

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SECTION 2
QUALITY MEASURES

2.1 Cross-Setting Function Quality Measure: Application of Percent of Long-Term Care Hospital Patients With an Admission and Discharge Functional Assessment and A Care Plan That Addresses Function (NQF #2631)

2.1.1 Quality Measure Description

The cross-setting function quality measure is a process measure that is an application of the quality measure Percent of Long-Term Care Hospital Patients with an Admission and Discharge Functional Assessment and a Care Plan that Addresses Function (NQF #2631). This quality measure reports the percent of patients/residents with an admission and a discharge functional assessment and a treatment goal that addresses function. The treatment goal provides evidence that a care plan with a goal has been established for the patient/resident.

This process quality measure requires the collection of admission and discharge functional status data by clinicians using standardized patient assessment data elements or items that assess specific functional activities, that is, self-care and mobility activities. The self-care and mobility function items are coded using a 6-level rating scale that indicates the patient's/resident's level of independence with the activity. A higher score indicates greater independence. If an activity is not attempted, the reason that the activity did not occur is coded. For this quality measure, documentation of a goal for one of the function items reflects that the patient's/resident's care plan addresses function. The functional goal is recorded at admission for at least one of the standardized self-care or mobility function items.

This quality measure is calculated using data from the Minimum Data Set 3.0 (MDS 3.0) assessment instrument for Skilled Nursing Facility (SNF) residents, the Long-Term Care Hospital (LTCH) Continuity Assessment Record & Evaluation (CARE) Data Set for LTCH patients, the Outcome and Assessment Information Set (OASIS-D) for Home Health Agency (HHA) patients, and the Inpatient Rehabilitation Facility - Patient Assessment Instrument (IRF-PAI) for IRF patients. Table A-1 in Appendix A shows the standardized data elements that are included in each data set.

2.1.2 Purpose/Rationale for the Quality Measure

Section 1899B(c) (1) of the Act directs the Secretary to specify quality measures on which PAC providers are required under the applicable reporting provisions to submit standardized patient/resident assessment data and other necessary data specified by the Secretary with respect to five (5) quality domains, one of which is functional status, cognitive function, and changes in function and cognitive function. To satisfy these requirements, CMS adopted an application of the quality measure Percent of Long-Term Care Hospital Patients with an Admission and Discharge Functional Assessment and a Care Plan that Addresses Function (NQF #2631) as a cross-setting quality measure that addresses the domain of functional status, cognitive function, and changes in function and cognitive function. This quality measure reports the percent of patients/residents with an admission and a discharge functional assessment and a goal that addresses function.

The National Committee on Vital and Health Statistics, Subcommittee on Health[6], noted: "[i]nformation on functional status is becoming increasingly essential for fostering healthy people and a healthy population. Achieving optimal health and well-being for Americans requires an understanding across the life span of the effects of people's health conditions on their ability to do basic activities and participate in life situations, that is, their functional status." This statement is supported by research showing that patient functioning is associated with important patient outcomes such as discharge destination and length of stay in inpatient settings[7] as well as risk of nursing home placement and hospitalization of older adults living the in community.[8] Functioning is important to patients/residents and their family members.[9,10,11]

The majority of patients/residents who receive PAC services, such as care provided by SNFs, LTCHs, HHAs, and IRFs, have functional limitations, and many of these patients/residents are at risk for further decline in function due to limited mobility.[12] The patient/resident populations treated by SNFs, LTCHs, HHAs, and IRFs vary in terms of their functional abilities at the time of the PAC admission and their goals of care. For PAC patients/residents, treatment goals may include fostering the patient's/resident's ability to manage his or her daily activities so that the patient/resident can complete self-care and/or mobility activities as independently as possible, and if feasible, return to a safe, active, and productive life in a community-based setting. The clinical practice guideline *Assessment of Physical Function*[13] recommends that clinicians should document functional status at baseline and over time to validate capacity, decline, or progress. Therefore, assessment of functional status at admission and discharge and establishing a functional goal for discharge as part of the care plan (i.e., treatment plan) is an important aspect of patient/resident care for all of these PAC providers.

The functional assessment items included in the functional status quality measure were originally developed and tested as part of the Post-Acute Care Payment Reform Demonstration (PAC PRD) version of the Continuity Assessment Record and Evaluation (CARE) Item Set, which was designed to standardize assessment of patient's/resident's status across acute and

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

7 Reistetter T. A., Graham J. E., Granger C. V., Deutsch A, Ottenbacher K. J. Utility of Functional Status for Classifying Community Versus Institutional Discharges after Inpatient Rehabilitation for Stroke. *Archives of Physical Medicine and Rehabilitation*, 2010; 91:345-350.

8 Miller E.A., Weissert W. G. Predicting Elderly People's Risk for Nursing Home Placement, Hospitalization, Functional Impairment, and Mortality: A Synthesis. Medical Care Research and Review, 57; 3: 259-297.

9 Kurz, A. E., Saint-Louis, N., Burke, J. P., & Stineman, M. G. (2008). Exploring the personal reality of disability and recovery: a tool for empowering the rehabilitation process. *Qual Health Res, 18*(1), 90-105.

10 Kramer, A. M. (1997). Rehabilitation care and outcomes from the patient's perspective. *Med Care, 35*(6 Suppl), JS48-57.

11 Stineman, M. G., Rist, P. M., Kurichi, J. E., & Maislin, G. (2009). Disability meanings according to patients and clinicians: imagined recovery choice pathways. *Quality of Life Research, 18*(3), 389-398.

12 Kortebein P, Ferrando A, Lombebeida J, Wolfe R, Evans WJ. Effect of 10 days of bed rest on skeletal muscle in health adults. JAMA; 297(16):1772-4.

13 Kresevic D. M. Assessment of physical function. In: Boltz M, Capezuti E, Fulmer T, Zwicker D, editor(s). Evidence-based geriatric nursing protocols for best practice. 4th ed. New York (NY): Springer Publishing Company; 2012. p. 89-103.

post-acute providers, including SNFs, HHAs, LTCHs, and IRFs. The functional status items in Section GG (previously the CARE Item Set) are daily activities that clinicians typically assess at the time of admission and/or discharge to determine patients'/residents' needs, evaluate patient/resident progress and prepare patients/residents and families for a transition to home or to another provider.

The development of Section GG data elements (previously the CARE Item Set Functional Status Items) and a description and rationale for each item is described in a report entitled "The Development and Testing of the Continuity Assessment Record and Evaluation (CARE) Item Set: Final Report on the Development of the CARE Item Set: Volume 1 of 3."[14] Reliability and validity testing were conducted as part of CMS' Post-Acute Care Payment Reform Demonstration, and we concluded that the functional status items have acceptable reliability and validity. A description of the testing methodology and results are available in several reports, including the report entitled "The Development and Testing of the Continuity Assessment Record And Evaluation (CARE) Item Set: Final Report On Reliability Testing: Volume 2 of 3"[15] and the report entitled "The Development and Testing of The Continuity Assessment Record And Evaluation (CARE) Item Set: Final Report on Care Item Set and Current Assessment Comparisons: Volume 3 of 3."[16] The reports are available on CMS' Post-Acute Care Quality Initiatives webpage at: http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/CARE-Item-Set-and-B-CARE.html.

2.1.3 Denominator

Specific denominator definitions for each setting are provided below. There are no denominator exclusion criteria for this measure.

***SNF Denominator*:** The denominator is the number of Medicare Part A covered resident stays.

***LTCH Denominator*:** The denominator is the number of LTCH patient stays.

***IRF Denominator*:** The denominator is the number of Medicare (Part A and Medicare Advantage) patient stays.

HHA Denominator: Number of Medicare/Medicaid (including Advantage programs) covered home health episodes of care for patients who are at least 18 years of age.

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[14] Barbara Gage et al., "The Development and Testing of the Continuity Assessment Record and Evaluation (CARE) Item Set: Final Report on the Development of the CARE Item Set" (RTI International, 2012).

[15] Ibid.

[16] Ibid.

2.1.4 Numerator

The numerator for this quality measure is the number of patient/resident stays with functional assessment data for each self-care and mobility activity and at least one self-care or mobility goal.

To the extent that a patient/resident has an incomplete stay (for example, for the purpose of being admitted to an acute care facility), collection of discharge functional status data might not be feasible. Therefore, for patients/residents with incomplete stays, a valid score for admission functional status data and at least one treatment goal would be required and discharge functional status data would not be required to be reported.

Patients/residents with complete and incomplete stays are included in the numerator for this quality measure.

For patients or residents with complete stays:

All patients/residents not meeting the criteria for incomplete stays will be considered complete stays. For patients/residents with a complete stay, all three of the following criteria are required for the patient/resident to be counted in the numerator:

1. A valid numeric score indicating the patient's/resident's functional status, or a valid code indicating the activity was not attempted for each of the functional assessment items on the admission assessment;
2. A valid numeric score, which is a discharge goal indicating the patient's/resident's expected level of independence or a valid code indicating the activity would not be attempted, for at least one self-care or mobility item on the admission assessment; and
3. A valid numeric score indicating the patient's/resident's functional status, or a valid code indicating the activity was not attempted, for each of the functional assessment items on the discharge assessment.

For patients or residents with incomplete stays:

For patients/residents who have an incomplete stay, discharge data are not required to be reported. The following two criteria are required for the patients/residents who have an incomplete stay to be counted in the numerator:

1. A valid numeric score indicating the patient's/resident's functional status, or a valid code indicating the activity was not attempted for each of the functional assessment items on the admission assessment; and
2. A valid numeric score, which is a discharge goal indicating the patient's/resident's expected level of independence or a valid code indicating the activity was not attempted, for at least one self-care or mobility item on the admission assessment.

2.1.5 Items Included in the Quality Measure

An important consideration when measuring functional status is that certain activities may not be relevant or feasible to assess for all patients/residents in all types of settings. For example, walking may not occur on admission in a PAC setting because it is not safe for a patient/resident to ambulate. In this situation, a clinician would code that a functional activity was not attempted because it was not safe or feasible for the patient/resident to perform the activity.

The following admission and discharge functional status items are included in this measure:

Self-Care Items

Eating (GG0130A): The ability to use suitable utensils to bring food and/or liquid to the mouth and swallow food and/or liquid once the meal is placed before the patient.

Oral hygiene (GG0130B): The ability to use suitable items to clean teeth. Dentures (if applicable): The ability to insert and remove dentures into and from the mouth, and manage denture soaking and rinsing with use of equipment.

Toileting hygiene (GG0130C): The ability to maintain perineal hygiene, adjust clothes before and after voiding or having a bowel movement. If managing an ostomy, include wiping the opening but not managing equipment.

Mobility Items

Sit to lying (GG0170B): The ability to move from sitting on side of bed to lying flat on the bed.

Lying to sitting on side of bed (GG0170C): The ability to move from lying on the back to sitting on the side of the bed with feet flat on the floor, and with no back support.

Sit to stand (GG0170D): The ability to come to a standing position from sitting in a chair, wheelchair, or on the side of the bed.

Chair/bed-to-chair transfer (GG0170E): The ability to safely transfer to and from a bed to a chair (or wheelchair).

Toilet transfer (GG0170F): The ability to get on and off a toilet or commode.

Walk 10 feet (GG0170I): Once standing, the ability to walk at least 10 feet in a room, corridor or similar space.

For patients/residents who walk, as indicated by the response to Walk 10 Feet, complete the following items:

Walk 50 feet with two turns (GG0170J): Once standing, the ability to walk at least 50 feet and make two turns.

Walk 150 feet (GG0170K): Once standing, the ability to walk at least 150 feet in a corridor or similar space.

For patients/residents who use a wheelchair, complete the following items:

Wheel 50 feet with two turns (GG0170R): Once seated in wheelchair/scooter, the ability to wheel at least 50 feet and make two turns.

Indicate the type of wheelchair/scooter used (GG0170RR).

1. Manual
2. Motorized

Wheel 150 feet (GG0170S): Once seated in wheelchair/scooter, the ability to wheel at least 150 feet in a corridor or similar space.

Indicate the type of wheelchair/scooter used (GG0170SS).

1. Manual
2. Motorized

Goals: At least one goal must be coded for any of the Section GG self-care or mobility data elements included on the item set.

Self-Care and Mobility Rating Scale: Codes and Code Definitions

06. Independent—Patient/resident completes the activity by him/herself with no assistance from a helper.

05. Setup or clean-up assistance—helper sets up or cleans up; patient/resident completes activity. Helper assists only prior to or following the activity.

04. Supervision or touching assistance—Helper provides verbal cues and/or touching and/or steadying and/or contact guard assistance as patient/resident completes activity. Assistance may be provided throughout the activity or intermittently.

03. Partial/moderate assistance—Helper does LESS THAN HALF the effort. Helper lifts, holds, or supports trunk or limbs, but provides less than half the effort.

02. Substantial/maximal assistance—Helper does MORE THAN HALF the effort. Helper lifts, holds or supports trunk or limbs and provides more than half the effort.

01. Dependent—Helper does ALL of the effort. Patient/resident does none of the effort to complete the activity. Or the assistance of 2 or more helpers is required for the patient/resident to complete the activity.

If activity was not attempted, code reason:

07. Patient/resident refused

09. Not applicable

10. Not attempted due to environmental limitations

88. Not attempted due to medical condition or safety concerns

(^) Skip pattern

2.1.6 Quality Measure Calculation Algorithm

1. For each provider, the stay records of patients/residents meeting the inclusion criteria (i.e., denominator) discharged during the 12-month target time period are identified and counted. This count is the denominator.
2. The records of patients/residents with complete stays are identified and the number of these patient/resident stays with complete admission functional assessment data (codes 01 through 06 or 07, 09, 10, 88, or "^") AND at least one self-care or mobility goal (codes 01 through 06 or 07, 09, 10, or 88) AND complete discharge functional assessment data (codes 01 through 06 or 07, 09, 10, 88, or "^") is counted.
3. The records of patients with incomplete stays are identified, and the number of these patient/resident records with complete admission functional status data (codes 01 through 06 or 07, 09, 10, 88, or "^") AND at least one self-care or mobility goal (codes 01 through 06 or 07, 09, 10, or 88) is counted.
4. The counts from step 2 (complete stays) and step 3 (incomplete stays) are summed. The sum is the numerator count.
5. The numerator count is divided by the denominator count to calculate this quality measure and converted to a percent value by multiplying by 100.

2.1.7 Risk Adjustment

This quality measure is a process measure and is not risk adjusted. The Technical Expert Panel that reviewed this measure did not recommend that this measure be risk-adjusted, because completion of a functional assessment is not affected by the medical and functional complexity of the patient/resident. Rather, clinicians are able to report that an activity was not attempted due to a medical condition or a safety concern, and clinicians take this complexity into account when setting goals. Further, we are aware that patients/residents may have acute events that trigger unplanned discharges, and this measure does not require a functional assessment to be completed in these circumstances. Finally, we have included skip patterns on the assessment instrument that take into account patient/resident complexity. For example, we have a gateway item that asks if the patient/resident can walk 10 feet. If the patient/resident cannot walk 10 feet, then several items applicable to patients/residents who walk are skipped for this patient/resident on the assessment instrument. Therefore, risk adjustment of this quality measure is not warranted.

2.2 SNF Functional Outcome Measure: Change in Self-Care Score for Skilled Nursing Facility Residents (NQF #2633)[17]

2.2.1 Measure Description

This quality measure estimates the risk-adjusted mean change in *self-care* score between admission and discharge for SNF Part A residents discharged from a SNF.

2.2.2 Purpose/Rationale for the Quality Measure

This quality measure meets the requirements of the IMPACT Act addressing the domain of functional status, cognitive function, and changes in function and cognitive function. This quality measure focuses on self-care activities.

SNFs provide skilled services, such as skilled nursing or therapy services. Residents receiving care in SNFs include those whose illness, injury, or condition has resulted in a loss of function, and for whom rehabilitative care is expected to help regain that function. Treatment goals may include fostering residents' ability to manage their daily activities so that they can complete self-care and mobility activities as independently as possible, and, if feasible, return to a safe, active, and productive life in a community-based setting. Given that the primary goal of many SNF residents is improvement in function, SNF clinicians assess and document residents' functional status at admission and at discharge to evaluate not only the effectiveness of the rehabilitation care provided to individual residents but also the effectiveness of the SNF.

Examination of SNF data shows that SNF treatment practices directly influence resident outcomes. For example, therapy services provided to SNF residents have been found to be correlated with the functional improvement that SNF residents achieve (that is, functional outcomes).[18] Several studies found patients' functional outcomes vary based on treatment by physical and occupational therapists. Specifically, therapy was associated with significantly greater odds of improving mobility and self-care functional independence,[19] shorter length of stay,[20] and a greater likelihood of discharge to community.[21] Furthermore, Jung et al.[22] found that an additional hour of therapy treatment per week was associated with approximately a 3.1 percentage-point increase in the likelihood of returning to the community among residents with a hip fracture. Achieving these targeted resident outcomes, including improved self-care and

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17 This measure is NQF-endorsed for use in the IRF setting (https://www.qualityforum.org/QPS/2633)

18 Jette, D. U., R. L. Warren, & C. Wirtalla. (2005). The relation between therapy intensity and outcomes of rehabilitation in skilled nursing facilities. Archives of Physical Medicine and Rehabilitation, 86 (3), 373-9.

19 Lenze, E. J., Host, H. H., Hildebrand, M. W., Morrow-Howell, N., Carpenter, B., Freedland, K. E., ... & Binder, E. F. (2012). Enhanced medical rehabilitation increases therapy intensity and engagement and improves functional outcomes in post acute rehabilitation of older adults: a randomized-controlled trial. Journal of the American Medical Directors Association, 13(8), 708-712.

20 Medicare Payment Advisory Commission (US). (2016). Report to the Congress: Medicare payment policy. Medicare Payment Advisory Commission.

21 Cary, M. P., Pan, W., Sloane, R., Bettger, J. P., Hoenig, H., Merwin, E. I., & Anderson, R. A. (2016). Self-Care and Mobility Following Postacute Rehabilitation for Older Adults With Hip Fracture: A Multilevel Analysis. Archives of Physical Medicine and Rehabilitation. http://doi.org/10.1016/j.apmr.2016.01.012

22 Jung, H. Y., Trivedi, A. N., Grabowski, D. C., & Mor, V. (2016). Does More Therapy in Skilled Nursing Facilities Lead to Better Outcomes in Patients With Hip Fracture? Physical therapy, 96(1), 81-89.

mobility functional independence, reduced length of stay, and increased discharges to the community, is a core goal of SNFs.

Among SNF residents receiving rehabilitation services, the amount of treatment received can vary. For example, the amount of therapy treatment provided varies by type (that is, for-profit versus not-for-profit) and location (that is, urban versus rural) of facility.[23,24] MedPAC[25] noted that while there was an overall increase in the share of intensive therapy days between 2002 and 2012, the for-profit and urban facilities had higher shares of intensive therapy than not-for-profit facilities and those located in rural areas. Data from 2011 to 2014 indicate that this variation is not explained by resident characteristics, such as activities of daily living, comorbidities and age, as SNF residents with stays in 2011 were more independent on average than the average SNF resident with stays in 2014. Because more intense therapy is associated with more functional improvement for certain beneficiaries, this variation in rehabilitation services supports the need to monitor SNF residents' functional outcomes. Therefore, we believe there is an opportunity for improvement in this area.

The use of standardized mobility and self-care data elements would standardize the collection of functional status data, which could improve communication when residents are transferred between providers. Most SNF residents receive care in an acute care hospital prior to the SNF stay, and many SNF residents receive care from another provider after the SNF stay.

Recent research provides empirical support for the risk adjustment variables for these quality measures. In a study of resident functional improvement in SNFs, Wysocki et al.[26] found that several resident conditions were significantly related to resident functional improvement, including cognitive impairment, delirium, dementia, heart failure, and stroke. Also, Cary et al. found that several resident characteristics were significantly related to resident functional improvement, including age, cognitive function, self-care function at admission, and comorbidities.[27]

The functional assessment items used to calculate the four quality measures are from the Continuity Assessment Record and Evaluation (CARE) Item Set, which was designed to standardize assessment of patients'/residents' status across acute and post-acute settings, including IRFs, LTCHs, SNFs, HHAs. The CARE Item Set was developed and tested as part of the Post-Acute Care Payment Reform Demonstration. The functional status items on the CARE Item Set are daily activities that clinicians typically assess at the time of admission and/or at

23 Grabowski, D. C., Feng, Z., Hirth, R., Rahman, M., & Mor, V. (2013). Effect of nursing home ownership on the quality of post-acute care: An instrumental variables approach. Journal of Health Economics, 32(1), 12-21.

24 Medicare Payment Advisory Commission (US). (2016). Report to the Congress: Medicare payment policy. Medicare Payment Advisory Commission.

25 Medicare Payment Advisory Commission (US). (2016). Report to the Congress: Medicare payment policy. Medicare Payment Advisory Commission.

26 Wysocki, A., Thomas, K. S., & Mor, V. (2015). Functional Improvement Among Short-Stay Nursing Home Residents in the MDS 3.0. Journal of the American Medical Directors Association, 16(6), 470–474.

27 Cary, M. P., Pan, W., Sloane, R., Bettger, J. P., Hoenig, H., Merwin, E. I., & Anderson, R. A. (2016). Self-Care and Mobility Following Postacute Rehabilitation for Older Adults With Hip Fracture: A Multilevel Analysis. Archives of Physical Medicine and Rehabilitation.

discharge to determine patients'/residents' needs, evaluate patient/resident progress, and prepare patients/residents and families for a transition to home or to another setting.

The development of the CARE Item Set and a description and rationale for each item is described in a report entitled "The Development and Testing of the Continuity Assessment Record and Evaluation (CARE) Item Set: Final Report on the Development of the CARE Item Set: Volume 1 of 3."[28]

Results of the reliability and validity testing conducted as part of the Post-Acute Care Payment Reform Demonstration found the functional status items to have acceptable reliability and validity in the acute and post-acute patient/resident populations. A description of the testing methodology and results are available in several reports, available at: http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/CARE-Item-Set-and-B-CARE.html.

2.2.3 Denominator

The denominator is the number of SNF Medicare Part A resident stays (Type 1 SNF Stays), except those that meet the exclusion criteria.[29]

Denominator Exclusions

This quality measure has 7 exclusion criteria:

1. Residents with incomplete stays.

   Rationale: It can be challenging to gather accurate discharge functional status data for residents who experience incomplete stays.

   Residents with incomplete stays include residents who are unexpectedly discharged to an acute care setting (short-stay acute hospital [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 03, acute hospital], inpatient psychiatric facility [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 04, psychiatric hospital], or long-term care hospital [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 09, long term care hospital]); residents who die (A2100, Discharge status = 08, Deceased) or leave a SNF against medical advice (A0310G, Type of assessment = 2, Unplanned discharge); and residents with a length of stay of less than 3 days (A2400C, End date of most recent Medicare stay – A2400B, Start date of most recent Medicare stay <3 Days).

28 Gage B, Constantine R, Aggarwal J, et al. The Development and Testing of the Continuity Assessment Record and Evaluation (CARE) Item Set: Final Report on the Development of the CARE Item Set Volume 1 of 3: RTI International;2012.

29 Please note that critical access hospital with swing beds are exempt from the SNF PPS and are not required to submit quality data under the SNF QRP by means of the MDS per the requirements set forth by the IMPACT Act.

2. Residents who are independent with all self-care activities at the time of admission.

   Rationale: Residents who are independent with all self-care items at the time of admission are assigned the highest score on all self-care items, and thus, would not be able to show functional improvement on this same set of items at discharge.

3. Residents with the following medical conditions: coma; persistent vegetative state; complete tetraplegia; locked-in syndrome; severe anoxic brain damage, cerebral edema, or compression of brain.

   Rationale: These residents are excluded because they may have limited or less predictable improvement with the selected self-care items

   Coma/Persistent vegetative state (B0100, Comatose = 1)

   Complete Tetraplegia (see ICD-10 codes)

   Locked-in Syndrome (see ICD-10 codes)

   Severe anoxic brain damage (see ICD-10 codes)

   Cerebral edema (see ICD-10 codes)

   Compression of brain (see ICD-10 codes)

4. Residents younger than 21 years.

   Rationale: There is only limited evidence published about functional outcomes for individuals younger than 21 years. (A1600. Entry Date - A0900. Birth Date < 21)

5. Residents discharged to hospice or received hospice while a resident. (A2100 = 07, Hospice or O0100K2 (Hospice while a Resident) = [1])

   Rationale: Resident goals may change during the SNF stay.

6. Residents who are not Medicare Part A beneficiaries.

   Rationale: For the SNF QRP, MDS data are submitted for Medicare Part A beneficiaries.

7. Residents who do not receive physical or occupational therapy services: (sum of O0400B1, Occupational therapy individual minutes + O0400B2, Occupational therapy concurrent minutes + O0400B3, Occupational therapy group minutes = 0) and (sum of O0400C1, Physical therapy individual minutes + O0400C2, Physical therapy concurrent minutes + O0400C3, Physical therapy group minutes = 0)

   Rationale: The focus of this measure is functional improvement for residents admitted to the SNF with an expectation of functional improvement due to skilled services, including physical and occupational therapy. Some SNF residents may receive skilled care, but not physical or occupational therapy services, and these residents are not included in the measure calculation.

2.2.4 Numerator

The measure does not have a simple form for the numerator. This measure estimates the risk-adjusted change in self-care score between admission and discharge among SNF Medicare Part A residents, except those that meet the exclusion criteria. The change in self-care score is

calculated as the difference between the discharge self-care score and the admission self-care score.

2.2.5 Items Included in the Quality Measure

For this quality measure, the following functional activities are assessed at the time of admission and at discharge:

Self-Care Items

GG0130A. Eating: The ability to use suitable utensils to bring food and/or liquid to the mouth and swallow food and/or liquid once the meal is placed before the resident.

GG0130B. Oral hygiene: The ability to use suitable items to clean teeth. Dentures (if applicable): The ability to insert and remove dentures into and from the mouth, and manage denture soaking and rinsing with use of equipment.

GG0130C.Toilet hygiene: The ability to maintain perineal hygiene, adjust clothes before and after voiding or having a bowel movement. If managing an ostomy, include wiping the opening but not managing equipment.

GG0130E. Shower/bathe self: The ability to bathe self, including washing, rinsing, and drying self (excludes washing of back and hair). Does not include transferring in/out of tub/shower.

GG0130F. Upper body dressing: The ability to dress and undress above the waist; including fasteners, if applicable.

GG0130G. Lower body dressing: The ability to dress and undress below the waist, including fasteners; does not include footwear.

GG0130H. Putting on/taking off footwear: The ability to put on and take off socks and shoes or other footwear that is appropriate for safe mobility; including fasteners, if applicable.

Self-Care Rating Scale: Codes and Code Definitions

All items are coded using this rating scale:

06. **Independent** – Resident completes the activity by himself/herself with no assistance from a helper.

05. **Setup or clean-up assistance** – Helper sets up or cleans up; resident completes activity. Helper assists only prior to or following the activity.

04. **Supervision or touching assistance** – Helper provides verbal cues and/or touching/ steadying and/or contact guard assistance as resident completes activity. Assistance may be provided throughout the activity or intermittently.

03. **Partial/moderate assistance** – Helper does LESS THAN HALF the effort. Helper lifts, holds, or supports resident's trunk or limbs, but provides less than half the effort.

02. **Substantial/maximal assistance** – Helper does MORE THAN HALF the effort. Helper lifts or holds resident's trunk or limbs and provides more than half the effort.

01. **Dependent** – Helper does ALL of the effort. Resident does none of the effort to complete the task. Or, the assistance of 2 or more helpers is required for the resident to complete the activity.

If the activity was not attempted, code the reason:

07. **Resident refused**

09. **Not applicable**

10. **Not attempted due to environmental limitations**

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

2.2.6 Risk Adjustment

The risk adjustors used for this finalized quality measure are the following:

- **Age group at SNF admission** (A1600, Entry Date - A0900, Birth Date)
  - Younger than 54 years
  - 55 to 64 years
  - 65 to 74 years (reference category)
  - 75 to 84 years
  - 85 to 90 years
  - 90 years of age and older
- **Admission self-care function score: continuous form**
- **Admission self-care function score: squared form**
- **Primary medical condition category**
  - Stroke (I0020, Primary medical condition category = 01)
  - Non-traumatic brain dysfunction (I0020, Primary medical condition category = 02) and traumatic brain dysfunction (I0020, Primary medical condition category = 03)
  - Non-traumatic spinal cord dysfunction (I0020, Primary medical condition category = 04)
  - Traumatic spinal cord dysfunction (I0020, Primary medical condition category = 05)

  - Progressive neurological conditions (I0020, Primary medical condition category = 06)
  - Other neurological conditions (I0020, Primary medical condition category = 07)
  - Amputation (I0020, Primary medical condition category = 08)
  - Hip and knee replacement (reference category) (I0020, Primary medical condition category = 09)
  - Fractures and other multiple trauma (I0020, Primary medical condition category = 10)
  - Other orthopedic conditions (I0020, Primary medical condition category = 11)
  - Debility and cardiorespiratory conditions (I0020, Primary medical condition category = 12)
  - Medically complex conditions (I0020, Primary medical condition category = 13)
  - Other medical condition (I0020, Primary medical condition category = 14)
- **Interactions between primary medical condition category and SNF admission self-care score**
- **Prior Surgery: Major surgery during the 100 days prior to the SNF admission** (J2000, Prior surgery = 1)
- **Prior Functioning: Self-care**
  - Dependent (GG0100A = 1)
  - Some help (GG0100A = 2)
- **Prior Functioning: Indoor ambulation**
  - Dependent or some help (GG0100B = 1 or 2)
- **Prior Device Use**
  - Walker (GG0110D is checked)
  - Wheelchair/scooter (GG0110A, manual wheelchair is checked or GG0110B, motorized wheelchair and/or scooter is checked)
  - Mechanical lift (GG0110C, mechanical lift is checked)
  - Orthotics/prosthetics (GG0110E, orthotics/prosthetics is checked)
- **Presence of Stage 2 pressure ulcer(s) at admission** (M0300B1 ≥ 1)
- **Presence of severe pressure ulcer/injury at admission**
  - Stage 3 (M0300C1, Number of Stage 3 pressure ≥ 1), Stage 4 (M0300D1, Number of Stage 3 pressure ulcers ≥ 1) or Unstageable pressure ulcer/injury) (M0300E1, Number of unstageable pressure ulcers due to non-removable dressing ≥ 1 or M0300F1, Number of these unstageable pressure ulcers due to slough and/or eschar ≥ 1 or M0300G1, Number of these unstageable pressure ulcers due to deep tissue injury ≥ 1)

- **Cognitive Abilities: Brief Interview for Mental Status (BIMS) score**
  - Severely impaired = C0500, BIMS Summary Score $\leq$ 7 or C0900Z, None of the above were recalled is checked or only one of the following is checked: C0900A, C0900B, C0900C, C0900D
  - Moderately impaired: if C0500, BIMS Summary Score = 8, 9, 10, 11, 12 or 2 of the following are checked: C0900A, C0900B, C0900C, C0900D
- **Communication Impairment: Ability to express ideas and wants and Understanding verbal and non-verbal content**
  - Moderate to severe communication limitations: Rarely/never understands (B0800, Ability to understand others = 3); or sometimes understands (B0800, Ability to understand others = 2); or rarely/never understood (B0700, Makes self understood = 3); or sometimes understood (B0700, Makes self understood = 2);
- **Urinary Continence**
  - Occasionally (H0300, Urinary continence = 1), frequently incontinent (H0300, Urinary continence = 2) or always incontinent (H0300, Urinary continence = 3)
- **Bowel Continence**
  - Occasionally (H0400, Bowel continence = 1) or frequently incontinent (H0400, Bowel continence = 2) or always incontinent (H0400, Bowel continence = 3)
- **Tube feeding** (K0510B1 = 1) **or total parenteral nutrition** (K0510A1 = 1)
- **Comorbidities (hierarchical condition categories):**
  - Major Infections: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock; and Other Infectious Diseases
  - Metastatic Cancer and Acute Leukemia
  - Diabetes: Diabetes with Chronic Complications; Diabetes without Complication; Type I Diabetes Mellitus
  - Other Significant Endocrine and Metabolic Disorders
  - Delirium and Encephalopathy
  - Dementia: Dementia with Complications; Dementia Without Complications
  - Tetraplegia (excluding complete tetraplegia) and paraplegia
  - Multiple Sclerosis
  - Parkinson´s and Huntington´s Diseases
  - Angina Pectoris
  - Coronary Atherosclerosis/Other Chronic Ischemic Heart Disease
  - Hemiplegia, Other Late Effects of Cerebrovascular Accident: Hemiplegia/Hemiparesis; Late Effects of Cerebrovascular Disease, Except Paralysis

- Dialysis Status and Chronic Kidney Disease - Stage 5
- Urinary Obstruction and Retention
- Amputations: Traumatic Amputations and Complications; Amputation Status, Lower Limb/Amputation Complications; Amputation Status, Upper Limb

2.2.7 Quality Measure Calculation Algorithm

The following steps are used to calculate the measure:

1. Sum the scores of the admission self-care items to create an admission self-care score for each resident, after 'activity not attempted' codes and any dashes are recoded to 1 (score range: 7 to 42).
2. Sum the scores of the discharge self-care items to create a discharge self-care score for each resident, after 'activity not attempted' codes and any dashes are recoded to 1 (score range: 7 to 42).
3. Using stay-level records, identify the stay-level records of residents who meet the exclusion criteria and exclude them from analyses.
4. Calculate the difference between the admission self-care score (from step 1) and the discharge self-care score (from step 2) for each resident to create a change in self-care score for each resident.
5. Calculate an expected change in self-care score for each resident using the intercept and regression coefficients from national data and each resident's admission characteristics (risk adjustors).
6. Calculate an average observed change in self-care score for each SNF. This is the facility-level observed change in self-care score.
7. Calculate an average expected change in self-care score for each SNF. This is the facility-level expected change in self-care score.
8. Calculate the difference between the facility-level observed change score and the facility-level expected change score to create an observed minus expected difference. A value that is 0 indicates the observed score and expected score are equal. A value that is higher than 0 indicates that the observed change score is higher (better) than the expected score. A value that is less than 0 indicates that the observed change score is lower (worse) than the expected score.
9. Add each SNF´s difference value (from step 8) to the national average change in self-care score. This is the SNF's risk-adjusted mean self-care change score.

2.3 SNF Functional Outcome Measure: Change in Mobility Score for Skilled Nursing Facility Residents (NQF #2634)[30]

2.3.1 Measure Description

This quality measure estimates the average risk-adjusted mean change in *mobility score* between admission and discharge for Medicare Part A residents discharged from a SNF.

2.3.2 Purpose/Rationale for the Quality Measure

As noted above, SNFs provide rehabilitation services to many residents with a goal of improving resident functioning.

2.3.3 Denominator

The denominator is the number of SNF Medicare Part A resident stays (Type 1 SNF Stays), except those that meet the exclusion criteria.[31]

Denominator Exclusions

This quality measure has 7 exclusion criteria:

1. Residents with incomplete stays.

   Rationale: It can be challenging to gather accurate discharge functional status data for residents who experience incomplete stays.

   Residents with incomplete stays include residents who are unexpectedly discharged to an acute care setting (short-stay acute hospital [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 03, acute hospital], inpatient psychiatric facility [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 04, psychiatric hospital], or long-term care hospital [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 09, long term care hospital]); residents who die (A2100, Discharge status = 08, Deceased) or leave a SNF against medical advice (A0310G, Type of assessment = 2, Unplanned discharge); and residents with a length of stay of less than 3 days (A2400C, End date of most recent Medicare stay – A2400B, Start date of most recent Medicare stay <3 Days)

2. Residents who are independent with all mobility activities at the time of admission.

   Rationale: Residents who are independent with all mobility items at the time of admission are assigned the highest score on all mobility items, and thus, would not be able to show functional improvement on this same set of items at discharge.

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[30] This measure is NQF-endorsed for use in the IRF setting (https://www.qualityforum.org/QPS/2633)

[31] Please note that critical access hospital with swing beds are exempt from the SNF PPS and are not required to submit quality data under the SNF QRP by means of the MDS per the requirements set forth by the IMPACT Act.

3. Residents with the following medical conditions: coma; persistent vegetative state; complete tetraplegia; locked-in syndrome; severe anoxic brain damage, cerebral edema, or compression of brain.

   Rationale: These residents are excluded because they may have limited or less predictable improvement with the selected self-care items: Coma/Persistent vegetative state (B0100, Comatose = 1); Complete Tetraplegia (see ICD-10 codes); Locked-in Syndrome (see ICD-10 codes); Severe anoxic brain damage (see ICD-10 codes); Cerebral edema (see ICD-10 codes); Compression of brain (see ICD-10 codes)

4. Residents younger than 21 years.

   Rationale: There is only limited evidence published about functional outcomes for individuals younger than 21 years. (A1600. Entry Date - A0900. Birth Date <21)

5. Residents discharged to hospice or received hospice while a resident. (A2100 = 07 Hospice or O0100K2 (Hospice while a Resident) = [1])

   Rationale: Resident goals may change during the SNF stay.

6. Residents who are not Medicare Part A beneficiaries.

   Rationale: For the SNF QRP, MDS data are submitted for Medicare Part A beneficiaries.

7. Residents who do not receive physical or occupational therapy services (sum of O0400B1, Occupational therapy individual minutes + O0400B2, Occupational therapy concurrent minutes + O0400B3, Occupational therapy group minutes = 0) and (sum of O0400C1, Physical therapy individual minutes + O0400C2, Physical therapy concurrent minutes + O0400C3, Physical therapy group minutes = 0)

   Rationale: The focus of this measure is functional improvement for residents admitted to the SNF with an expectation of functional improvement due to skilled services, including physical and occupational therapy. Some SNF residents may receive skilled care, but not physical or occupational therapy services, and these residents are not included in the measure calculation.

2.3.4 Numerator

The measure does not have a simple form for the numerator. This measure estimates the risk-adjusted change in mobility score between admission and discharge among SNF Medicare Part A residents, except those that meet the exclusion criteria. The change in mobility score is calculated as the difference between the discharge mobility score and the admission mobility score.

2.3.5 Items Included in the Quality Measure

For the quality measure, the following functional activities are assessed at the time of admission and discharge:

Mobility Items

GG0170A. Roll left and right: The ability to roll from lying on back to left and right side, and roll back to back on the bed.

GG0170B. Sit to lying: The ability to move from sitting on side of bed to lying flat on the bed.

GG0170C. Lying to sitting on side of bed: The ability to move from lying on the back to sitting on the side of the bed with feet flat on the floor, no back support.

GG0170D. Sit to stand: The ability to come to a standing position from a position of sitting in a chair, wheelchair or on the side of the bed.

GG0170E. Chair/bed-to-chair transfer: The ability to transfer to and from a chair (or wheelchair).

GG0170F.Toilet transfer: The ability to get on and off a toilet or commode.

GG0170G. Car transfer: The ability to transfer in and out of a car or van on the passenger side. Does not include the ability to open/close door or fasten seat belt.

GG0170I. Walk 10 feet: Once standing, the ability to walk at least 10 feet (3 meters) in room, corridor, or similar space.

GG0170J. Walk 50 feet with two turns: Once standing, the ability to walk 50 feet and make two turns.

GG0170K. Walk 150 feet: Once standing, the ability to walk at least150 feet (45 meters) in corridor or similar space.

GG0170L. Walking 10 feet on uneven surfaces: The ability to walk 10 feet on uneven or sloping surfaces (indoor or outdoor), such as turf or gravel.

GG0170M. 1 step (curb): The ability to step over a curb and/or up and down one step

GG0170N. 4 steps: The ability to go up and down four steps with or without a rail.

GG0170P. 12 steps: The ability to go up and down 12 steps with or without a rail.

GG0170O. Picking up object: The ability to bend/stoop from a standing position to pick up a small object, such as a spoon, from the floor.

Mobility Rating Scale: Codes and Code Definitions

All items are coded using this rating scale:

06. **Independent** – Resident completes the activity by himself/herself with no assistance from a helper.

05. **Setup or clean-up assistance** – Helper sets up or cleans up; resident completes activity. Helper assists only prior to or following the activity.

04. **Supervision or touching assistance** – Helper provides verbal cues and/or touching/ steadying and/or contact guard assistance as resident completes activity. Assistance may be provided throughout the activity or intermittently.

03. **Partial/moderate assistance** – Helper does LESS THAN HALF the effort. Helper lifts, holds, or supports resident's trunk or limbs, but provides less than half the effort.

02. **Substantial/maximal assistance** – Helper does MORE THAN HALF the effort. Helper lifts or holds resident's trunk or limbs and provides more than half the effort.

01. **Dependent** – Helper does ALL of the effort. Resident does none of the effort to complete the task. Or, the assistance of 2 or more helpers is required for the resident to complete the activity.

If the activity was not attempted, code the reason:

07. **Resident refused**

09. **Not applicable**

10. **Not attempted due to environmental limitation**s

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

2.3.6 Risk Adjustment

The risk adjustors used for this finalized quality measure are the following:

- **Age group at SNF admission** (A1600, Entry Date - A0900, Birth Date)
  - Younger than 54 years
  - 55 to 64 years
  - 65 to 74 years (reference category)
  - 75 to 84 years
  - 85 to 90 years
  - 90 years or older
- **Admission mobility function score: continuous score**
- **Admission mobility function score: squared form**
- **Primary medical condition category**
  - Stroke (I0020, Primary medical condition category = 01)
  - Non-traumatic brain dysfunction (I0020, Primary medical condition category = 02) and Traumatic brain dysfunction (I0020, Primary medical condition category = 03)

  - Non-traumatic spinal cord dysfunction (I0020, Primary medical condition category = 04)
  - Traumatic spinal cord dysfunction (I0020, Primary medical condition category = 05)
  - Progressive neurological conditions (I0020, Primary medical condition category = 06)
  - Other neurological conditions (I0020, Primary medical condition category = 07)
  - Amputation (I0020, Primary medical condition category = 08)
  - Hip and knee replacements (reference category) (I0020, Primary medical condition category = 09)
  - Fractures and other multiple trauma (I0020, Primary medical condition category = 10)
  - Other orthopedic conditions (I0020, Primary medical condition category = 11)
  - Debility, cardiorespiratory conditions (I0020, Primary medical condition category = 12)
  - Medically complex conditions (I0020, Primary medical condition category = 13)
  - Other medical conditions (I0020, Primary medical condition category = 14)
- **Interactions of medical condition category and admission mobility score and primary**
- **Prior Surgery: Major surgery during the 100 days prior to the SNF admission**
  - J2000, Prior surgery = 01
- **Prior Functioning: Indoor Mobility (ambulation)**
  - Dependent (GG0100B = 1)
  - Some help (GG0100B = 2)
- **Prior Functioning: Stairs**
  - Dependent (GG0100C = 1)
  - Some help (GG0100C = 2)
- **Prior Functioning: Functional Cognition**
  - Dependent (GG0100D = 1)
- **Prior Device Use:**
  - Walker (GG0110D is checked)
  - Wheelchair/scooter (GG0110A, manual wheelchair is checked or GG0110B, motorized wheelchair and/or scooter is checked)
  - Mechanical lift (GG0110C, mechanical lift is checked)
  - Orthotics/prosthetics (GG0110E, orthotics/prosthetics is checked)

- **Communication Impairment: Ability to express ideas and wants *and* Understanding verbal and non-verbal content**
  - Moderate to severe communication impairment: Rarely/never understands (B0800, Ability to understand others = 3); or sometimes understands (B0800, Ability to understand others = 2); or rarely/never understood (B0700, Makes self understood = 3); or sometimes understood (B0700, Makes self understood = 2);
  - Mild communication impairment: Usually understands (B0800, Ability to understand others = 1) or usually understood (B0700, Makes self understood = 1)
- **Cognitive Abilities: Brief Interview for Mental Status (BIMS) score:**
  - Severely impaired: C0500, BIMS Summary Score $\leq$ 7 or C0900Z, None of the above were recalled is checked or only one of the following is checked: C0900A, C0900B, C0900C, C0900D);
  - Moderately impaired: C0500, BIMS Summary Score = 8, 9, 10, 11, 12 or 2 of the following items are checked: C0900A, C0900B, C0900C, C0900D);
- **Urinary Continence:**
  - Occasionally (H0300, Urinary continence = 1), frequently incontinent (H0300, Urinary continence = 2) or always incontinent: H0300, Urinary continence = 3
- **Bowel Continence:**
  - Occasionally (H0400, Bowel continence = 1) or frequently incontinent (H0400, Bowel continence = 2) or always incontinent (H0400, Bowel continence = 3)
- **Presence of Stage 2 pressure ulcer at admission** (M0300B1, Number of stage 2 pressure ulcers $\geq$ 1)
- **Presence of severe pressure ulcer/injury at admission**
  - Stage 3 (M0300C1, Number of Stage 3 pressure ulcers $\geq$ 1), Stage 4 (M0300D1, Number of Stage 4 pressure ulcers $\geq$ 1) or Unstageable pressure ulcer/injury (M0300E1, Number of unstageable pressure ulcers (due to non-removable dressing) $\geq$ 1 or M0300F1, Number of unstageable pressure ulcers (due to slough and/or eschar) $\geq$ 1 or M0300G1, Number of unstageable pressure ulcers (due to deep tissue injury) $\geq$ 1)
- **Tube feeding** (K0510B1 = 1) **or total parenteral nutrition** (K0510A1 = 1
- **History of Falls: history of one or more falls in the 6 months prior to admission (**J1700A, fall any time in the last month prior to admission/entry or reentry =1 or J1700B, fall any time in the last 2-6 months prior to admission/entry or reentry = 1)
- **Comorbidities (hierarchical condition categories)**
  - Central nervous system (CNS) Infections: Bacterial, Fungal, and Parasitic Central Nervous System Infections; Viral and Late Effects Central Nervous System Infections
  - Other Infectious Diseases (HCC 7)

- Metastatic Cancer and Acute Leukemia
- Lymphoma and Other Cancers
- Other Major Cancers: Colorectal, Bladder, and Other Cancers; Other Respiratory and Heart Neoplasms; Other Digestive and Urinary Neoplasms; Other Neoplasms
- Dementia: Dementia with Complications; Dementia Without Complications
- Mental Health Disorders: Schizophrenia; Major Depressive, Bipolar, and Paranoid Disorders; Reactive and Unspecified Psychosis; Personality Disorders
- Tetraplegia (excluding complete tetraplegia) and paraplegia
- Multiple Sclerosis
- Coronary Atherosclerosis/Other Chronic Ischemic Heart Disease
- Hemiplegia/Other Late Effects of Cerebrovascular Accident: Hemiplegia/Hemiparesis; Late Effects of Cerebrovascular Disease, Except Paralysis
- Aspiration, Bacterial, and Other Pneumonias: Aspiration and Specified Bacterial Pneumonias; Pneumococcal Pneumonia, Empyema, Lung Abscess
- Legally Blind
- Dialysis Status and Chronic Kidney Disease - Stage 5
- Chronic Kidney Disease - Stages 1-4, Unspecified: Chronic Kidney Disease, Severe (Stage 4); Chronic Kidney Disease, Moderate (Stage 3); Chronic Kidney Disease, Mild or Unspecified (Stages 1-2 or Unspecified)
- Major Fracture, Except of Skull, Vertebrae, or Hip
- Amputations: Traumatic Amputations and Complications; Amputation Status, Lower Limb/Amputation Complications; Amputation Status, Upper Limb

2.3.7 Quality Measure Calculation Algorithm

The following steps are used to calculate the measure:

1. Sum the scores of the admission mobility items to create an admission mobility score for each resident, after 'activity not attempted' codes and dashes are recoded to 1 (score range: 15 to 90).
2. Sum the scores of the discharge mobility items to create a discharge mobility score for each resident, after 'activity not attempted' codes and dashes are recoded to 1 (score range: 15 to 90).
3. Using SNF stay records, identify the records of residents who meet the exclusion criteria and exclude them from analyses.
4. Calculate the difference between the admission mobility score (from step 1) and the discharge mobility score (from step 2) for each resident to create a change in mobility score for each resident.

5. Calculate an expected change in mobility score for each resident using the intercept and regression coefficients from national data and each resident's admission characteristics (risk adjustors).
6. Calculate an average observed change in mobility score for each SNF (using the resident data calculated in step 4. This is the facility-level observed change in mobility score.
7. Calculate an average expected change in mobility score for each SNF (using the resident data from step 5. This is the facility-level expected change in mobility score.
8. Calculate the difference between the facility-level observed change score and the facility-level expected change score to create an observed minus expected difference. A value that is 0 indicates the observed score and expected score are equal. A value that is higher than 0 indicates that the observed change score is higher (better) than expected. A value that is less than 0 indicates that the observed change score is lower (worse) than the expected score.
9. Add each SNF´s difference value (from step 8) to the national average change in mobility score. This is the SNF's risk-adjusted mean mobility change score.

2.4 SNF Functional Outcome Measure: Discharge Self-Care Score for Skilled Nursing Facility Residents (NQF #2635)[32]

2.4.1 Measure Description

This finalized quality measure estimates the percentage of SNF residents who meet or exceed an expected discharge self-care score.

2.4.2 Purpose/Rationale for the Quality Measure

As noted above, SNFs provide rehabilitation services to many residents with a goal of improving resident functioning.

2.4.3 Denominator

The denominator is the number of SNF Medicare Part A resident stays (Type 1 SNF Stays), except those that meet the exclusion criteria.[33]

Denominator Exclusions

This quality measure has 6 exclusion criteria:

1. Residents with incomplete stays.

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[32] This measure is NQF-endorsed for use in the IRF setting (https://www.qualityforum.org/QPS/2635)

[33] Please note that critical access hospital with swing beds are exempt from the SNF PPS and are not required to submit quality data under the SNF QRP by means of the MDS per the requirements set forth by the IMPACT Act.

Rationale: It can be challenging to gather accurate discharge functional status data for residents who experience incomplete stays.

Residents with incomplete stays include residents who are unexpectedly discharged to an acute care setting (short-stay acute hospital [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 03, acute hospital], inpatient psychiatric facility [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 04, psychiatric hospital], or long-term care hospital [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 09, long term care hospital]); residents who die (A2100, Discharge status = 08, Deceased) or leave a SNF against medical advice (A0310G, Type of assessment = 2, Unplanned discharge); and residents with a length of stay of less than 3 days (A2400C, End date of most recent Medicare stay – A2400B, Start date of most recent Medicare stay <3 Days)

2. Residents with the following medical conditions: coma; persistent vegetative state; complete tetraplegia; locked-in syndrome; severe anoxic brain damage, cerebral edema, or compression of brain.

   Rationale: These residents are excluded because they may have limited or less predictable improvement with the selected self-care items

   Coma/Persistent vegetative state (B0100, Comatose = 1)

   Complete Tetraplegia (see ICD codes)

   Locked-in Syndrome (see ICD-10 codes)

   Severe anoxic brain damage (see ICD-10 codes)

   Cerebral edema (see ICD-10 codes)

   Compression of brain (see ICD-10 codes)

3. Residents younger than 21 years (A1600. Entry Date - A0900. Birth Date < 21)

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

4. Residents discharged to hospice or received hospice while a resident (A2100 = 07, Hospice or O0100K2 (Hospice while a Resident) = [1].).

   Rationale: Resident goals may change during the SNF stay.

5. Residents who are not Medicare Part A beneficiaries.

   Rationale: For the SNF QRP, MDS data are submitted for Medicare Part A beneficiaries.

6. Residents who do not receive physical or occupational therapy services (sum of O0400B1, Occupational therapy individual minutes + O0400B2, Occupational therapy concurrent minutes + O0400B3, Occupational therapy group minutes = 0) and (sum of O0400C1, Physical therapy individual minutes + O0400C2, Physical therapy concurrent minutes + O0400C3, Physical therapy group minutes = 0).

Rationale: The focus of this measure is functional improvement for residents admitted to the SNF with an expectation of functional improvement due to skilled services, including physical and occupational therapy. Some SNF residents may receive skilled care, but not physical or occupational therapy services, and these residents are not included in the measure calculation.

2.4.4 Numerator

The numerator is the number of Medicare Part A residents in an SNF, except those that meet the exclusion criteria, with a discharge self-care score that is equal to or higher than the calculated expected discharge self-care score.

2.4.5 Items Included in the Quality Measure

The following functional activities are assessed at the time of admission and discharge:

Self-Care Items

GG0130A. Eating: The ability to use suitable utensils to bring food and/or liquid to the mouth and swallow food and /or liquid once the meal is placed before the resident.

GG0130B. Oral hygiene: The ability to use suitable items to clean teeth. Dentures (if applicable): The ability to insert and remove dentures into and from the mouth, and manage denture soaking and rinsing with use of equipment.

GG0130C. Toilet hygiene: The ability to maintain perineal hygiene, adjust clothes before and after voiding or having a bowel movement. If managing an ostomy, include wiping the opening but not managing equipment.

GG0130E. Shower/bathe self: The ability to bathe self, including washing, rinsing, and drying self (excludes washing of back and hair). Does not include transferring in or out of tub/shower.

GG0130F. Upper body dressing: The ability to dress and undress above the waist; including fasteners, if applicable

GG0130G. Lower body dressing: The ability to dress and undress below the waist, including fasteners. Does not include footwear.

GG0130H. Putting on/taking off footwear: The ability to put on and take off socks and shoes or other footwear that are appropriate for safe mobility; including fasteners, if applicable.

Self-Care Rating Scale: Codes and Code Definitions

All items are coded using this rating scale:

06. Independent – Resident completes the activity by himself/herself with no assistance from a helper.

05. **Setup or clean-up assistance** – Helper sets up or cleans up; resident completes activity. Helper assists only prior to or following the activity.

04. **Supervision or touching assistance** – Helper provides verbal cues and/or touching/ steadying and/or contact guard assistance as resident completes activity. Assistance may be provided throughout the activity or intermittently.

03. **Partial/moderate assistance** – Helper does LESS THAN HALF the effort. Helper lifts, holds, or supports resident's trunk or limbs, but provides less than half the effort.

02. **Substantial/maximal assistance** – Helper does MORE THAN HALF the effort. Helper lifts or holds resident's trunk or limbs and provides more than half the effort.

01. **Dependent** – Helper does ALL of the effort. Resident does none of the effort to complete the task. Or, the assistance of 2 or more helpers is required for the resident to complete the activity.

If the activity was not attempted, code the reason:

07. **Resident refused**

09. **Not applicable**

10. **Not attempted due to environmental limitations**

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

2.4.6 Risk Adjustment

The risk adjustors used for this quality measure are the following:

- **Age group at SNF admission** (A1600, Entry Date - A0900, Birth Date)
  - Younger than 54 years
  - 55 to 64 years
  - 65 to 74 years (reference category)
  - 75 to 84 years
  - 85 to 90 years
  - 90 years of age and older
- **Admission self-care function score: continuous form**
- **Admission self-care function score: squared form**
- **Primary medical condition category**
  - Stroke (I0020, Primary medical condition category = 01)
  - Non-traumatic brain dysfunction (I0020, Primary medical condition category = 02) and traumatic brain dysfunction (I0020, Primary medical condition category = 03)

  - Non-traumatic spinal cord dysfunction (I0020, Primary medical condition category = 04)
  - Traumatic spinal cord dysfunction (I0020, Primary medical condition category = 05)
  - Progressive neurological conditions (I0020, Primary medical condition category = 06)
  - Other neurological conditions (I0020, Primary medical condition category = 07)
  - Amputation (I0020, Primary medical condition category = 08)
  - Hip and knee replacement (reference category) (I0020, Primary medical condition category = 09)
  - Fractures and other multiple trauma (I0020, Primary medical condition category = 10)
  - Other orthopedic conditions (I0020, Primary medical condition category = 11)
  - Debility and cardiorespiratory conditions (I0020, Primary medical condition category = 12)
  - Medically complex conditions (I0020, Primary medical condition category = 13)
  - Other medical conditions (I0020, Primary medical condition category = 14)
- **Interactions between primary medical condition category and SNF admission self-care score**
- **Prior Surgery: Major surgery during the 100 days prior to the SNF admission** (J2000, Prior surgery = 1)
- **Prior Functioning: Self-care**
  - Dependent (GG0100A = 1)
  - Some help (GG0100A = 2)
- **Prior Functioning: Indoor ambulation**
  - Dependent or some help (GG0100B = 1 or 2)
- **Prior Device Use**
  - Walker (GG0110D is checked)
  - Wheelchair/scooter (GG0110A, manual wheelchair is checked or GG0110B, motorized wheelchair and/or scooter is checked)
  - Mechanical lift (GG0110C, mechanical lift is checked)
  - Orthotics/prosthetics (GG0110E, orthotics/prosthetics is checked)
- **Presence of Stage 2 pressure ulcer at admission** (M0300B1 $\geq$ 1)
- **Presence of severe pressure ulcer/injury at admission**

- Stage 3 (M0300C1, Number of Stage 3 pressure ulcers ≥ 1), Stage 4 (M0300D1, Number of Stage 3 pressure ulcers ≥ 1) or Unstageable pressure ulcer/injury) (M0300E1, Number of unstageable pressure ulcers (due to non-removable dressing) ≥ 1 or M0300F1, Number of unstageable pressure ulcers (due to slough and/or eschar) ≥ 1 or M0300G1, Number of unstageable pressure ulcers (due to deep tissue injury) ≥ 1)

- **Cognitive Abilities: Brief Interview for Mental Status (BIMS) score**
  - Severely impaired = C0500, BIMS Summary Score ≤ 7 or C0900Z, None of the above were recalled is checked or only one of the following is checked: C0900A, C0900B, C0900C, C0900D)
  - Moderately impaired: C0500, BIMS Summary Score = 8, 9, 10, 11, 12 or 2 of the following are checked: C0900A, C0900B, C0900C, C0900D)

- **Communication Impairment: Ability to express ideas and wants *and* Understanding verbal and non-verbal content**
  - Moderate to severe communication limitations: Rarely/never understands (B0800, Ability to understand others = 3); or sometimes understands (B0800, Ability to understand others = 2); or rarely/never understood (B0700, Makes self understood = 3); or sometimes understood (B0700, Makes self understood = 2)

- **Urinary Continence**
  - Occasionally (H0300, Urinary continence = 1), frequently incontinent (H0300, Urinary continence = 2) or always incontinent: H0300, Urinary continence = 3

- **Bowel Continence**
  - Occasionally (H0400, Bowel continence = 1) or frequently incontinent (H0400, Bowel continence = 2) or always incontinent (H0400, Bowel continence = 3)

- **Tube feeding** (K0510B1 = 1) **or total parenteral nutrition;** K0510A1 =

- **Comorbidities (hierarchical condition categories):**
  - Major Infections: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock; and Other Infectious Diseases
  - Metastatic Cancer and Acute Leukemia
  - Diabetes: Diabetes with Chronic Complications; Diabetes without Complication; Type I Diabetes Mellitus
  - Other Significant Endocrine and Metabolic Disorders
  - Delirium and Encephalopathy
  - Dementia: Dementia with Complications; Dementia Without Complications
  - Tetraplegia (excluding complete tetraplegia) and paraplegia
  - Multiple Sclerosis
  - Parkinson´s and Huntington´s Diseases

- Angina Pectoris
- Coronary Atherosclerosis/Other Chronic Ischemic Heart Disease
- Hemiplegia, Other Late Effects of Cerebrovascular Accident: Hemiplegia/Hemiparesis; Late Effects of Cerebrovascular Disease, Except Paralysis
- Dialysis Status and Chronic Kidney Disease - Stage 5
- Urinary Obstruction and Retention
- Amputations: Traumatic Amputations and Complications; Amputation Status, Lower Limb/Amputation Complications; Amputation Status, Upper Limb

2.4.7 Quality Measure Calculation Algorithm

The following steps are used to calculate the measure:

1. Sum the scores of the discharge self-care items to create a discharge self-care score for each resident, after 'activity not attempted' codes are recoded to 1 (score range: 7 to 42). This is the resident's observed discharge score.
2. Calculate an expected discharge self-care score for each SNF resident using the intercept and regression coefficients from national data and each resident's admission characteristics (risk adjustors). Identify the stay-level records of residents who meet the exclusion criteria and exclude them from analyses.
3. Compare each resident's observed and expected discharge self-care score and classify the difference as
    a. Observed discharge score is equal to or higher than the expected discharge score, or
    b. Observed discharge score is lower than the expected discharge score.
4. Sum the number of residents whose observed discharge score is the same as or higher than the expected discharge score. This is the numerator.
5. The denominator is the total number of residents in the SNF who do not meet the exclusion criteria.
6. The percent is calculated as the numerator divided by the denominator and then multiplied by 100.

2.5 SNF Functional Outcome Measure: Discharge Mobility Score for Skilled Nursing Facility Residents (NQF #2636)[34]

2.5.1 Measure Description

This finalized quality measure estimates the percentage of SNF residents who meet or exceed an expected discharge mobility score.[35]

2.5.2 Purpose/Rationale for the Quality Measure

As noted above, SNFs provide rehabilitation services to many residents with a goal of improving resident functioning.

2.5.3 Denominator

The denominator is the number of SNF Medicare Part A resident stays (Type 1 SNF Stays), except those that meet the exclusion criteria.

Denominator Exclusions

This quality measure has 6 exclusion criteria:

1. Residents with incomplete stays.

   Rationale: It can be challenging to gather accurate discharge functional status data for residents who experience incomplete stays.

   Residents with incomplete stays include residents who are unexpectedly discharged to an acute care setting (short-stay acute hospital [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 03, acute hospital], inpatient psychiatric facility [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 04, psychiatric hospital], or long-term care hospital [A0310G, Type of assessment = 2, Unplanned discharge or A2100, Discharge status = 09, long term care hospital]); residents who die (A2100, Discharge status = 08, Deceased) or leave a SNF against medical advice (A0310G, Type of assessment = 2, Unplanned discharge); and residents with a length of stay of less than 3 days (A2400C, End date of most recent Medicare stay – A2400B, Start date of most recent Medicare stay <3 Days)

2. Residents with the following medical conditions: coma; persistent vegetative state; complete tetraplegia; locked-in syndrome; severe anoxic brain damage, cerebral edema, or compression of brain.

   Rationale: These residents are excluded because they may have limited or less predictable improvement with the selected self-care items

[34] This measure is NQF-endorsed for use in the IRF setting (https://www.qualityforum.org/QPS/2636)

[35] Please note that critical access hospital with swing beds are exempt from the SNF PPS and are not required to submit quality data under the SNF QRP by means of the MDS per the requirements set forth by the IMPACT Act.

Coma/Persistent vegetative state (B0100, Comatose = 1)

Complete Tetraplegia (see ICD-10 codes)

Locked-in Syndrome (see ICD-10 codes)

Severe anoxic brain damage (see ICD-10 codes)

Cerebral edema (see ICD-10 codes)

Compression of brain (see ICD-10 codes)

3. Residents younger than 21 years (A1600. Entry Date - A0900. Birth Date < 21).

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

4. Residents discharged to hospice or received hospice while a resident (A2100 = 07, Hospice or O0100K2 (Hospice while a Resident) = [1]).

   Rationale: Resident goals may change during the SNF stay.

5. Residents who are not Medicare Part A beneficiaries.

   Rationale: For the SNF QRP, MDS data are submitted for Medicare Part A beneficiaries.

6. Residents who do not receive physical or occupational therapy services (sum of O0400B1, Occupational therapy individual minutes + O0400B2, Occupational therapy concurrent minutes + O0400B3, Occupational therapy group minutes = 0) and (sum of O0400C1, Physical therapy individual minutes + O0400C2, Physical therapy concurrent minutes + O0400C3, Physical therapy group minutes = 0).

   Rationale: The focus of this measure is functional improvement for residents admitted to the SNF with an expectation of functional improvement due to skilled services, including physical and occupational therapy. Some SNF residents may receive skilled care, but not physical or occupational therapy services, and these residents are not included in the measure calculation.

2.5.4 Numerator

The numerator is the number of Medicare Part A residents in an SNF, except those that meet the exclusion criteria, with a discharge mobility score that is equal to or higher than a calculated expected discharge mobility score.

2.5.5 Items Included in the Quality Measure

For the quality measure, the following functional activities are assessed at the time of admission and discharge:

Mobility Items

GG0170A. Roll left and right: The ability to roll from lying on back to left and right side, and roll back to back on the bed.

GGO170B. Sit to lying: The ability to move from sitting on side of bed to lying flat on the bed.

GG0170C. Lying to sitting on side of bed: The ability to move from lying on the back to sitting on the side of the bed with feet flat on the floor, no back support.

GG0170D. Sit to stand: The ability to come to a standing position from sitting in a chair, wheelchair or on the side of the bed.

GG0170E. Chair/bed-to-chair transfer: The ability to transfer to and from a chair (or wheelchair).

GG0170F. Toilet transfer: The ability to get on and off a toilet or commode.

GG0170G. Car transfer: The ability to transfer in and out of a car or van on the passenger side. Does not include the ability to open/close door or fasten seat belt.

GG0170I. Walk 10 feet: Once standing, the ability to walk at least 10 feet (3 meters) in room, corridor, or similar space.

GG0170J. Walk 50 feet with two turns: The ability to walk 50 feet and make two turns.

GG0170K. Walk 150 feet (45 m): Once standing, the ability to walk at least150 feet (45 meters) in corridor or similar space.

GG0170L. Walking 10 feet on uneven surfaces: The ability to walk 10 feet on uneven or sloping surfaces (indoor or outdoor), such as turf or gravel.

GG0170M. 1 step (curb): The ability to step over a curb and/or up and down one step.

GG0170N. 4 steps: The ability to go up and down four steps, with or without a rail.

GG0170O. 12 steps: The ability to go up and down 12 steps, with or without a rail.

GG0170P. Picking up object: The ability to bend/stoop from a standing position to pick up a small object, such as a spoon from the floor.

Mobility Rating Scale: Codes and Code Definitions

All items are coded using this rating scale:

06. **Independent** – Resident completes the activity by himself/herself with no assistance from a helper.

05. **Setup or clean-up assistance** – Helper sets up or cleans up; resident completes activity. Helper assists only prior to or following the activity.

04. **Supervision or touching assistance** – Helper provides verbal cues and/or touching/ steadying and/or contact guard assistance as resident completes activity. Assistance may be provided throughout the activity or intermittently.

03. **Partial/moderate assistance** – Helper does LESS THAN HALF the effort. Helper lifts, holds, or supports resident's trunk or limbs, but provides less than half the effort.

02. **Substantial/maximal assistance** – Helper does MORE THAN HALF the effort. Helper lifts or holds resident's trunk or limbs and provides more than half the effort.

01. **Dependent** – Helper does ALL of the effort. Resident does none of the effort to complete the task. Or, the assistance of 2 or more helpers is required for the resident to complete the activity.

If the activity was not attempted, code the reason:

07. **Resident refused**

09. **Not applicable**

10. **Not attempted due to environmental limitations**

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

2.5.6 Risk Adjustment

The risk adjustors used for this finalized quality measure are the following:

- **Age group at SNF admission** (A1600, Entry Date - A0900, Birth Date)
  - Younger than 54 years
  - 55 to 64 years
  - 65 to 74 years (reference category)
  - 75 to 84 years
  - 85 to 90 years
  - > 90 years
- **Admission mobility function score: continuous score**
- **Admission mobility function score: squared form**
- **Primary medical condition category**
  - Stroke (I0020, Primary medical condition category = 01)
  - Non-traumatic brain dysfunction (I0020, Primary medical condition category = 02) and Traumatic brain dysfunction (I0020, Primary medical condition category = 03)
  - Non-traumatic spinal cord dysfunction (I0020, Primary medical condition category = 04)
  - Traumatic spinal cord dysfunction (I0020, Primary medical condition category = 05)

- Progressive neurological conditions (I0020, Primary medical condition category = 06)
- Other neurological conditions (I0020, Primary medical condition category = 07)
- Amputation (I0020, Primary medical condition category = 08)
- Hip and knee replacements (reference category) (I0020, Primary medical condition category = 09)
- Fractures and other multiple trauma (I0020, Primary medical condition category = 10)
- Other orthopedic conditions (I0020, Primary medical condition category = 11)
- Debility, cardiorespiratory conditions (I0020, Primary medical condition category = 12)
- Medically complex conditions (I0020, Primary medical condition category = 13)
- Other medical conditions (I0020, Primary medical condition category = 14)

- **Interactions of medical condition category and admission mobility score and primary**
- **Prior Surgery: Major surgery during the 100 days prior to the SNF admission**
  - J2000, Prior surgery = 01
- **Prior Functioning: Indoor Mobility (ambulation)**
  - Dependent (GG0100B = 1)
  - Some help (GG0100B = 2)
- **Prior Functioning: Stairs**
  - Dependent (GG0100C = 1)
  - Some help (GG0100C = 2)
- **Prior Functioning: Functional Cognition**
  - Dependent (GG0100D = 1)
- **Prior Device Use:**
  - Walker (GG0110D is checked)
  - Wheelchair/scooter (GG0110A, manual wheelchair is checked or GG0110B, motorized wheelchair and/or scooter is checked)
  - Mechanical lift Yes (GG0110C, mechanical lift is checked)
  - Orthotics/prosthetics (GG0110E, orthotics/prosthetics is checked)
- **Communication Impairment: Ability to express ideas and wants *and* Understanding verbal and non-verbal content**
  - Moderate to severe communication impairment: Rarely/never understands (B0800, Ability to understand others = 3); or sometimes understands (B0800,

Ability to understand others = 2); or rarely/never understood (B0700, Makes self understood = 3); or sometimes understood (B0700, Makes self understood = 2);

  - Mild communication impairment: Usually understands (B0800, Ability to understand others = 1) or usually understood (B0700, Makes self understood = 1)

- **Cognitive Abilities: Brief Interview for Mental Status (BIMS) score:**
  - Severely impaired = C0500, BIMS Summary Score $\leq$ 7 or C0900Z, None of the above were recalled is checked or only one of the following is checked: C0900A, C0900B, C0900C, C0900D);
  - Moderately impaired: C0500, BIMS Summary Score = 8, 9, 10, 11, 12 or 2 of the following are checked: C0900A, C0900B, C0900C, C0900D);
- **Urinary Continence:**
  - Occasionally (H0300, Urinary continence = 1), frequently incontinent (H0300, Urinary continence = 2) or always incontinent: H0300, Urinary continence = 3
- **Bowel Continence:**
  - Occasionally (H0400, Bowel continence = 1) or frequently incontinent (H0400, Bowel continence = 2) or always incontinent: (H0400, Bowel continence = 3)
- **Presence of Stage 2 pressure ulcer at admission** (M0300B1, Number of stage 2 pressure ulcers $\geq$ 1)
- **Presence of severe pressure ulcer/injury at admission**
  - Stage 3 (M0300C1, Number of Stage 3 pressure ulcers $\geq$ 1), Stage 4 (M0300D1, Number of Stage 4 pressure ulcers $\geq$ 1) or Unstageable pressure ulcer/injury) (M0300E1, Number of unstageable pressure ulcers (due to non-removable dressing) $\geq$ 1 or M0300F1, Number of unstageable pressure ulcers (due to slough and/or eschar) $\geq$ 1 or M0300G1, Number of these unstageable pressure ulcers (due to deep tissue injury) $\geq$ 1)
- **Tube feeding** (K0510B1 = 1) **or total parenteral nutrition** (K0510A1 = 1)
- **History of Falls: history of one or more falls in the 6 months prior to admission (**J1700A, fall any time in the last month prior to admission/entry or reentry =1 or J1700B, fall any time in the last 2-6 months prior to admission/entry or reentry = 1)
- **Comorbidities (hierarchical condition categories)**
  - Central nervous system (CNS) Infections: Bacterial, Fungal, and Parasitic Central Nervous System Infections; Viral and Late Effects Central Nervous System Infections
  - Other Infectious Diseases (HCC 7)
  - Metastatic Cancer and Acute Leukemia
  - Lymphoma and Other Cancers
  - Other Major Cancers: Colorectal, Bladder, and Other Cancers; Other Respiratory and Heart Neoplasms; Other Digestive and Urinary Neoplasms; Other Neoplasms

- Dementia: Dementia with Complications; Dementia Without Complications
- Mental Health Disorders: Schizophrenia; Major Depressive, Bipolar, and Paranoid Disorders; Reactive and Unspecified Psychosis; Personality Disorders
- Tetraplegia (excluding complete tetraplegia) and paraplegia
- Multiple Sclerosis
- Coronary Atherosclerosis/Other Chronic Ischemic Heart Disease
- Hemiplegia/Other Late Effects of Cerebrovascular Accident: Hemiplegia/Hemiparesis; Late Effects of Cerebrovascular Disease, Except Paralysis
- Aspiration, Bacterial, and Other Pneumonias: Aspiration and Specified Bacterial Pneumonias; Pneumococcal Pneumonia, Empyema, Lung Abscess
- Legally Blind
- Dialysis Status and Chronic Kidney Disease - Stage 5
- Chronic Kidney Disease - Stages 1-4, Unspecified: Chronic Kidney Disease, Severe (Stage 4); Chronic Kidney Disease, Moderate (Stage 3); Chronic Kidney Disease, Mild or Unspecified (Stages 1-2 or Unspecified)
- Major Fracture, Except of Skull, Vertebrae, or Hip
- Amputations: Traumatic Amputations and Complications; Amputation Status, Lower Limb/Amputation Complications; Amputation Status, Upper Limb

2.5.7 Quality Measure Calculation Algorithm

The following steps are used to calculate the measure:

1. Sum the scores of the discharge mobility items to create a discharge mobility score for each resident, after 'activity not attempted' values are recoded to 1 (score range: 15 to 90). This is the resident's observed discharge score.
2. Calculate an expected discharge mobility score for each SNF resident using the intercept and regression coefficients from national data and each resident's admission characteristics (risk adjustors).
3. Identify the stay-level records of residents who meet the exclusion criteria and exclude them from analyses.
4. Compare each resident's observed and expected discharge mobility score and classify the difference as
    a. Observed discharge score is equal to or higher than the expected discharge score, or
    b. Observed discharge score is lower than the expected discharge score.
5. Sum the number of residents whose observed discharge score is the same as or higher than the expected discharge score. This is the numerator.

6. The denominator is the total number of residents in the SNF who do not meet the exclusion criteria.

The percent is calculated as the numerator divided by the denominator and then multiplied by 100.

APPENDIX A:
SELF-CARE AND MOBILITY ITEMS INCLUDED IN SECTION GG OF THE IRF-PAI, MDS 3.0, LTCH CARE DATA SET, OASIS-D

Table A-1 lists the function items included in Section GG of the IRF-PAI version 2.0 (effective October 1, 2018), MDS 3.0 Version 1.16.0 (effective Oct 1, 2018), LTCH CARE Data Set version 4.00 (effective July 1, 2018), and OASIS-D (effective January 1, 2019).

Table A-1
Self-Care and Mobility Data Elements Included in Section GG of the Post-Acute Care Item Sets (2018/2019)

Data Element Identifier	Data Element Label	Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF-PAI) Version 2.0 Oct 2018	Minimum Data Set (MDS) 3.0 Version 1.16.0 Oct 2018	Long-Term Care Hospital CARE Data Set Version 4.00 July 2018	Outcome and Assessment Information Set (OASIS-D) Jan 2019
SELF-CARE GG0130					
GG0130A*	Eating	✓	✓	✓	✓
GG0130B*	Oral hygiene	✓	✓	✓	✓
GG0130C*	Toileting hygiene	✓	✓	✓	✓
GG0130D	Wash upper body	—	—	✓	—
GG0130E	Shower/bathe self	✓	✓	—	✓
GG0130F	Upper body dressing	✓	✓	—	✓
GG0130G	Lower body dressing	✓	✓	—	✓
GG0130H	Putting on/taking off footwear	✓	✓	—	✓
MOBILITY GG0170					
GG0170A	Roll left and right	✓	✓	✓	✓
GG0170B*	Sit to lying	✓	✓	✓	✓
GG0170C*	Lying to sitting on side of bed	✓	✓	✓	✓
GG0170D*	Sit to stand	✓	✓	✓	✓
GG0170E*	Chair/bed-to-chair transfer	✓	✓	✓	✓
GG0170F*	Toilet transfer	✓	✓	✓	✓
GG0170G	Car transfer	✓	✓	—	✓

(continued)

Table A-1 (continued)
Self-Care and Mobility Data Elements Included in Section GG of the Post-Acute Care Item Sets (2018/2019)

Data Element Identifier	Data Element Label	Inpatient Rehabilitation Facility Patient Assessment Instrument (IRF-PAI) Version 2.0 Oct 2018	Minimum Data Set (MDS) 3.0 Version 1.16.0 Oct 2018	Long-Term Care Hospital CARE Data Set Version 4.00 July 2018	Outcome and Assessment Information Set (OASIS-D) Jan 2019
GG0170I*	Walk 10 feet	✓	✓	✓	✓
GG0170J*	Walk 50 feet with two turns	✓	✓	✓	✓
GG0170K*	Walk 150 feet	✓	✓	✓	✓
GG0170L	Walking 10 feet on uneven surface	✓	✓	—	✓
GG0170M	1 step (curb)	✓	✓	—	✓
GG0170N	4 steps	✓	✓	—	✓
GG0170O	12 steps	✓	✓	—	✓
GG0170P	Picking up object	✓	✓	—	✓
GG0170Q	Does the patient/resident use a wheelchair and/or scooter?	✓	✓	✓	✓
GG0170R*	Wheel 50 feet with two turns	✓	✓	✓	✓
GG0170RR*	Indicate the type of wheelchair or scooter used.	✓	✓	✓	✓
GG0170S*	Wheel 150 feet	✓	✓	✓	✓
GG0170SS*	Indicate the type of wheelchair or scooter used.	✓	✓	✓	✓

Notes:

✓ = Data element is included in the item set.

— = Data element is not included in the item set

* Data elements included in the cross-setting function quality measure, Application of Percent of Long-Term Care Hospital Patients with an Admission and Discharge Functional Assessment and a Care Plan that Addresses Function (NQF #2631)

APPENDIX B:
RELIABILITY AND VALIDITY TESTING

B.1 Overview of Reliability and Validity Testing

The functional assessment items used in the functional status quality measures are from the Continuity Assessment Record and Evaluation (CARE) Item Set. The CARE Item Set, now called Section GG on the assessments instruments, was designed to standardize assessment of patients' status across acute and post-acute settings, including Inpatient Rehabilitation Facilities (IRFs), Long-Term Care Hospitals (LTCHs), Skilled Nursing Facilities (SNFs), and Home Health Agencies (HHAs). The functional status items on Section GG are daily activities that clinicians assess at the time of admission and/or at discharge to determine patients' needs, evaluate progress, and prepare for a transition home or another setting.

The goal of reliability testing is to ensure that items on an assessment obtain consistent results when administered or used by different clinicians. Validity testing examines whether an item or scale measures what it is intended to measure. The functional status items underwent reliability testing at the item- and scale-level in multiple types of providers in conjunction with the Post-Acute Care Payment Reform Demonstration. Item-level testing included inter-rater reliability testing within facilities and the use of videotaped standardized patients for inter-rater reliability testing across facilities/care settings. Additional testing focused on the items and scales and included internal consistency, factor analysis, and Rasch analysis. A brief summary of this testing is provided below; full reports describing the testing are available at http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Post-Acute-Care-Quality-Initiatives/CARE-Item-Set-and-B-CARE.html.

B.2 Traditional Inter-rater Reliability Study

The reliability of the functional items was tested in a subset of 34 providers from each of the five levels of care (acute hospitals, HHAs, IRFs, LTCHs, and SNFs) distributed across 11 geographic areas. Each provider completed a duplicate CARE Item Set (admission or discharge assessment) on 15–20 patients included in the Post-Acute Care Payment Reform Demonstration (10–15 patients in the home health setting), in accordance with the guidelines and protocols.

Providers were asked to enroll a convenience sample of a set number of Medicare patients each month, representing a range of function and acuity. The overall patient sample size for each of the functional items was 450 for self-care items and 449 for mobility items (448 for transfers). After exclusions for missing data (unknown/not attempted/inapplicable), the effective sample sizes for the reliability testing were as follows:

- Eating: 401
- Oral hygiene: 414
- Toilet hygiene: 416
- Upper body dressing: 420
- Lower body dressing: 413
- Lying to sitting on the side of the bed: 412

- Sitting to standing: 387
- Chair/bed to chair transfer: 392
- Toilet transfer: 361
- Walk 150 feet: 68
- Walk once standing: 52
- Wheel in room: 46

The inter-rater reliability study included patients who were assessed by two different clinicians (raters), and the agreement of the clinicians' rating was calculated. Clinicians were instructed to have pairs of raters complete both patient assessments at the same time. Responses to items were obtained by direct observation of the patient by the clinician, and occasionally, supplemented by one or more of the following predetermined, matched methods: patient interviews (with each team member taking turns conducting and observing patient interviews); interviews with relatives/caregivers of the patient for certain items; and/or interviews with staff caring for the patient and/or chart review. Rater pairs were instructed to determine in advance which methods would be used to score the particular CARE items and to have both raters use the same methods. Raters were encouraged to divide hands-on assistance to the patient as evenly as possible for items that required hands-on assistance. Raters were instructed not to discuss item scoring during the assessment, nor to share item scores until the data were entered into the study database and finalized. Providers submitted data via the online CARE application for both assessments in each pair.

For categorical items, kappa statistics (kappa) indicate the level of agreement between raters using ordinal data, taking into account the role of chance agreement. The ranges commonly used to judge reliability based on kappa are as follows: ≤ 0 = poor; 0.01–0.20 = slight; 0.21–0.40 = fair; 0.41–0.60 = moderate; 0.61–0.80 = substantial; and 0.81–1.00 = almost perfect.

For categorical items with only two responses available, RTI International calculated only unweighted kappas. For items with more than two responses, RTI calculated both weighted and unweighted kappas. Unweighted kappa assumes the same "distance" between every one-unit difference in response across an ordinal scale. RTI used Fleiss-Cohen weights, or quadratic weights, which approximate the intra-class correlation coefficient and are commonly used for calculating weighted kappas. This choice of weighting is consistent with prior analyses of assessment reliability, where the method for developing weights was specified.[36,37] Fleiss-Cohen weights put lower emphasis on disagreements between responses that fall near each other on an item scale. It should also be noted that the value of kappa can be influenced by the prevalence of the outcome or characteristic being measured. If the outcome or characteristic is rare, the kappa will be low because kappa attributes the majority of agreement among raters to chance. Kappa is also influenced by bias, and if the effective sample size is small, variation may play a role in the

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[36] Hirdes JP, Smith TF, Rabinowitz T, et al. The Resident Assessment Instrument-Mental Health (RAI-MH): inter-rater reliability and convergent validity. *J Behav Health Serv Res.* 29(4):419-432, 2002

[37] Streiner DL, Norman GR. Health measurement scales: a practical guide to their development and use. *Oxford University Press*, 1995.

results. Hence, we report both weighted and unweighted kappas to give the range of agreement found under the two sets of assumptions.

Additionally, RTI calculated a separate set of kappa statistics (unweighted and weighted, where applicable) for items where additional responses outside of an ordinal scale were available (letter codes) and were set to missing.

For the traditional reliability study, kappa statistics indicated substantial agreement among raters. The weighted kappa values for the self-care items range between 0.798 for eating to 0.869 for upper-body dressing. Unweighted kappas ranged from 0.598 for oral hygiene to 0.634 for upper-body dressing. Provider-specific analyses of core self-care items show similar agreement to the overall estimates. The lower-body dressing item had the highest overall weighted kappa (0.855), whereas the eating item had the lowest (0.798). Unweighted overall kappas ranged from 0.636 (toileting) to 0.598 (oral hygiene). Acute hospitals had the highest weighted kappas across all self-care items.

The weighted kappa values for the mobility items ranged between 0.558 for walk 150 feet to 0.901 for sitting to standing and chair/bed to chair transfer. Unweighted kappas ranged from 0.667 for walk once standing to 0.762 for sit to stand. Provider-specific analyses of core mobility items show similar agreement to the overall estimates. The sit-to-stand and chair transfer items both had a weighted kappa of 0.901, whereas the lying to sitting item had a weighted kappa of 0.855. Unweighted overall kappas ranged from 0.693 (lying to sitting) to 0.762 (sitting to standing).

B.3 Videotaped Standardized Patients Reliability Study

For the video reliability study, which was designed to examine the level of clinician agreement across care settings, clinicians in each setting were asked to assess "standardized" patients presented through a videotape of a patient assessment. This ensured that the same information was presented to each clinician and allowed examination of differences in scoring effects among different clinicians examining the "same" patient.

The patient "case studies" in each of the videos varied in terms of medical complexity, functional abilities, and cognitive impairments. The nine videos included patients classified as high, medium, or low ability/complexity for each of these three areas. Each facility or agency received three videos, one of which demonstrated one of the following elements: cognitive impairments, skin integrity problems, a wheelchair-dependent patient, and a variety of mid-level functional activities. The mid-level functional activities were considered to be the most challenging for clinicians to score and are thus of particular interest in establishing reliability. Each clinician involved in the video study watched three videos and assessed the patients according to the study guidelines and protocols. Each video was approximately 20 minutes long and had a corresponding item set arranged in the sequence in which the items appeared in the video.

The sample included 28 providers (550 assessments), which included 3 acute hospitals (15 assessments [3%]); 9 HHAs (118 assessments [22%]); 8 IRFs (237 assessments [43%]); 3 LTCHs (114 assessments [21%]); and 5 SNFs (66 assessments [12%]). Participating providers included case managers (6% of assessments), occupational therapists (14% of assessments),

physical therapists (21% of assessments), registered nurses (47% of assessments), speech therapists (5% of assessments), and others, mostly licensed practical nurses (LPNs; 8% of assessments).

Two main analytic approaches were used for assessing the video reliability of the CARE items, adhering closely to the methods used by Fricke et al.[38] in their video reliability study of the FIM®[39] instrument. First, percent agreement with the mode response was calculated for each CARE item included in at least one of the nine videos. Unlike the approach used by Fricke et al., RTI did not consider agreement at one response level above and below the mode, and instead used a stricter approach looking at direct modal agreement only. In the second approach, percent agreement with the internal clinical team's consensus response was also calculated. This second measure not only gives an indication of item reliability, but also reflects training consistency for the providers.

The video reliability study indicated substantial agreement with the mode and clinical team among all items, typically upwards of 70%. The notable exception to this trend exists among the clinicians in the "Other" category (mostly LPNs); they consistently had the lowest levels of agreement among all core self-care items, ranging from 50 to 72%. For the toileting and dressing items, the agreement with the clinical team was lower than with the mode. This occurred because the clinical team response differed from the mode for these three items in either one or two videos. Nonetheless, because the clinical team response and mode were identical on most of the videos, agreement was still quite high for these items. In general, study clinicians had responses on average that agreed with the expert clinical team or were slightly lower.

The video reliability study indicated substantial agreement with the mode and clinical team for the lying-to-sitting, sit-to-stand, chair/bed to chair transfer, and toilet transfer items (greater than 76%). Although rates of agreement with the mode and clinical team response were generally identical, for the toilet transfer item, the clinical team agreement is slightly lower. The items for walking and wheeling distances showed more variable levels of agreement across disciplines, with overall agreement generally in the moderate range (50–78%). For the Walk In Room item, there was a notable decrease in the agreement with the clinical team compared to agreement with the mode. This occurred because in two of the four videos where this item was assessed, the clinical team response differed from the mode.

B.4 Scale-level Reliability Results: Internal Consistency

In addition to item-level reliability testing, we examined internal consistency, which provides a general assessment of how well the items interrelate within a domain or subscale. Internal consistency is assessed using the Cronbach's alpha coefficient, which is the average correlation of all possible half-scale divisions. Cronbach's alpha is a statistic frequently assessed when instrument or scale psychometrics are published. The Cronbach's alpha reliability estimate ranges from zero to one, with an estimate of zero indicating that there is no consistency of measurement among the items, and one indicating perfect consistency. Many cutoff criteria exist

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[38] Fricke J, Unsworth C, Worrell D. Reliability of the Functional Independence Measure with Occupational Therapists. *Australian Occupational Therapy Journal* 40(1):7-15, 1993.

[39] FIM® is a trademark of Uniform Data System for Medical Rehabilitation, a division of UB Foundation Activities, Inc.

to determine whether or not a scale shows good consistency or whether the items "hang together" well. General consensus is that Cronbach's alpha should be at least 0.70 for an adequate scale for group-level decisions, and alphas closer to 1 indicate a good scale.[40]

Assessments of individual self-care and mobility subscales at both admission and discharge tend to show good reliability statistics (Cronbach's Alpha of at least 0.80) within their specified subscales. Reliability estimates by provider type show that the functional status items maintain a very high internal consistency. In addition, no one provider type appears to have reliability estimates higher or lower than the rest, indicating similarity of CARE usage with respect to internal consistency.

The following table shows the findings from the Cronbach's alpha internal consistency evaluation mentioned above.

Table B-1
CARE functional status internal consistency reliability summary by provider type

CARE analytic set	Overall alpha	HHA alpha	SNF alpha	IRF alpha	LTCH alpha
Self-Care	0.96	0.94	0.95	0.95	0.96
Mobility	0.96	0.94	0.95	0.96	0.97

B.5 Scale-level Reliability and Validity Testing: Rasch Analysis

Because we are measuring a latent trait—a concept that is not measured directly, but that relies on activities that can be directly observed—we used the one-parameter Rasch model to gain a better understanding of the functional status activities. More specifically, we examined the order of functional status items (from least challenging to most challenging) that characterize the concepts of the self-care and mobility.

Rasch analysis uses the scores from the functional assessment items to create the equivalent of a functional status "ruler" (i.e., scale). Rasch analysis uses the available data to estimate a person's location along the "ruler;" therefore, analyses can be conducted if some data are missing. Rasch analysis can also inform the optimal selection of key items in order to construct functional status scales that sufficiently span an entire range of patient functioning, so that both the least able and most able (lowest- and highest-functioning) patients are adequately measured. In addition, Rasch analysis can indicate where items overlap or are redundant in terms of the level of function they capture.

[40] Aron A, Aron EN *Statistics for Psychology*. 2nd ed. Upper Saddle River, NJ: Prentice Hall, 1999.

Rasch analysis has been used to examine the FIM® instrument,[41,42,43,44] the Minimum Data Set (MDS),[45] and the Outcome and Assessment Information Set (OASIS).[46] Rasch analysis has also been used to examine the extent to which existing functional assessment instruments (e.g., the FIM® instrument, MDS 2.0) capture the same construct.[47]

Rasch measurement is based on a probabilistic model that describes the association between a person's underlying ability level and probability of a particular item response, and summarizes a patient's position along a "ruler" that represents a latent trait or concept (e.g., self-care or mobility).[48] In essence, the Rasch analysis creates a ruler based on the domain measured (e.g., mobility) that can be used to assess the abilities of the patients. The analysis also provides information on the hierarchy of item difficulty (from easy to hard) that can be used to evaluate the construct validity of a set of items. In addition, the Rasch analysis provides information about the level of challenge associated with each item rating scale ("dependent" through "independent"). For example, an item with a low difficulty estimate (e.g., eating) would be more likely to be completed with little or no help by patient's items that are more challenging (e.g., 12 steps), where most patients would find completing this activity challenging. Finally, the Rasch analysis can provide information on items that do not fit into the single theorized concept through "item misfit" statistics, which may indicate that the item needs further evaluation before it is included on future administrations of the subscale. The infit mean square is an indicator of the degree to which patient responses are similar to what would be expected (i.e., predicted) by the measurement model. The acceptable range is generally 0.6 to 1.4. If the item values are above this range, it reflects that person response patterns are erratic, generally suggesting that the item is not measuring the same construct as other items. Infit mean squares above 1.4 are considered to be unacceptably unexpected[49] and indicate that the item most likely does not reflect the same construct as the other items included in the scale; for example, a need for assistance with self-care.

RTI used Rasch analysis to examine the extent to which the items worked together to define a coherent concept. This was conducted separately for the self-care and mobility items.

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41 Granger CV, Hamilton BB, Linacre JM, et al. Performance profiles of the functional independence measure. *Am J Phys Med Rehabil.* 72(2):84-89, 1993.

42 Linacre JM, Heinemann AW, Wright BD, et al. The structure and stability of the Functional Independence Measure. Archives of Physical Medicine & Rehabilitation.75(2):127-132, 1994

43 Wright BD, Linacre JM, Smith RM, et al. FIM measurement properties and Rasch model details. Scandinavian Journal of Rehabilitation Medicine, 29(4):267-272, Dec. 1997.

44 Heinemann AW, Linacre JM, Wright BD, et al. Relationships between impairment and physical disability as measured by the functional independence measure. Arch Phys Med Rehabil. 74(6):566-573, 1993.

45 Wang YC, Byers KL, Velozo CA. Rasch analysis of Minimum Data Set mandated in skilled nursing facilities. J Rehabil Res Dev. 45(9):1385-1399, 2008.

46 Fortinsky RH, Garcia RI, Joseph Sheehan T, et al. Measuring disability in Medicare home care patients: application of Rasch modeling to the outcome and assessment information set. Med Care. 41(5):601-615, 2001.

47 Velozo CA, Byers KL, Wang YC, et al. Translating measures across the continuum of care: using Rasch analysis to create a crosswalk between the Functional Independence Measure and the Minimum Data Set. J Rehabil Res Dev. 44(3):467-478, 2007.

48 Wright BD, Stone MH. Best Test Design. Rasch Measurement. 1979.

49 Wright BD, Linacre JM, Gustafson J, et al. Reasonable mean-square fit values. Rasch Measurement Transactions. 8(3):370, 1994.

Item fit statistics were examined as an indication of how well all items work together to describe the overall construct (self-care or mobility). The Rasch analysis provides insight into how the items work together as a subscale, including the hierarchy of item difficulty (ordering from easy to difficult) and item fit to the model.

Examinations of these Rasch analysis results reveal that the mobility and self-care item hierarchies make sense clinically and that the operational definitions of the constructs maintain general stability from admission to discharge. Some items have fit statistics outside the acceptable range (e.g., pick up object from floor), but members of the Technical Expert Panel noted that this is an important assessment given the risk of falls.

RTI examined how well the items selected measure the persons in the data set for both self-care and mobility items. RTI examined the extent to which person response patterns fit the assumptions of the measurement model using the same range of infit statistics identified above. RTI examined the extent to which persons are effectively measured (ceiling and floor effects) in each setting overall and for admission and discharge time points. The mobility and self-care items were found to be well targeted to the range of patient ability sampled within this post-acute care population.

RTI established that the six steps of the CARE rating scale are operating as intended, both overall and for individual items on the self-care and mobility subscales. The probability that a person will be scored on a particular rating scale step varies depending on the functional ability of the person. That is, very able people will be more likely to be scored as '5' and '6' than as '1' and '2.' Looking empirically at these distributions, one should see the transitions from one step to the next (called thresholds) proceed monotonically and distinctly across the range of person abilities. In other words, there should always be some point along the range at which each rating-scale step is more probable than another step. When a rating-scale step is not more probable at any point, it suggests that raters are not able to use that step to consistently distinguish patient ability at that level.