



Inpatient Rehabilitation Facility Quality Reporting Program Measure Calculations and Reporting User's Manual

Version 3.0

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INPATIENT REHABILITATION FACILITY QUALITY REPORTING PROGRAM MEASURE CALCULATIONS AND REPORTING USER'S MANUAL

VERSION 3.0

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Chapter 1

Inpatient Rehabilitation Facility Quality Reporting Program Measure Calculations and Reporting User's Manual Organization and Definitions

The purpose of this manual is to present the methods used to calculate quality measures that are included in the Centers for Medicare & Medicaid Services (CMS) Inpatient Rehabilitation Facility (IRF) Quality Reporting Program (QRP). Quality measures are tools that help measure or quantify healthcare processes, outcomes, patient or resident perceptions and organizational structure/systems that are associated with the ability to provide high-quality services related to one or more quality goals.¹ This manual provides detailed information for each quality measure, including quality measure definitions, inclusion and exclusion criteria and measure calculation specifications. An overview of the IRF QRP and additional information pertaining to public reporting is publicly available and can be accessed through the [IRF QRP website](https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures/index.html?redirect=/qualitymeasures/).² The next section outlines the organization of the manual and provides an overview of the information found in each section.

Section 1.1: Organization

This manual is organized by chapter and each chapter contains sections that provide additional details. **Chapter 1** presents the purpose of the manual, explaining how the manual is organized and defining key terms that are used throughout subsequent chapters. The remaining chapters are organized by quality measure and provide detailed information about measure specifications and reporting components. **Chapters 2 and 3** identify the Centers for Disease Control and Prevention's (CDC) National Healthcare Safety Network Measures (NHSN) quality measures and the claims-based measures, respectively. The quality measures that rely on IRF-Patient Assessment Instrument (PAI) are presented in **Chapter 4** and record selection criteria is explained for each measure. **Chapter 5** describes the two Certification and Survey Provider Enhanced Reports (CASPER) data reports for the IRF-PAI quality measures, consisting of the CASPER Review and Correct Reports and the CASPER Quality Measure (QM) Reports. The CASPER Review and Correct Reports is a single report that contains facility-level quarterly and cumulative rates and its associated patient-level data. The CASPER QM Reports are comprised of two report types, one containing facility-level measure information and a second that includes patient-level data for a selected reporting period. Following the discussion of quality measure specifications for each report, information is presented in table format to illustrate the report

¹ Centers for Medicare & Medicaid Services. (February 2016). Quality Measures. Accessed on January 25, 2017. Available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityMeasures/index.html?redirect=/qualitymeasures/>

² The IRF QRP website can be found at the following link: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/index.html>

calculation month, reporting quarters and the months of data that are included in each monthly report. The chapter concludes with the transition from IRF-PAI v1.5 to IRF-PAI v2.0. Data collection for IRF-PAI v2.0 begins on October 1, 2018 and will impact certain quality measure specifications. **Chapter 6** presents the measure calculation methodology specific to the IRF-PAI quality measures and **Chapter 7** provides the measure logical specifications for each of the quality measures within the IRF-PAI, in table format. Lastly, **Appendix A** and the associated Risk Adjustment Appendix File includes the intercept and covariate coefficients values that are used to calculate the assessment-based (IRF-PAI) risk-adjusted measures.

Section 1.2: IRF Stay Definitions

Patient Stay-Level Record: A patient stay-level record is an IRF-PAI record, which includes both admission and discharge data and reflects an IRF stay.

Stay: The period of time between a patient’s admission date into an IRF and date of discharge from the IRF.

Target date: The target date for an assessment is the discharge date (Item 40).

Target period: The span of time that defines the measure reporting period (e.g., a calendar year for the quality measure Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) [NQF#0678]).

Sort order: The patients’ assessment records included in the target period must be sorted by the following variables in the following order:

- Provider Internal ID
- Patient Internal ID
- Discharge Date (descending): This will result in assessment records appearing in reverse chronological order so that the most recent assessment records appear first.

Section 1.3: Measure-Specific Definitions

- **Influenza Season:** The influenza season begins on July 1 of a given year and ends on June 30 of the subsequent year (e.g., July 1, 2017 through June 30, 2018 for the 2017-2018 influenza season).³
- **Influenza Vaccination Season:** The influenza vaccination season begins on October 1 of a given year and ends on March 31 of the subsequent year (e.g., October 1, 2017 through March 31, 2018 for the 2017-2018 influenza vaccination season).

³ This definition is applicable to the following measures: Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680) (CMS ID: I002.01); Percent of Residents or Patients Who Received the Seasonal Influenza Vaccine (Short Stay) (NQF #0680a) (CMS ID: I003.01); Percent of Residents or Patients Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay) (NQF #0680b) (CMS ID: I004.01); Percent of Residents or Patients Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Short Stay) (NQF #0680c) (CMS ID: I005.01).

- **Incomplete Stay:** Incomplete patient stays are defined for the function measures. We refer readers to **Chapter 6** to review the measure specifications to determine what is considered an incomplete stay for each measure, as applicable.
- **Complete Stay:** Complete patient stays are identified as patient stays that are not incomplete for the function measures. All patients not meeting the criteria for incomplete stays will be considered complete stays.

[Table 1-1](#) below provides a list of the assessment-based measures included in the IRF QRP and the corresponding reference name for each measure.

Table 1-1
Assessment-Based Quality Measure (IRF-PAI) References

Quality Measure	NQF #	CMS ID	Measure Reference Name
Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) ⁴	0678	I001.02	Pressure Ulcers
Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury	n/a	I022.01	Pressure Ulcer/Injury
Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay) ⁵	0674	I013.01	Application of Falls
Application of Percent of Long-Term Care Hospital (LTCH) Patients with an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function ⁶	2631	I008.02	Application of Functional Assessment
IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients	2633	I009.02	Change in Self-Care
IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients	2634	I010.02	Change in Mobility

(continued)

⁴ This measure is NQF-endorsed for use in the IRF setting (<http://www.qualityforum.org/QPS/0678>) (in addition to being endorsed for use in the Long-Term Care Hospital and Skilled Nursing Facility/Nursing Home (SNF/NH) settings) and finalized for reporting by IRFs under the IRF QRP (*Federal Register* 78 (6 August 2013): 47903-47919. Web. <http://www.gpo.gov/fdsys/pkg/FR-2013-08-06/pdf/2013-18770.pdf> and *Federal Register* 79 (6 August 2014): 45908-45918. Web. <http://www.gpo.gov/fdsys/pkg/FR-2014-08-06/pdf/2014-18447.pdf>. The use of the words “resident” and “short stay” in the title of this measure refers to the use of this measure in the SNF/NH setting. CMS’s use of these words does not imply that the IRF patient is a “resident” or that a stay in an IRF is a “short stay.”

⁵ This measure is NQF-endorsed for long-stay residents in nursing homes (<http://www.qualityforum.org/QPS/0674>) and an application of this quality measure is finalized for reporting by IRFs under the IRF QRP (*Federal Register* 80 (6 August 2015): 47096-47100). Web. <https://www.gpo.gov/fdsys/pkg/FR-2015-08-06/pdf/2015-18973.pdf>

⁶ This measure is NQF-endorsed for use in the LTCH setting (<http://www.qualityforum.org/QPS/2631>) and an application of this quality measure is finalized for reporting by IRFs under the IRF QRP (*Federal Register* 80 (6 August 2015): 47100-47111). Web. <https://www.gpo.gov/fdsys/pkg/FR-2015-08-06/pdf/2015-18973.pdf>

Table 1-1 (continued)
Assessment-Based Quality Measure (IRF-PAI) References

Quality Measure	NQF #	CMS ID	Measure Reference Name
IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients	2635	I011.02	Discharge Self-Care Score
IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients	2636	I012.02	Discharge Mobility Score
Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine ⁷	0680	I002.01	Patient Influenza Vaccine
Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP	n/a	I021.01	DRR

⁷ This measure is NQF-endorsed for use in the IRF setting (<http://www.qualityforum.org/QPS/0680>) (in addition to Long Term Care Hospital and Nursing Home (NH) settings) and finalized for reporting by IRFs under the IRF QRP (*Federal Register* 78 (6 August 2013): 47903-47919. Web. <http://www.gpo.gov/fdsys/pkg/FR-2013-08-06/pdf/2013-18770.pdf> and *Federal Register* 79 (6 August 2014): 45908-45918. Web. <http://www.gpo.gov/fdsys/pkg/FR-2014-08-06/pdf/2014-18447.pdf>). The use of the words “resident” and “short stay” in the title of this measure refer to the use of this measure in the NH home setting. CMS’s use of these words does not imply that the IRF patient is a “resident” or that a stay in an IRF is a “short stay.”

Chapter 2

National Healthcare Safety Network Measures

An overview of the NHSN measures and annual reports containing quality measure information can be accessed on the [CDC NHSN website](#).⁸ Additionally, quality measure information and quality reporting program details can be found in the [FY 2017 IRF PPS final rule](#).⁹ Below are the CDC NHSN quality measures included in the IRF QRP and hyperlinks that provide detailed information about each measure on the CDC website, including measure descriptions and definitions, data collection methods, specifications (e.g. numerator, denominator, Standardized Infection Ratio (SIR) calculations), and reporting requirements:

National Healthcare Safety Network (NHSN) Catheter-associated Urinary Tract Infection (CAUTI) Outcome Measure (NQF #0138) (CMS ID: I006.01)

- This measure calculates the total number of healthcare-associated CAUTI among patients in bedded inpatient care locations, from the total number of indwelling urinary catheter days for each location under surveillance for CAUTI during the associated data period. This measure is risk-adjusted.
- [CDC NHSN: CAUTI](#)

National Healthcare Safety Network (NHSN) Facility-wide Inpatient Hospital-onset *Methicillin-Resistant Staphylococcus aureus* (MRSA) Bacteremia Outcome Measure (NQF #1716) (CMS ID: I014.01)

- This measure calculates the total number of observed hospital-onset unique blood source MRSA LabID events among all inpatients in the facility, from the total number of expected hospital-onset unique blood source MRSA LabID events, determined through the facility's number of inpatient days, bed size, affiliation with medical school, and community-onset MRSA bloodstream infection admission prevalence rate. This measure is risk-adjusted.
- [CDC NHSN: MRSA](#)

National Healthcare Safety Network (NHSN) Facility-wide Inpatient Hospital-onset *Clostridium difficile* Infection (CDI) Outcome Measure (NQF #1717) (CMS ID: I015.01)

- This measure calculates the total number of observed hospital-onset CDI LabID events among all inpatients in the facility, excluding well baby-nurseries and NICUs, from the total number of expected hospital-onset CDI LabID events, determined through the facility's number of inpatient days, bed size, affiliation with a medical school, microbiological test used to identify *C. difficile*, and community onset CDI admission prevalence rate.
- [CDC NHSN: CDI](#)

⁸ The CDC NHSN website can be found at the following link: <http://www.cdc.gov/nhsn/index.html>

⁹ The FY 2017 IRF PPS final rule can be found at the following link: <https://www.gpo.gov/fdsys/pkg/FR-2016-08-05/pdf/2016-18196.pdf>

Influenza Vaccination Coverage Among Healthcare Personnel (NQF #0431) (CMS ID: I016.01)


- This measure identifies the percentage of healthcare personnel who receive the influenza vaccination among the total number of healthcare personnel in the facility for at least one working day between October 1 and March 31 of the following year, regardless of clinical responsibility or patient contact.
- [CDC NHSN: Healthcare Personnel Vaccination Coverage](#)

Chapter 3

Medicare Claims-Based Measures

CMS utilizes a range of data sources to calculate measures. The measures listed below were developed using Medicare claims data submitted for Medicare Fee-For-Service patients. Each measure is calculated using unique specifications and methodologies specific to the measure. Information regarding measure specifications and reporting details is publicly available and can be accessed on the [IRF Quality Reporting Measures Information website](https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/IRF-Quality-Reporting-Program-Measures-Information-.html).¹⁰ Below are the Medicare claims-based measures included in the IRF QRP and hyperlinks that provide information about each measure, including measure descriptions and definitions, specifications (e.g. numerator, denominator, exclusions, calculations), care setting, and risk-adjustment:

All-Cause Unplanned Readmission Measure for 30 Days Post Discharge from Inpatient Rehabilitation Facilities (NQF #2502) (CMS ID: I007.01)¹¹

- This measure estimates the risk-standardized rate of unplanned, all-cause readmissions for patients (Medicare fee-for-service beneficiaries) discharged from an Inpatient Rehabilitation Facility (IRF) who were readmitted to a short-stay acute-care hospital or Long-Term Care Hospital (LTCH), within 30 days of an IRF discharge.
- [Medicare Claims-Based: All-Cause Unplanned Readmission](#) 

Potentially Preventable 30-Day Post-Discharge Readmission Measure for Inpatient Rehabilitation Facility Quality Reporting Program (CMS ID: I017.01)

- This measure estimates the risk-standardized rate of unplanned, potentially preventable readmissions for patients (Medicare fee-for-service beneficiaries) who receive services in one of the following post-acute care settings: skilled nursing facilities (SNFs), inpatient rehabilitation facilities (IRFs), and long-term care hospitals (LTCH).
- [Medicare Claims-Based: Potentially Preventable Readmissions](#)

Potentially Preventable Within Stay Readmission Measure for Inpatient Rehabilitation Facilities (CMS ID: I018.01)

- This measure assesses potentially preventable readmissions during the IRF stay. The definition for this measure was developed concurrently with the post-discharge readmission measures and measures the risk-standardized rate of unplanned, potentially preventable readmissions for patients (Medicare fee-for-service beneficiaries) who receive services in one of the following post-acute care settings: skilled nursing facilities (SNFs), inpatient rehabilitation facilities (IRFs), and long-term care hospitals (LTCH).
- [Medicare Claims-Based: Potentially Preventable Within Stay Readmission](#)

¹⁰ The IRF Quality Reporting Measures Information website can be found at the following link: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/IRF-Quality-Reporting-Program-Measures-Information-.html>

¹¹ As finalized in the FY 2018 IRF PPS Final Rule, the claims measure All-Cause Unplanned Readmission Measure for 30 Days Post Discharge from an Inpatient Rehabilitation Facility (NQF #2502) is being removed as of October 2018.

Discharge to Community-Post Acute Care (PAC) Inpatient Rehabilitation Facility (IRF) Quality Reporting Program (QRP) (CMS ID: I019.01)

- This measure reports an IRF's risk-standardized rate of Medicare fee-for-service patients who are discharged to the community following an IRF stay, and do not have an unplanned readmission to an acute care hospital or LTCH in the 31 days following discharge to community, and who remain alive during the 31 days following discharge to community. Community, for this measure, is defined as home or self-care, with or without home health services.
- [Medicare Claims-Based: Discharge to Community-Post Acute Care](#)

Medicare Spending Per Beneficiary-Post Acute Care (PAC) Inpatient Rehabilitation Facility (IRF) Quality Reporting Program (QRP) (CMS ID: I020.01)

- This measure evaluates IRF providers' efficiency relative to the efficiency of the national median IRF provider. Specifically, the measure assesses the cost to Medicare for services performed by the IRF provider during an MSPB-PAC IRF episode. The measure is calculated as the ratio of the price-standardized, risk-adjusted MSPB-PAC amount for each IRF divided by the episode-weighted median MSPB-PAC amount across all IRF providers.
- [Medicare Claims-Based: Medicare Spending Per Beneficiary](#)

Chapter 4

Record Selection for Assessment-Based Quality Measures (IRF-PAI)

Section 4.1: Quality Measures Based on the Calendar Year

This section presents the **record selection** criteria for the assessment-based (IRF-PAI) quality measures that require stay-level record data to be included in the measure calculation and whose **target period is 12 months (four quarters)**.

Quality measures included in this section:

- Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02)
- Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01)
- Application of Percent of Residents Experiencing One or More Falls with Major Injury (NQF #0674) (CMS ID: I013.01)
- Application of Percent of Long-Term Care Hospital (LTCH) Patients With an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function (NQF #2631) (CMS ID: I008.02)
- IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients (NQF #2633) (CMS ID: I009.02)
- IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients (NQF #2634) (CMS ID: I010.02)
- IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients (NQF #2635) (CMS ID: I011.02)
- IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients (NQF #2636) (CMS ID: I012.02)
- Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP (CMS ID: I021.01)

The eligible stay-level records for these quality measures are selected as follows:

1. Select all IRF-PAI stays with a target date (discharge date (Item 40)) within the data target period.
2. For each IRF-PAI record (i.e., IRF stay), do the following:
 - a. Sort the records according to the sort order defined in **Chapter 1, Section 1.2**.
 - b. Select all stay-level records that meet the patient stay-level record definition in **Chapter 1, Section 1.2** and whose discharge date is within the target period. These are *target period patient stay-level records*. If a patient has multiple stay-level

- records with a discharge date within the target period, then include each eligible patient stay in the measure.
3. Apply the respective quality measure calculations from **Chapter 6** to the eligible target period patient stay-level records. Additionally, **Chapter 7** provides the instructions in table format, which are listed below:
 - a. Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02), [Table 7-1](#)
 - b. Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01), [Table 7-2](#)
 - c. Application of Percent of Residents Experiencing One or More Falls with Major Injury (NQF #0674) (CMS ID: I013.01), [Table 7-3](#)
 - d. Application of Percent of Long-Term Care Hospital (LTCH) Patients With an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function (NQF #2631) (CMS ID: I008.02), [Table 7-4](#)
 - e. IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients (NQF #2633) (CMS ID: I009.02), [Table 7-5](#)
 - f. IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients (NQF #2634) (CMS ID: I010.02), [Table 7-6](#)
 - g. IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients (NQF #2635) (CMS ID: I011.02), [Table 7-7](#)
 - h. IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients (NQF #2636) (CMS ID: I012.02), [Table 7-8](#)
 - i. Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP (CMS ID: I021.01), [Table 7-10](#)

Section 4.2: Quality Measure: Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680) (CMS ID: I002.01)

This section presents the record selection criteria for the IRF-PAI Patient Influenza Vaccine measure.

Influenza Season: Influenza season begins on July 1 of a given year and ends on June 30 of the subsequent year (e.g., July 1, 2017 through June 30, 2018 for the 2017-2018 influenza season).

Influenza Vaccination Season: Influenza vaccination season begins on October 1 of a given year and ends on March 31 of the subsequent year (e.g., October 1, 2017 through March 31, 2018 for the 2017-2018 influenza vaccination season).

1. The measure includes all patient stays in which the patient was in the IRF one or more days during the influenza vaccination season (i.e., October 1 to March 31) AND whose discharge date was within the target period (influenza season (i.e., July 1 to June 30)). Additional details about the inclusion criteria and examples are provided below:
 - a. This measure includes all IRF-PAI stay-level records with an admission date (Item 12) **or** a discharge date (Item 40) within the influenza vaccination season; **or** with the admission date (Item 12) before the influenza vaccination season and the discharge date (Item 40) after the influenza vaccination season, such that the stay includes one or more days in the IRF during the influenza vaccination season.
 - b. For example, the stay of a patient admitted to an IRF on March 31 will be selected based on the admission date, as long as the discharge date is within the target influenza season (i.e., July 1 to June 30). The stay-level record of a patient discharged from an IRF on October 1 will be selected based on the discharge date, regardless of the admission date. The stay-level record of a patient admitted on September 30 and discharged on April 1 will be selected because the stay includes one or more days in the IRF during the influenza vaccination season.
2. For each patient stay-level record within each IRF from step 1, do the following:
 - a. Sort the stay-level records according to the sort order as defined in **Chapter 1, Section 1.2**.
 - b. Select all stay-level-records with a discharge date within the influenza season (i.e., July 1 of a given year to June 30 of the subsequent year).
 - c. Among the records selected in step b, select the stay-level records that meet one of the following conditions so that any stay in which the patient was in the IRF for one or more days during the influenza vaccination season is included:
 - i. The discharge date is on or after October 1 of the most recently completed influenza vaccination season AND on or before March 31 of the most recently completed influenza vaccination season;

OR

- ii. The admission date is on or after October 1 of the most recently completed influenza vaccination season AND on or before March 31 of the most recently completed influenza vaccination season;
- OR**
- iii. The admission date is before October 1 of the most recently completed influenza vaccination season AND the discharge date is after March 31 and on or prior to June 30 of the most recently completed influenza vaccination season.
- d. If the patient has multiple stay-level records during the target period, then include all qualifying patient stays in the measure.
3. Apply the quality measure calculations from **Chapter 6** to the eligible target patient stay-level records. Additionally, **Chapter 7** provides the instructions in table format, which is listed below:
- a. Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680) (CMS ID: I002.01), [Table 7-9](#)
4. Refer to the respective tables in **Chapter 5** for data included in the CASPER Review and Correct Reports and the CASPER QM Reports.

Table 4-1
Target Period for all Assessment-Based Quality Measures (IRF-PAI)

Quality Measure	Target Period
Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02)	January 1 through December 31
Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01)	January 1 through December 31 ¹²
Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay) (NQF 0674) (CMS ID: I013.01)	January 1 through December 31
Application of Percent of Long-Term Care Hospital (LTCH) Patients With an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function (NQF #2631) (CMS ID: I008.02)	January 1 through December 31
IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients (NQF #2633) (CMS ID: I009.02)	January 1 through December 31
IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients (NQF #2634) (CMS ID: I010.02)	January 1 through December 31
IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients (NQF #2635) (CMS ID: I011.02)	January 1 through December 31
IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients (NQF #2636) (CMS ID: I012.02)	January 1 through December 31
Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680) (CMS ID: I002.01)	July 1 through June 30
Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP (CMS ID: I021.01)	January 1 through December 31

¹² For information regarding the transition from IRF-PAI v1.5 to IRF-PAI v2.0, see Section 5.3 “Measure Calculations During the Transition from IRF-PAI v1.5 to IRF-PAI v2.0”

Chapter 5

Certification and Survey Provider Enhanced Reports (CASPER) Data Selection for Assessment-Based Quality Measures (IRF-PAI)

The purpose of this chapter is to present the data selection criteria for the **CASPER Review and Correct Reports** and the **CASPER Quality Measure (QM) Reports** for quality measures that are included in the IRF QRP and are specific to those quality measures calculated using the IRF-PAI data. Information about the CASPER reports can be found on the CMS website at the following link: [CASPER Reports](#)

- **The CASPER Review and Correct Reports** contain facility-level and patient-level measure information and are updated on a quarterly basis with data refreshed weekly as data become available.
 - These reports allow providers to obtain facility-level performance data and its associated patient-level data for the past 12 months (four full quarters) **and are restricted to only the assessment-based measures**. The intent of this report is for providers to have access to reports prior to the quarterly data submission deadline to ensure accuracy of their data. This also allows providers to track cumulative quarterly data that includes data from quarters after the submission deadline (“frozen” data).
- **The CASPER QM Reports** are refreshed monthly and separated into two reports: one containing measure information at the facility-level and another at the patient-level, for a single reporting period. The intent of these reports is to enable tracking of quality measure data regardless of quarterly submission deadline (“freeze”) dates.
 - The assessment-based (IRF-PAI) measures are refreshed monthly, at the facility- and patient-level, as data becomes available. The performance data contains the current quarter (may be partial) and the past three quarters.
 - The claims-based measures are updated annually at the facility-level only.
 - The CDC NHSN measures are provided at the facility-level only.

The CASPER Review and Correct Reports and the CASPER QM Reports can help identify data errors that affect performance scores. They also allow the providers to utilize the data for quality improvement purposes.

Section 5.1 contains the data selection for the assessment-based (IRF-PAI) quality measures for the CASPER Review and Correct Reports. Since the criteria and reporting periods for the CASPER QM Reports are consistent across the facility- and patient-level reports, **Section 5.2** of this chapter presents data selection information that can be applied to both the CASPER Patient-level QM Reports and the CASPER Facility-level QM Reports.

Section 5.3 of this chapter addresses the transition from IRF-PAI v1.5 to IRF-PAI v2.0. Data collection for IRF-PAI v2.0 begins on October 1, 2018 and will impact certain quality measure specifications.

Section 5.1: CASPER Review and Correct Reports

Below are the specifications for the CASPER Review and Correct Reports for the quality measures presented in **Chapter 4, Sections 4.1 and 4.2**:

1. Quarterly reports contain quarterly rates and a cumulative rate.
 - a. The quarterly rates will be displayed using up to one quarter of data.
 - b. The cumulative rates will be displayed using all data within one target period.
 - i. **For all measures, excluding the Change in Self-Care and Change in Mobility measures:** the target population is derived by including all stay-level records in the denominator for the target period, which do not meet the exclusion criteria
 - ii. **For the Change in Self-Care and Change in Mobility measures:** the target population is derived by including all stay-level records for the target period, which do not meet the exclusion criteria, and calculating the change scores for each stay-level record. For instructions on calculating the change scores, please see **Chapter 6, Section 6.4** for the Change in Self-Care measure and **Chapter 6, Section 6.5** for the Change in Mobility measure.
 - c. The data will be “frozen” 4.5 months (15th day of the 5th month) after the end of each quarter (data submission deadline).
 - i. e.g., Data will be frozen on August 15th for Quarter 1 (January 1 through March 31) data collection.
 - d. The measure calculations for the quarterly rates and the cumulative rates are refreshed weekly.
2. Complete data (full target period) is available for previously existing quality measures. Only partial data will be available for new measures until a target period of data has accumulated. Once a target period of data has accumulated, as each quarter advances, the subsequent quarter will be added and the earliest quarter will be removed.
3. Patient-level data will be displayed for each reporting quarter in the report.¹³
4. The illustration of reporting timeline for the CASPER Review and Correct Reports for the following quality measures is provided in [Table 5-3](#) for the quarterly rates and [Table 5-4](#) for the cumulative rates:
 - a. Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02)
 - b. Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01)
 - c. Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay) (NQF #0674) (CMS ID: I013.01)
 - d. Application of Percent of Long-Term Care Hospital (LTCH) Patients With an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function (NQF #2631) (CMS ID: I008.02)

¹³ Patient-level data will be available for the Review and Correct reports starting in 2019.

- e. IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients (NQF #2633) (CMS ID: I009.02)
 - f. IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients (NQF #2634) (CMS ID: I010.02)
 - g. IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients (NQF #2635) (CMS ID: I011.02)
 - h. IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients (NQF #2636) (CMS ID: I012.02)
 - i. Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP (CMS ID: I021.01)
5. The illustration of reporting timeline for the CASPER Review and Correct Reports for the following quality measure is provided in [Table 5-5](#) for the quarterly rates and [Table 5-6](#) for the cumulative rates:
 - a. Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680) (CMS ID: I002.01)
 6. **Data calculation rule:** The calculations include stay-level records with discharge dates through the end of the quarter.

[Table 5-1](#) defines the discharge dates included for each calendar year quarter and influenza season quarter. Note that the influenza season starts on July 1st which means Quarter 1 begins on July 1st as opposed to January 1st. [Table 5-2](#) displays whether the quality measure was considered new or existing for CASPER reporting in the user-requested year. For new measures, data is accumulated until 4 quarters have been collected and then rolling quarters occur for subsequent years. For existing measures, data is displayed based on rolling quarters. The Patient Influenza Vaccine measure has a separate table since it is the exceptions to this rule.

Table 5-1
Discharge Dates for Each Quarter Defined by Calendar Year and Influenza Season

Calendar Year Quarter	Influenza Season Quarter	Discharge Dates Included in the Report
Quarter 1	Quarter 3	January 1 through March 31
Quarter 2	Quarter 4	April 1 through June 30
Quarter 3	Quarter 1	July 1 through September 30
Quarter 4	Quarter 2	October 1 through December 31

Table 5-2
Measure Types by User-Requested Year for all Assessment-Based Quality Measures (IRF-PAI)

Quality Measure	Measure Type by User-Requested Year		
	2017	2018	2019
Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02)	New	Existing	Existing
Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01)	—	—	New
Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay) (NQF #0674) (CMS ID: I013.01)	New	Existing	Existing
Application of Percent of Long-Term Care Hospital (LTCH) Patients With an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function (NQF #2631) (CMS ID: I008.02)	New	Existing	Existing
IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients (NQF #2633) (CMS ID: I009.02)	New	Existing	Existing
IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients (NQF #2634) (CMS ID: I010.02)	New	Existing	Existing
IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients (NQF #2635) (CMS ID: I011.02)	New	Existing	Existing
IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients (NQF #2636) (CMS ID: I012.02)	New	Existing	Existing
Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680) (CMS ID: I002.01)	New	Existing	Existing
Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP (CMS ID: I021.01)	—	—	New

Table 5-3
CASPER Review and Correct Reports: Quarterly Rates Included in Each Requested
Quarter End Date¹⁴

Requested Calendar Year Quarter End Date ¹⁵	Measure Type	Quarter(s) Included from Previous Year ¹⁶	Quarter(s) Included from User-Requested Year
Quarter 1, YYYY	New	—	Quarter 1
	Existing	Quarter 2 Quarter 3 Quarter 4	Quarter 1
Quarter 2, YYYY	New	—	Quarter 1 Quarter 2
	Existing	Quarter 3 Quarter 4	Quarter 1 Quarter 2
Quarter 3, YYYY	New	—	Quarter 1 Quarter 2 Quarter 3
	Existing	Quarter 4	Quarter 1 Quarter 2 Quarter 3
Quarter 4, YYYY	New	—	Quarter 1 Quarter 2 Quarter 3 Quarter 4
	Existing	—	Quarter 1 Quarter 2 Quarter 3 Quarter 4

Example of quarterly rates included in the CASPER Review and Correct Reports for an *existing* measure: If the requested calendar year quarter end date is Quarter 1, 2019 (end date of March 31st), the four quarters of data that will be provided in this request will include the following: Q2 2018 (April through June), Q3 2018 (July – September), Q4 2018 (October – December), and Q1 2019 (January – March).

Example of quarterly rates included in the CASPER Review and Correct Reports for a *new* measure: If the requested calendar year quarter end date is Quarter 1, 2019 (end date of March 31st), the only quarter of data that will be provided in this request will include the following: Q1 2019 (January – March).

¹⁴ See Table 4-1 for discharge dates included for each quarter and Table 4-2 to determine the measure type for each quality measure.

¹⁵ YYYY = User-Requested Year

¹⁶ Calendar year prior to the User-Requested Year

Table 5-4
CASPER Review and Correct Reports: Data Included in the Cumulative Rate for Each Requested Quarter End Date¹⁷

Requested Calendar Year Quarter End Date ¹⁸	Measure Type	Data Included from Previous Year ¹⁹	Data Included from User-Requested Year
Quarter 1, YYYY	New	—	Quarter 1
	Existing	Quarter 2 through Quarter 4	Quarter 1
Quarter 2, YYYY	New	—	Quarter 1 through Quarter 2
	Existing	Quarter 3 through Quarter 4	Quarter 1 through Quarter 2
Quarter 3, YYYY	New	—	Quarter 1 through Quarter 3
	Existing	Quarter 4	Quarter 1 through Quarter 3
Quarter 4, YYYY	New	—	Quarter 1 through Quarter 4
	Existing	—	Quarter 1 through Quarter 4

¹⁷ See Table 4-1 for discharge dates included for each quarter and Table 4-2 to determine the measure type for each quality measure.

¹⁸ YYYY = User-Requested Year

¹⁹ Calendar year prior to the User-Requested Year

Table 5-5
CASPER Review and Correct Reports: Patient Influenza Vaccine Quarterly Rates
Included in Each Requested Quarter End Date²⁰

Requested Calendar Year Quarter End Date ²¹	Measure Type ²²	Influenza Season Quarter(s) Included in Each Report (Influenza Season) ²³
Quarter 1, YYYY	New or Existing	Quarter 1 (XXXX-YYYY) Quarter 2 (XXXX-YYYY) Quarter 3 (XXXX-YYYY)
Quarter 2, YYYY	New or Existing	Quarter 1 (XXXX-YYYY) Quarter 2 (XXXX-YYYY) Quarter 3 (XXXX-YYYY) Quarter 4 (XXXX-YYYY)
Quarter 3, YYYY	New or Existing	Quarter 1 (YYYY-ZZZZ)
Quarter 4, YYYY	New or Existing	Quarter 1 (YYYY-ZZZZ) Quarter 2 (YYYY-ZZZZ)

Please note that the Influenza season begins on July 1 of a given year and ends on June 30 of the subsequent year. Associated Influenza Vaccination Season begins on October 1 of a given year and ends on March 31 of the subsequent year.

²⁰ See Table 4-1 for discharge dates included for each quarter (influenza season).

²¹ YYYY = User-Requested Year

²² The influenza data is displayed identically when the measure was considered new or existing.

²³ XXXX = The year prior to the user-requested year; ZZZZ = The year after the user-requested year. Note that the XXXX-YYYY influenza season ends on June 30th, and the new YYYY-ZZZZ influenza season starts on July 1st.

Table 5-6
CASPER Review and Correct Reports: Patient Influenza Vaccine Data Included in the Cumulative Rate for Each Requested Quarter End Date²⁴

Requested Calendar Year Quarter End Date ²⁵	Measure Type ²⁶	Influenza Season Quarter(s) Included in Each Report (Influenza Season) ²⁷
Quarter 1, YYYY	New or Existing	Quarter 1 (XXXX-YYYY) through Quarter 3 (XXXX-YYYY)
Quarter 2, YYYY	New or Existing	Quarter 1 (XXXX-YYYY) through Quarter 4 (XXXX-YYYY)
Quarter 3, YYYY	New or Existing	Quarter 1 (YYYY-ZZZZ)
Quarter 4, YYYY	New or Existing	Quarter 1 (YYYY-ZZZZ) through Quarter 2 (YYYY-ZZZZ)

Please note that the Influenza Season begins on July 1 of a given year and ends on June 30 of the subsequent year. Associated Influenza Vaccination Season begins on October 1 of a given year and ends on March 31 of the subsequent year.

²⁴ See Table 4-1 for discharge dates included for each quarter (influenza season).

²⁵ YYYY = User-Requested Year

²⁶ The influenza data is displayed identically when the measure was considered new or existing.

²⁷ XXXX = The year prior to the user-requested year; ZZZZ = The year after the user-requested year. Note that the XXXX-YYYY influenza season ends on June 30th, and the new YYYY-ZZZZ influenza season starts on July 1st.

Section 5.2: CASPER Quality Measure (QM) Reports

Below are the specifications for the CASPER QM Reports for measures presented in **Chapter 4, Section 4.1 and 4.2**:

1. Measures are calculated consistent with the methods in the previous section, **Chapter 5, Section 5.1, “CASPER Review and Correct Reports”**.
 - a. Only the cumulative rates will be displayed using all data in the target period.
2. The illustration of reporting timeline for the monthly CASPER QM Reports is provided in [Table 5-7](#) for the following measures:
 - a. Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02)
 - b. Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01)²⁸
 - c. Application of Percent of Residents Experiencing One or More Falls with Major Injury (NQF #0674) (CMS ID: I013.01)
 - d. Application of Percent of Long-Term Care Hospital (LTCH) Patients With an Admission and Discharge Functional Assessment and a Care Plan That Addresses Function (NQF #2631) (CMS ID: I008.02)
 - e. IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients (NQF #2633) (CMS ID: I009.02)
 - f. IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients (NQF #2634) (CMS ID: I010.02)
 - g. IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients (NQF #2635) (CMS ID: I011.02)
 - h. IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients (NQF #2636) (CMS ID: I012.02)
 - i. Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP (CMS ID: I021.01)
3. The illustration of the reporting timeline for the monthly CASPER QM Reports is provided in [Table 5-8](#) for the following measure:
 - a. Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680) (CMS ID: I002.01)
4. **Data calculation rule:** The calculations include stay-level records with discharge dates through the end of the month.

²⁸ Please refer to **Chapter 6, Section 6.1.A** on the effective date for data collection and implementation date for the CASPER reports.

Table 5-7
CASPER QM Reports: Data Included in the Cumulative Rate for Each Requested Report End Date

Requested Report End Date²⁹	CASPER QM Report Calculation Month	Data Included from Previous Year³⁰	Data Included from User-Requested Year
03/31/YYYY (Quarter 1, YYYY)	February	April through December	January
	March	April through December	January through February
	April	April through December	January through March
06/30/YYYY (Quarter 2, YYYY)	May	July through December	January through April
	June	July through December	January through May
	July	July through December	January through June
09/30/YYYY (Quarter 3, YYYY)	August	October through December	January through July
	September	October through December	January through August
	October	October through December	January through September
12/31/YYYY (Quarter 4, YYYY)	November	—	January through October
	December	—	January through November
	January	—	January through December

²⁹ YYYY = User-Requested Year

³⁰ Calendar year prior to the User-Requested Year

Table 5-8
CASPER QM Reports: Patient Influenza Vaccine Data Included in the Cumulative Rate
for Each Requested Report End Date

Requested Report End Date ³¹	CASPER QM Report Calculation Month	Influenza Season ³²	Data Included from User-Requested Year ³²
03/31/YYYY (Quarter 1, YYYY)	February	July XXXX – June YYYY	July 1, XXXX – January 31, YYYY
	March	July XXXX – June YYYY	July 1, XXXX – February 28, YYYY
	April	July XXXX – June YYYY	July 1, XXXX – March 31, YYYY
06/30/YYYY (Quarter 2, YYYY)	May	July XXXX – June YYYY	July 1, XXXX – April 30, YYYY
	June	July XXXX – June YYYY	July 1, XXXX – May 31, YYYY
	July	July XXXX – June YYYY	July 1, XXXX – June 30, YYYY
09/30/YYYY (Quarter 3, YYYY)	August	July YYYY – June ZZZZ	July 1, YYYY – July 31, ZZZZ
	September	July YYYY – June ZZZZ	July 1, YYYY – August 31, ZZZZ
	October	July YYYY – June ZZZZ	July 1, YYYY – September 30, ZZZZ
12/31/YYYY (Quarter 4, YYYY)	November	July YYYY – June ZZZZ	July 1, YYYY – October 31, ZZZZ
	December	July YYYY – June ZZZZ	July 1, YYYY – November 30, ZZZZ
	January	July YYYY – June ZZZZ	July 1, YYYY – December 31, ZZZZ

Please note that the Influenza Season begins on July 1 of a given year and ends on June 30 of the subsequent year. Associated Influenza Vaccination Season begins on October 1 of a given year and ends on March 31 of the subsequent year.

³¹ YYYY = User-Requested Year

³² XXXX = The year prior to the user-requested year; ZZZZ = The year after the user-requested year. Note that the XXXX-YYYY influenza season ends on June 30th, and the new YYYY-ZZZZ influenza season starts on July 1st.

Section 5.3: Measure Calculations During the Transition from IRF-PAI v1.5 to IRF-PAI v2.0

For IRFs, IRF-PAI data are submitted on one assessment record (covering both admission and discharge) and new measure specifications are to be applied based on the discharge date.

The new measure specifications begin for records of patients discharged on or after October 1, 2018 with the implementation of the IRF-PAI v2.0 on October 1, 2018.

Chapter 6

Measure Calculations for Assessment-Based Quality Measures (IRF-PAI)

The purpose of this chapter is to present the measure calculation criteria for the assessment-based quality measures that are included in the IRF QRP. Note that IRF-PAI data are submitted for Medicare Part A and Medicare Advantage patients only. In this chapter, each section is specific to an assessment-based quality measure. Within each section the CASPER Review and Correct Report measure calculations are presented first, followed by the CASPER QM Report measure calculations. If the measure is risk-adjusted for the QM Reports, then additional details regarding the risk-adjusted calculations are provided; otherwise, the Review and Correct Report calculations can be used to calculate the QM Report measure calculation. Prior to the measure specifications steps in Chapter 6, please refer to Chapter 1, Section 1.2 on instructions to define the patient stay for the QM sample and Chapter 4 for the record selection criteria.

Section 6.1: Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02)

CASPER Review and Correct Report Measure Calculations for Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02)

For the Review and Correct Reports, only the facility-level observed score is computed; the facility's risk-adjusted score is not reported. Using the definitions from [Table 7-1](#), the following steps are used to calculate the quality measure.

1. Identify excluded patient stay-level records (steps 1.1 through 1.2).

- 1.1 Patient stay-level record is excluded if the patient died during the IRF stay; i.e., Item 44C = [0].
- 1.2 Patient stay-level record is excluded if data on new or worsened Stage 2, 3, and 4 pressure ulcer(s) are missing at discharge:
 - 1.2.1 Using IRF-PAI Version 1.3:³³ Patient stay is excluded if M0300B4 = [-] and M0300C4 = [-] and M0300D4 = [-].
 - 1.2.2 Using IRF-PAI Version 1.4 or IRF-PAI Version 1.5:³³ Patient stay is excluded if M0800A = [-] and M0800B = [-] and M0800C = [-].

³³ Note that IRF-PAI Version 1.3 was effective beginning for patients discharged on and after October 1, 2015, IRF-PAI Version 1.4 was effective beginning for patients discharged on and after October 1, 2016, and IRF-PAI Version 1.5 was effective beginning for patients discharged on or after October 1, 2017. Some of the items used in calculation of this measure are removed from IRF-PAI version 2.0 (effective Oct 1, 2018). This measure will be included in the Review and Correct reports until measure is removed per FY2018 IRF PPS Final Rule.

2. **Determine the denominator count.** Determine the total number of patient stay-level records with an IRF-PAI record in the measure target period, which do not meet the exclusion criteria.
3. **Determine the numerator count.** Determine the total number of patient stay-level records with an IRF-PAI indicating the presence of one or more new or worsened pressure ulcers (Stage 2 through Stage 4) at discharge compared to admission:

For IRF-PAI Version 1.3, items used to determine presence of new or worsened Stage 2-4 pressure ulcer(s) at discharge:

- Stage 2 (M0300B4) > 0, *or*
- Stage 3 (M0300C4) > 0, *or*
- Stage 4 (M0300D4) > 0

For IRF-PAI Version 1.4 and Version 1.5, items used to determine presence of new or worsened Stage 2-4 pressure ulcer(s) at discharge:

- Stage 2 (M0800A) > 0, *or*
- Stage 3 (M0800B) > 0, *or*
- Stage 4 (M0800C) > 0

4. **Calculate the facility-level observed score.** Divide the facility's numerator count by its denominator count to obtain the facility-level observed score; that is, divide the result of step 3 by the result of step 2.
5. **Calculate the rounded percent value.**
 - 5.1 Multiply the facility-level observed score by 100 to obtain a percent value.
 - 5.2 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
 - 5.3 Drop all the digits following the first decimal place.

CASPER QM Report Measure Calculations for Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02)

This measure is risk-adjusted for the CASPER QM Reports and an observed (i.e., not risk-adjusted) and a risk-adjusted value are reported. Using the definitions in [Table 7-1](#), the following steps are used to calculate the measure.

1. **Calculate the facility-level observed score** (steps 1.1 through 1.2).
 - 1.1 To calculate the facility-level observed score, complete steps 1 – 4 from **Chapter 6, Section 6.1**, “CASPER Review and Correct Report Measure Calculations for NQF #0678.”
 - 1.2 Do not multiply by 100 or round to the nearest first decimal place. All rounding will be done at the end of the measure calculation.

2. Calculate the national average observed score³⁴ (steps 2.1 through 2.3).

- 2.1 After excluding stay-level records based on the criteria listed in [Table 7-1](#), these patient stays become the denominator for the national average observed score.
- 2.2 Identify stay-level records in the denominator of the national average observed score with pressure ulcers that are new or worsened based on the criteria in [Table 7-1](#). These records comprise the numerator of the national average observed score.
- 2.3 Divide the numerator (2.2) by the denominator (2.1) to calculate the national average observed score.

*Note: Because there is limited public accessibility to national assessment data, this document provides a national average observed score based on the reporting period of the regression intercept and coefficients. The national average observed score can be seen in [Table A-1](#) of **Appendix A** and the associated Risk Adjustment Appendix File. Please note that, depending on the reporting period and time of calculation, the national average observed score used in the CASPER QM Report, Provider Preview Report, and on public display on the Compare Website may vary from the national average observed score provided by these documents.*

3. Calculate the facility-level expected score for each patient (steps 3.1 through 3.3).

- 3.1 Determine presence or absence of the pressure ulcer covariates for each patient.
- 3.2 Using the covariate definitions in [Table 7-1](#), assign covariate values (COV), either ‘0’ for covariate condition not present or ‘1’ for covariate condition present, for each patient for each of the four covariates as reported on the admission assessment.
- 3.3 Calculate the expected score for each patient using the following formula:

$$[1] \text{ Patient-level expected score} = \frac{1}{1 + e^{-x}}$$

Where:

- e is the base of natural logarithms
- X is a linear combination of the constant and the logistic regression coefficients times the covariate scores (from Formula [2], below):

$$[2] X = \beta_0 + \beta_1(COV_1) + \beta_2(COV_2) + \beta_3(COV_3) + \beta_4(COV_4)$$

Where:

- X identifies if patient is part of the numerator count (i.e., triggering the quality measure: 1 = yes, 0 = no).
- β_0 is the logistic regression constant or intercept.
- β_1 is the logistic regression coefficient for the first covariate “functional limitation” and COV_1 is the patient-level covariate value.

³⁴ The national average observed score is calculated using the patient stay as the unit of analysis.

- β_2 is the logistic regression coefficient for the second covariate “bowel incontinence” and COV_2 is the patient-level covariate value.
- β_3 is the logistic regression coefficient for the third covariate “diabetes or peripheral vascular disease/peripheral artery disease (PVD/PAD)” and COV_3 is the patient-level covariate value.
- β_4 is the logistic regression coefficient for the fourth covariate “low body mass index (BMI)” and COV_4 is the patient-level covariate value.

See **Appendix A**, [Table A-2](#), and the associated Risk Adjustment Appendix File for the regression constant and coefficients.³⁵ The regression constant and coefficients are values obtained through statistical logistic regression analysis. Please note that the CASPER QM and Provider Preview Reports use fixed regression constants and coefficients based on the target period stated in [Table A-2](#) and the Risk Adjustment Appendix File.

4. Calculate the mean facility-level expected score (step 4.1).

- 4.1 Once patient-level expected scores have been calculated, calculate the mean facility-level expected score as the mean of the facility’s patient-level expected scores.

5. Calculate the facility-level risk-adjusted score (step 5.1 through 5.3).

- 5.1 Calculate the facility-level risk-adjusted score based on the:

- Facility-level observed quality measure score (steps 1.1 through 1.2)
- Mean facility-level expected quality measure score (step 4.1)
- National average observed quality measure score (step 2.1 through 2.3)
- The calculation of the risk-adjusted score uses the following equation:

$$[3] Adj = \frac{1}{1 + e^{-y}}$$

Where:

- e is the base of natural logarithms
- Adj is the facility-level risk-adjusted quality measure score
- y is the product of the following formula:

$$[4] y = \ln\left(\frac{Obs}{1 - Obs}\right) - \ln\left(\frac{Exp}{1 - Exp}\right) + \ln\left(\frac{Nat}{1 - Nat}\right)$$

Where:

- Obs is the facility-level observed quality measure score
- Exp is the mean facility-level expected quality measure score
- Nat is the national average observed quality measure score

³⁵ The regression constant (intercept) and coefficient values have been rounded to four decimal places. When applying these values to the equation to calculate facility-level QM scores, these intercept and coefficient values should be used; do not round to fewer than four decimal places. This is to ensure consistency and accuracy of measure calculations.

- ***Ln*** indicates a natural logarithm
- 5.2 Multiply the risk-adjusted score (Adj) by 100 and round the percent value to one decimal place.
- 5.2.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
- 5.2.2 Drop all digits following the first decimal place.
- 5.3 Facility-level recoding instructions.
- 5.3.1 If the facility-level observed score (step 1) equals 0, then the facility-level observed percent and the facility-level risk-adjusted percent values are set to 0.0.
- 5.3.2 If the facility-level observed score (step 1) equals 1, then the facility-level observed percent and the facility-level risk-adjusted percent values are set to 100.0.

Section 6.1.A: Transition of the Pressure Ulcer Quality Measures

Data collection for the measure Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02) will stop on September 30, 2018 and data collection for the replacement measure, Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01), will begin on October 1, 2018.³⁶ The measure Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02) will continue to be publicly reported on the Compare website until new quarterly data is no longer available to report. The replacement measure, Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01), will be publicly reported on the Compare website by October 2020. The two measures will not be publicly reported on the Compare website at the same time. See **Table 6-1** for additional information regarding the data collection and CASPER report display schedule:

Table 6-1
Data Collection and CASPER Report Display Schedule for the Pressure Ulcer Measures

Pressure Ulcer Measure	Data Collection	Review and Correct Reports	QM Reports
Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02)	Last Quarter of Data Collection: Q3 2018 (07/01/2018 – 09/30/2018)	Last Quarter End Date Display: Q3 2018 (10/01/2017 – 09/30/2018)	Last Report End Date Display: 09/30/2018 (10/01/2017 – 09/30/2018)
Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01)	Initial Quarter of Data Collection: Q4 2018 (10/01/2018 – 12/31/2018)	Initial Quarter End Date Display: Q1 2019 (01/01/2019 – 03/31/2019)	Initial Report End Date Display: 09/30/2019 (10/01/2018 – 09/30/2019)

There are seven major differences in the two pressure ulcer measures and associated items. Due to differences between the measures, coefficient values and national mean values differ between the measures. These values will be reported in Appendix A and the associated Risk Adjustment Appendix File.

1. The measures use different items. Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02) is calculated using discharge M0800 items, while the Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01) is calculated using discharge M0300 items. As of October 1, 2018, the M0800 items will no longer be collected as part of the IRF-PAI.
2. The new measure is calculated using a subtraction method to determine inclusion in the numerator. Inclusion in the numerator of Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01) is determined by subtracting discharge item

³⁶ The FY 2018 IRF PPS final rule can be found at the following link: <https://www.gpo.gov/fdsys/pkg/FR-2017-08-03/pdf/2017-16291.pdf>

pairs for each type of pressure ulcer (e.g., Stage 2 [(M0300B1) - (M0300B2)] >0, Stage 3 [(M0300C1) - (M0300C2)] >0).

3. The new measure includes unstageable pressure ulcers in the measure numerator. The numerator for Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01) includes discharge items to include new or worsened unstageable pressure ulcers (i.e., Unstageable – Non-removable dressing/device (M0300E1 and M0300E2); Unstageable – Slough and/or eschar (M0300F1 and M0300F2) and Unstageable – Deep tissue injury (M0300G1 and M0300G2).
4. One of the exclusion criteria for the new measure is different, to reflect changes in the data needed to calculate the measure. For the Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02) measure, patient stay-level record was excluded if data on new or worsened Stage 2, 3, and 4 were missing at discharge, based on discharge M0800 items. For the Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01) measure, this is expanded to add unstageable pressure ulcers, including deep tissue injuries, missing at discharge, and is based on discharge M0300 items.
5. Measure item names have changed. The items to be collected starting October 1, 2018 reflect current pressure ulcer terminology. The term “injuries” has been added to items: M0300, M0300A, M0300E–M0300E2, and M0300G–M0300G2 and the term “suspected deep tissue injury in evolution” has been replaced with “deep tissue injury” in items M0300G and M0300G1.
6. The item used to indicate the functional limitation covariate has changed. FIM® item 39I (Transfers: Bed, Chair, Wheelchair) was used to determine the functional limitation covariate for each patient stay in the Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02) measure. For the Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01) measure, GG0170C (Lying to Sitting on Side of Bed) at admission is used to determine the functional limitation covariate for each patient stay.
7. The item used to indicate the bowel incontinence covariate has changed. Item 32 (Bowel Frequency of Accidents) was used to determine the bowel incontinence covariate for each patient stay in the Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678) (CMS ID: I001.02) measure. For the Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01) measure, H0400 (Bowel Continence) is used to determine the bowel incontinence covariate for each patient stay.

Section 6.2: Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01) Please refer to Chapter 6, Section 6.1.A on the effective date for data collection and implementation date for the CASPER reports.

CASPER Review and Correct Report Measure Calculations for Changes in Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01)

For the Review and Correct Reports, only the facility-level observed score is computed; the facility's risk-adjusted score is not reported. Using the definitions from [Table 7-2](#), the following steps are used to calculate the quality measure.

- 1. Identify excluded patient stay-level records** (steps 1.1 through 1.2).
 - 1.1 Patient stay-level record is excluded if data on new or worsened Stage 2, 3, 4 , and unstageable pressure ulcers, including deep tissue injuries, are missing at discharge i.e., (M0300B1 = [-] or M0300B2 = [-]) and (M0300C1 = [-] or M0300C2 = [-]) and (M0300D1= [-] or (M0300D2= [-]) and (M0300E1= [-] or M0300E2=[-]) and (M0300F1= [-] or M0300F2=[-]) and (M0300G1= [-] or M0300G2=[-]).
 - 1.2 Patient stay-level record is excluded if the patient died during the IRF stay; i.e., Item 44C = [0].
- 2. Determine the denominator count.** Determine the total number of Medicare Part A and Medicare Advantage patient stay-level records with a discharge date in the measure target period, which do not meet the exclusion criteria.
- 3. Determine the numerator count.** Determine the total number Medicare (Part A and Medicare Advantage) patient stay-level records for which the IRF-PAI indicates one or Stage 2-4 pressure ulcer(s), or unstageable pressure ulcers due to slough/eschar, non-removable dressing/device, or deep tissue injury, that are new or worsened at discharge compared to admission:
 - Stage 2 (M0300B1) - (M0300B2) > 0, OR
 - Stage 3 (M0300C1) - (M0300C2) > 0, OR
 - Stage 4 (M0300D1) - (M0300D2) > 0, OR
 - Unstageable – Non-removable dressing/device (M0300E1) - (M0300E2) > 0, OR
 - Unstageable – Slough and/or eschar (M0300F1) - (M0300F2) > 0, OR
 - Unstageable – Deep tissue injury (M0300G1) - (M0300G2) > 0
- 4. Calculate the facility-level observed score.** Divide the facility's numerator count by its denominator count to obtain the facility-level observed score; that is, divide the result of step 3 by the result of step 2.
- 5. Calculate the rounded percent value.**
 - 5.1 Multiply the facility-level observed score by 100 to obtain a percent value.
 - 5.2 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.

5.3 Drop all the digits following the first decimal place.

CASPER QM Report Measure Calculations for Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01)

This measure is risk-adjusted for the CASPER QM Reports and an observed and a risk-adjusted value are reported. Using the definitions in [Table 7-2](#), the following steps are used to calculate the measure.

1. Calculate the facility-level observed score (steps 1.1 through 1.2).

- 1.1 To calculate the facility-level observed score, complete steps 1 – 4 from **Chapter 6, Section 6.2**, “CASPER Review and Correct Report Measure Calculations for Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury.”
- 1.2 Do not multiply by 100 or round to the nearest first decimal place. All rounding will be done at the end of the measure calculation.

2. Calculate the national average observed score³⁷ (steps 2.1 through 2.3).

- 2.1 After excluding stay-level records based on the criteria listed in [Table 7-2](#) these patient stays become the denominator for the national average observed score.
- 2.2 Identify stay-level records in the denominator of the national average observed score with pressure ulcers that are new or worsened based on the criteria in [Table 7-2](#). These records comprise the numerator of the national average observed score.
- 2.3 Divide the numerator (2.2) by the denominator (2.1) to calculate the national average observed score.

*Note: Because there is limited public accessibility to national assessment data, this document provides a national average observed score based on the reporting period of the regression intercept and coefficients. The national average observed score can be seen in [Table A-1](#) of **Appendix A** and the associated Risk Adjustment Appendix File. Please note that, depending on the reporting period and time of calculation, the national average observed score used in the CASPER QM Report, Provider Preview Report, and on public display on the Compare Website may vary from the national average observed score provided by these documents.*

3. Calculate the facility-level expected score for each patient (steps 3.1 through 3.3).

- 3.1 Determine presence or absence of the pressure ulcer covariates for each patient.
- 3.2 Using the covariate definitions in [Table 7-2](#), assign covariate values (COV), either ‘0’ for covariate condition not present or ‘1’ for covariate condition present, for each patient for each of the four covariates as reported on the admission assessment.
- 3.3 Calculate the expected score for each patient using the following formula:

$$[1] \text{ Patient-level expected score} = \frac{1}{[1 + e^{-x}]}$$

Where:

³⁷ The national average observed score is calculated using the patient stay as the unit of analysis.

- e is the base of natural logarithms
- X is a linear combination of the constant and the logistic regression coefficients times the covariate scores (from Formula [2], below):

$$[2] X = \beta_0 + \beta_1(COV_1) + \beta_2(COV_2) + \beta_3(COV_3) + \beta_4(COV_4)$$

Where:

- X identifies if patient is part of the numerator count (i.e., triggering the quality measure: 1 = yes, 0 = no).
- β_0 is the logistic regression constant or intercept.
- β_1 is the logistic regression coefficient for the first covariate “functional limitation” and COV_1 is the patient-level covariate value.
- β_2 is the logistic regression coefficient for the second covariate “bowel incontinence” and COV_2 is the patient-level covariate value.
- β_3 is the logistic regression coefficient for the third covariate “diabetes or peripheral vascular disease/peripheral artery disease (PVD/PAD)” and COV_3 is the patient-level covariate value.
- β_4 is the logistic regression coefficient for the fourth covariate “low body mass index (BMI)” and COV_4 is the patient-level covariate value.

See **Appendix A**, [Table A-3](#), and the associated Risk Adjustment Appendix File for the regression constant and coefficients.³⁸ The regression constant and coefficients are values obtained through statistical logistic regression analysis. Please note that the CASPER QM and Provider Preview Reports uses fixed regression constant and coefficients based on the target period stated in [Table A-3](#) and the Risk Adjustment Appendix File.

4. Calculate the mean facility-level expected score (step 4.1).

- 4.1 Once patient-level expected scores have been calculated, calculate the mean facility-level expected score as the mean of the facility’s patient-level expected scores.

5. Calculate the facility-level risk-adjusted score (step 5.1 through 5.3).

- 5.1 Calculate the facility-level risk-adjusted score based on the:
 - Facility-level observed quality measure score (steps 1.1 through 1.2)
 - Mean facility-level expected quality measure score (step 4.1)
 - National average observed quality measure score (step 2.1 through 2.3)
 - The calculation of the risk-adjusted score uses the following equation:

³⁸ The regression constant (intercept) and coefficient values have been rounded to four decimal places. When applying these values to the equation to calculate facility-level QM scores, these intercept and coefficient values should be used; do not round to fewer than four decimal places. This is to ensure consistency and accuracy of measure calculations.

$$[3] Adj = \frac{1}{1 + e^{-y}}$$

Where:

- *e* is the base of natural logarithms
- *Adj* is the facility-level risk-adjusted quality measure score
- *y* is the product of the following formula:

$$[4] y = \ln\left(\frac{Obs}{1 - Obs}\right) - \ln\left(\frac{Exp}{1 - Exp}\right) + \ln\left(\frac{Nat}{1 - Nat}\right)$$

Where:

- *Obs* is the facility-level observed quality measure score
- *Exp* is the mean facility-level expected quality measure score
- *Nat* is the national average observed quality measure score
- *Ln* indicates a natural logarithm

5.2 Multiply the risk-adjusted score (*Adj*) by 100 and round the percent value to one decimal place.

5.2.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.

5.2.2 Drop the digits following the first decimal place.

5.3 Facility-level recoding instructions.

5.3.1 If the facility-level observed score (step 1) equals 0, then the facility-level observed percent and the facility-level risk-adjusted percent values are set to 0.0.

5.3.2 If the facility-level observed score (step 1) equals 1, then the facility-level observed percent and the facility-level risk-adjusted percent values are set to 100.0.

Section 6.3: Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay) (NQF #0674) (CMS ID: I013.01)

CASPER Review and Correct Report Measure Calculations for Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay) (NQF #0674) (CMS ID: I013.01)

Since this measure is not risk-adjusted or stratified, only the facility-level observed score is computed and the following steps can be applied to both the CASPER Review and Correct Report measure calculation and the CASPER QM report measure calculation. Using the measure specifications from [Table 7-3](#), the following steps are used to calculate the measure.

1. Identify excluded stay-level records.

- 1.1 Stay-level record is excluded if the number of falls with major injury was not coded; i.e., J1900C = [-] for the discharge IRF-PAI.

2. Determine the denominator count. Determine the total number of patient stay-level IRF-PAI records with the discharge date in the measure target period that do not meet the exclusion criteria.

3. Determine the numerator count. Determine the total number of patient stay-level records with a discharge date during the selected time window that recorded one or more falls that resulted in major injury (J1900C = [1] or [2]).

4. Calculate the facility-level observed score. Divide the facility's numerator count by its denominator count to obtain the facility-level observed score; that is, divide the result of step 3 by the result of step 2 and then multiply by 100 to obtain a percent value.

5. Round the percent value to one decimal place.

- 5.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
- 5.2 Drop all of the digits following the first decimal place.

CASPER QM Report Measure Calculations for Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay) (NQF #0674) (CMS ID: I013.01)

As previously stated, this measure is not risk-adjusted or stratified. The steps to calculate the CASPER Review and Correct Report can be applied to calculate the CASPER QM Report. Follow the steps provided above for the CASPER QM report measure calculations for the Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay) (NQF #0674) (CMS ID: I013.01).

Section 6.4: Application of Percent of Long-Term Care Hospital (LTCH) Patients With an Admission and Discharge Functional Assessment and a Care Plan that Addresses Function (NQF #2631) (CMS ID: I008.02)

CASPER Review and Correct Report Measure Calculations for Application of Percent of Long-Term Care Hospital (LTCH) Patients With an Admission and Discharge Functional Assessment and a Care Plan that Addresses Function (NQF #2631) (CMS ID: I008.02)

Since this measure is not risk-adjusted or stratified, only the facility-level observed score is computed and the following steps can be applied to both the CASPER Review and Correct Report and the CASPER QM Report measure calculation. Using the definitions from [Table 7-4](#), the following steps are used to calculate the measure.

1. Identify patient stay records as being complete or incomplete stay records (Steps 1.1 and 1.2).
 - 1.1 Patients with **incomplete stay records** are identified based on:
 - 1.1.1 Discharge to Acute Care: Discharge Destination (Item 44D)
 - 02 = Short-term General Hospital
 - 63 = Long-term Care Hospital (LTCH)
 - 65 = Inpatient Psychiatric Facility
 - 66 = Critical Access Hospital
 - OR**
 - 1.1.2 Discharged Against Medical Advice: Patient discharged against medical advice (Item 41 = [1])
 - OR**
 - 1.1.3 Died while in IRF: Was the patient discharged alive? (Item 44C = [0])
 - OR**
 - 1.1.4 Length of stay less than 3 days: ([Item 40. Discharge Date] minus [Item 12. Admission Date]) < 3 days.
 - 1.2 Patient stays not meeting the criteria for incomplete stay records will be considered **complete stay records**.
2. Both types of stay-level records are included in the denominator, but the specifications vary by complete and incomplete stays for the numerator.
 - 2.1 **Complete stays.** For patients with complete stays, each functional assessment item listed below must have a valid numeric score indicating the patient's status [01 – 06], or a valid code indicating the activity was not attempted (e.g. GG0130A1 = [07, 09, 10, 88]). All three of the following criteria are required for inclusion in the numerator:
 - 2.1.1 A valid numeric score [01 – 06] indicating the patient's functional status [01 – 06], a valid code indicating the activity was not attempted (e.g., GG0130A1 = [07, 09, 10, 88]) for each of the functional assessment items or a “^” indicating items

affected by the skip pattern. All admission functional assessment items (refer to 2.3 below) must be completed; and

- 2.1.2 A valid numeric score [01 – 06] or a valid code indicating the activity was not attempted (e.g. GG0130A2= [07, 09, 10, 88]) for a discharge goal indicating the patient’s expected level of independence, for at least one self-care or mobility item on the admission assessment (refer to 2.4 below); and
- 2.1.3 A valid numeric score indicating the patient’s functional status [01 – 06], a valid code indicating the activity was not attempted (e.g., GG0130A3 = [07, 09, 10, 88]), or a “^” indicating a skip pattern for each of the functional assessment items on the discharge assessment. All discharge functional assessment items (refer to 2.5 below) must be completed.

2.2 **Incomplete stays.** For patients with incomplete stays, collection of discharge functional status data might not be feasible. For the admission assessment, each functional assessment item listed below must have a valid numeric score indicating the patient’s status [01 – 06], or a valid code indicating the activity was not attempted (e.g. GG0130A1 = [07, 09, 10, 88]). The following two criteria are required for inclusion in the numerator:

- 2.2.1 A valid numeric score indicating the patient’s functional status [01 – 06], a valid code indicating the activity was not attempted (e.g., GG0130A1 = [07, 09, 10, 88]), or a “^” indicating a skip pattern for each of the functional assessment items on the admission assessment. All admission functional assessment items (refer to 2.3 below) must be completed; and
- 2.2.2 A valid numeric score [01 – 06] or a valid code indicating the activity was not attempted (e.g. GG0130A2 = [07, 09, 10, 88]) for a discharge goal indicating the patient’s expected level of independence, for at least one self-care or mobility item on the admission assessment (refer to 2.4 below).

2.3 Admission Functional Performance items included in this measure are:

The Self-Care (GG0130) items are:

- GG0130A1. Eating
- GG0130B1. Oral hygiene
- GG0130C1. Toileting hygiene

The Mobility (GG0170) items are:

- GG0170B1. Sit to lying
- GG0170C1. Lying to sitting on side of bed
- GG0170D1. Sit to stand
- GG0170E1. Chair/bed-to-chair transfer
- GG0170F1. Toilet transfer
- GG0170I1. Walk 10 feet

For patients who are walking, as indicated by GG0170I1 = 01, 02, 03, 04, 05, or 06, include items:

- GG0170J1. Walk 50 feet with two turns
- GG0170K1. Walk 150 feet

For patients who are not walking as indicated by GG0170I1 = 07, 09, 10, or 88, GG0170J1 and GG0170K1 are skipped.

For patients who use a wheelchair, as indicated by GG0170Q1=1, include items:

- GG0170R1. Wheel 50 feet with two turns
- GG0170RR1. Indicate the type of wheelchair/scooter used
- GG0170S1. Wheel 150 feet
- GG0170SS1. Indicate the type of wheelchair/scooter used

For patients who do not use a wheelchair as indicated by GG0170Q1=0, GG0170R1, GG0170RR1, GG0170S1, and GG0170SS1 are skipped.

The following valid scores/codes for the Self-Care (GG0130) and Mobility (GG0170) admission performance items are accepted for this quality measure:

- 06 – Independent
- 05 – Setup or clean-up assistance
- 04 – Supervision or touching assistance
- 03 – Partial/moderate assistance
- 02 – Substantial/maximal assistance
- 01 – Dependent
- 07 – Patient refused
- 09 – Not applicable
- 10 – Not attempted due to environmental limitations
- 88 – Not attempted due to medical condition or safety concerns
- ^ – Skip pattern

Valid codes for the type of wheelchair/scooter used (GG0170RR1 and GG0170SS1) for this quality measure:

- 1 – Manual
- 2 – Motorized
- ^ – Skip pattern

2.4 Discharge Goal items reported on Admission included in this measure (a minimum of one goal must be reported) are:

The Self-Care (GG0130) items are:

- GG0130A2. Eating
- GG0130B2. Oral hygiene
- GG0130C2. Toileting hygiene
- GG0130E2. Shower/bathe self
- GG0130F2. Upper body dressing
- GG0130G2. Lower body dressing
- GG0130H2. Putting on/taking off footwear

The Mobility (GG0170) items are:

- GG0170A2. Roll left and right
- GG0170B2. Sit to lying
- GG0170C2. Lying to sitting on side of bed
- GG0170D2. Sit to stand
- GG0170E2. Chair/bed-to-chair transfer
- GG0170F2. Toilet transfer
- GG0170G2. Car transfer
- GG0170I2. Walk 10 feet
- GG0170J2. Walk 50 feet with two turns
- GG0170K2. Walk 150 feet
- GG0170L2. Walking 10 feet on uneven surfaces
- GG0170M2. 1 step (curb)
- GG0170N2. 4 steps
- GG0170O2. 12 steps
- GG0170P2. Picking up object
- GG0170R2. Wheel 50 feet with two turns
- GG0170S2. Wheel 150 feet

The following valid scores/codes for the Self-Care (GG0130) and Mobility (GG0170) discharge goal items are accepted for this quality measure:

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

- 07 – Patient refused
- 09 – Not applicable
- 10 – Not attempted due to environmental limitations
- 88 – Not attempted due to medical condition or safety concerns

2.5 Discharge Functional Performance items included in this measure are:

The Self-Care (GG0130) items are:

- GG0130A3. Eating
- GG0130B3. Oral hygiene
- GG0130C3. Toileting hygiene
- The Mobility (GG0170) items are:
 - GG0170B3. Sit to lying
 - GG0170C3. Lying to sitting on side of bed
 - GG0170D3. Sit to stand
 - GG0170E3. Chair/bed-to-chair transfer
 - GG0170F3. Toilet transfer
 - GG0170I3. Walk 10 feet

For patients who are walking, as indicated by GG0170I3 = 01, 02, 03, 04, 05, or 06, include items:

- GG0170J3. Walk 50 feet with two turns
- GG0170K3. Walk 150 feet

For patients who are not walking, as indicated by GG0170I3 = 07, 09, 10, or 88, GG0170J3 and GG0170K3 are skipped.

For patients who use a wheelchair, as indicated by GG0170Q3=1, include items:

- GG0170R3. Wheel 50 feet with two turns
- GG0170RR3. Indicate the type of wheelchair/scooter used
- GG0170S3. Wheel 150 feet
- GG0170SS3. Indicate the type of wheelchair/scooter used

For patients who do not use a wheelchair as indicated by GG0170Q3=0, GG0170R3, GG0170RR3, GG0170S3, and GG0170SS3 are skipped.

The following valid scores/codes for the Self-Care (GG0130) and Mobility (GG0170) discharge performance items are accepted for this quality measure:

- 06 – Independent
- 05 – Setup or clean-up assistance
- 04 – Supervision or touching assistance
- 03 – Partial/moderate assistance

- 02 – Substantial/maximal assistance
- 01 – Dependent
- 07 – Patient refused
- 09 – Not applicable
- 10 – Not attempted due to environmental limitations
- 88 – Not attempted due to medical condition or safety concerns
- ^ – Skip pattern

Valid codes for the type of wheelchair/scooter used (GG0170RR3 and GG0170SS3) for this quality measure are:

- 1 – Manual
- 2 – Motorized
- ^ – Skip pattern

- 3. Determine the denominator count.** Determine the total number of stay-level records, both complete and incomplete, with an assessment in the measure target period.
- 4. Determine the numerator count.** The numerator for this quality measure is the number of IRF stay-level records with complete functional assessment data and at least one self-care or mobility goal. The counts from step 2.1 (complete stay-level records) and from step 2.2 (incomplete stay-level records) are summed. This sum is the numerator count.
- 5. Calculate the facility-level observed score.** Divide the facility's numerator count by its denominator count to obtain the facility-level observed score; that is, divide the result of step 4 by the result of step 3 and then multiply by 100 to obtain a percent value.
- 6. Round the percent value to one decimal place.**
 - 6.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
 - 6.2 Drop all the digits following the first decimal place.

CASPER QM Report Measure Calculations for Application of Percent of Long-Term Care Hospital (LTCH) Patients With an Admission and Discharge Functional Assessment and a Care Plan that Addresses Function (NQF #2631) (CMS ID: I008.02)

As previously stated, this measure is not risk-adjusted or stratified. The steps to calculate the CASPER Review and Correct Report can be applied to calculate the CASPER QM Report. Follow the steps provided above for the CASPER QM Report measure calculation for the Application of Percent of Long-Term Care Hospital (LTCH) Patients With An Admission and Discharge Functional Assessment and a Care Plan That Addresses Function (NQF #2631) (CMS ID: I008.01).

Section 6.5: IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients (NQF #2633) (CMS ID: I009.02)

CASPER Review and Correct Report Measure Calculations for IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients (NQF #2633) (CMS ID: I009.02)

For the Review and Correct Reports, only the facility-level observed score is computed; the facility's risk-adjusted score is not reported. Using the definitions from [Table 7-5](#), the following steps are used to calculate the quality measure.

- 1. Calculate the admission Self-Care score** (steps 1.1 through 1.2) using the admission Self-Care score items and valid codes, identified below:

The Self-Care assessment items used for admission Self-Care score calculations are:

- GG0130A1. Eating
- GG0130B1. Oral hygiene
- GG0130C1. Toileting hygiene
- GG0130E1. Shower/bathe self
- GG0130F1. Upper body dressing
- GG0130G1. Lower body dressing
- GG0130H1. Putting on/taking off footwear

Valid codes and code definitions for the coding of the admission Self-Care items are:

- 06 – Independent
- 05 – Setup or clean-up assistance
- 04 – Supervision or touching assistance
- 03 – Partial/moderate assistance
- 02 – Substantial/maximal assistance
- 01 – Dependent
- 07 – Patient refused
- 09 – Not applicable
- 10 – Not attempted due to environmental limitations
- 88 – Not attempted due to medical condition or safety concerns
- - – Not assessed/no information

- 1.1 To obtain the score, use the following procedure:**

- If code is between 01 and 06, then use the code as the score.
- If code is 07, 09, 10, or 88, then recode to 01 and use this code as the score.

- If the self-care item is dashed (-) or missing, recode to 01 and use this code as the score.
- 1.2 Sum the scores of the admission self-care items to create an admission self-care score for each stay-level record. Scores can range from 7 to 42, with a higher score indicating greater independence.

2. Calculate the discharge Self-Care score (steps 2.1 through 2.2) using the discharge Self-Care score items and valid codes, identified below.

The Self-Care assessment items used for discharge Self-Care score calculations are:

- GG0130A3. Eating
- GG0130B3. Oral hygiene
- GG0130C3. Toileting hygiene
- GG0130E3. Shower/bathe self
- GG0130F3. Upper body dressing
- GG0130G3. Lower body dressing
- GG0130H3. Putting on/taking off footwear

Valid codes and code definitions for the coding of the discharge Self-Care items are:

- 06 – Independent
- 05 – Setup or clean-up assistance
- 04 – Supervision or touching assistance
- 03 – Partial/moderate assistance
- 02 – Substantial/maximal assistance
- 01 – Dependent
- 07 – Patient refused
- 09 – Not applicable
- 10 – Not attempted due to environmental limitations
- 88 – Not attempted due to medical condition or safety concerns
- ^ – Skip pattern
- - – Not assessed/no information

2.1 To obtain the score, use the following procedure:

- If code is between 01 and 06, then use code as the score.
- If code is 07, 09, 10, or 88, then recode to 01 and use this code as the score.
- If the self-care item is skipped (^), dashed (-), or missing, recode to 01 and use this code as the score.

- 2.2 Sum the scores of the discharge self-care items to create a discharge self-care score for each stay-level record. Scores can range from 7 to 42, with a higher score indicating greater independence.

3. Identify excluded stays. Patient is excluded if any of the following are true (steps 3.1 through 3.5).

3.1 Incomplete stays:

- 3.1.1 Length of stay is less than 3 days: Discharge Date (Item 40) – Admission Date (Item 12) is less than 3 days.
- 3.1.2 Discharged against medical advice: Patient discharged against medical advice (Item 41 = 1).
- 3.1.3 Died while in IRF: Was the patient discharged alive (Item 44C = 0).
- 3.1.4 Medical Emergency: Patient's discharge destination (Item 44D): Short-term General Hospital (Item 44D = [02]), Long-Term Care Hospital (LTCH) (Item 44D = [63]), Inpatient Psychiatric Facility (Item 44D = [65]), Critical Access Hospital (Item 44D = [66])
- 3.1.5 Patients discharged directly to another IRF: Another Inpatient Rehabilitation Facility (Item 44D = [62]).

3.2 Patients who are independent with all self-care activities at the time of admission.

Items used to identify these patient records:

- Eating (Item GG0130A1 = [06]) and;
- Oral hygiene (Item GG0130B1 = [06]) and;
- Toileting hygiene (Item GG0130C1 = [06]) and;
- Shower/bathe self (Item GG0130E1 = [06]) and;
- Upper body dressing (Item GG0130F1 = [06]) and;
- Lower body dressing (Item GG0130G1 = [06]) and;
- Putting on/taking off footwear (Item GG0130H1 = [06]).

3.3 Patients in a coma, persistent vegetative state, complete tetraplegia, locked-in state, severe anoxic brain damage, cerebral edema or compression of brain.

Items used to identify these patient records:

- Impairment Group (Item 21A = [0004.1221 or 0004.1222 or 0004.2221 or 0004.2222]).
- Etiologic Diagnosis A., B, or C (Item 22 = any one of the ICD-10-CM codes listed in **Appendix A, [Table A-4](#)**).
- Comorbid Condition (Item 24 = any of the ICD-10-CM codes listed in **Appendix A, [Table A-4](#)**).

- 3.4 Patients younger than 21 years: Age in years is calculated based on the truncated difference between admission date (Item 12) and birth date (Item 6); i.e. the difference is not rounded to nearest whole number.
- 3.5 Patients discharged to hospice (home or institutional facility) (Item 44D = 50 or 51).
4. **Determine the included records.** Determine the total number of stay-level records with an IRF-PAI in the measure target period, which do not meet the exclusion criteria. Note that this measure does not have a simple form for the numerator and denominator.
5. **Calculate the observed change in self-care scores for each patient stay-level record.** For each stay-level record included in Step 4, subtract the admission self-care score (step 1) from the discharge self-care score (step 2). If a patient's self-care score decreased from admission to discharge, the difference will be a negative value.
6. **Calculate the facility-level average observed change in self-care score.** Calculate an average observed change in self-care score for each IRF as the mean of the observed change in self-care scores for all patients in the facility who are not excluded from the measure (identified in Step 3).
7. **Round the value to one decimal place.**
 - 7.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
 - 7.2 Drop all the digits following the first decimal place.

CASPER QM Report Measure Calculations for IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients (NQF #2633) (CMS ID: I009.02)

This measure is risk-adjusted for the CASPER QM Reports and therefore an observed (i.e., not risk-adjusted) and a risk-adjusted value are reported. Using the definitions in [Table 7-5](#), the following steps are used to calculate the measure.

1. **Calculate the facility-level average observed change in self-care score.**
 - 1.1 To calculate the facility-level average observed change in self-care score, complete steps 1 – 6 from **Chapter 6, Section 6.5**, “CASPER Review and Correct Report Measure Calculations” for NQF #2633.
 - 1.2 Do not round to the nearest first decimal place. All rounding will be done at the end of the measure calculation.
2. **Calculate the national average change in self-care score³⁹** as the mean of the observed change in self-care scores for all patient stays calculated from steps 1-5 in **Chapter 6, Section 6.5**. This will be used in step 5 to calculate the risk-adjusted average change in self-care score.

Note: Because there is limited public accessibility to national assessment data, this document provides a national average observed score based on the reporting period of the regression intercept and coefficients. The national average observed score can be seen in [Table A-1](#) of

³⁹ The national average observed score is calculated using the patient stay as the unit of analysis.

[Appendix A](#) and the associated Risk Adjustment Appendix File. Please note that, depending on the reporting period and time of calculation, the national average observed score used in the CASPER QM Report, Provider Preview Report, and on public display on the Compare Website may vary from the national average observed score provided by these documents.

3. Calculate the expected change in self-care score.

- 3.1 For each stay-level record, use the intercept and regression coefficients to calculate the expected change in self-care score using the formula below:

$$[1] \text{ Expected change in self-care score} = \beta_0 + \beta_1(COV_1) + \dots + \beta_n(COV_n)$$

Where:

- *Expected change in self-care score* identifies the expected change in self-care score for each IRF patient.
- β_0 is the regression intercept.
- β_1 through β_n are the regression coefficients for the covariates (see Risk Adjustment Appendix File).

See **Appendix A**, [Table A-5](#) and [Table A-6](#), and the associated Risk Adjustment Appendix File for the regression intercept and coefficients as well as detailed IRF-PAI coding for each risk adjustor.⁴⁰ The regression intercept and regression coefficients are values obtained through Generalized Linear Model regression analysis. Please note that the CASPER QM and Provider Preview Reports use fixed regression intercepts and coefficients based on the target period stated in [Table A-5](#) and [Table A-6](#) and the Risk Adjustment Appendix File.

4. **Calculate the facility-level average expected change in self-care score.** Calculate an average expected change in self-care score for each IRF as the mean of the expected change in self-care scores for all patients in the facility.

5. Calculate the risk-adjusted average change in self-care score (steps 5.1 through 5.2).

- 5.1 Divide the facility-level observed change in self-care score (step 1) by the facility-level average expected change in self-care score (step 3) to create an observed to expected ratio.
- 5.2 Multiply each IRF's ratio by the national average change in self-care score. This is the risk-adjusted average change in self-care score.

6. Round the value to one decimal place.

- 6.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
- 6.2 Drop all of the digits following the first decimal place.

⁴⁰ The regression constant (intercept) and coefficient values have been rounded to four decimal places. When applying these values to the equation to calculate facility-level QM scores, these intercept and coefficient values should be used; do not round to fewer than four decimal places. This is to ensure consistency and accuracy of measure calculations.

Section 6.6: IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients (NQF #2634) (CMS ID: I010.02)

CASPER Review and Correct Report Measure Calculations for IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients (NQF #2634) (CMS ID: I010.02)

For the Review and Correct Reports, only the facility-level observed score is computed; the facility's risk-adjusted score is not reported. Using the definitions from [Table 7-6](#), the following steps are used to calculate the quality measure.

- 1. Calculate the admission Mobility score** (steps 1.1 through 1.2) using the admission Mobility items and valid codes, identified below:

The Mobility assessment items used for admission Mobility score calculations are:

- GG0170A1. Roll left and right
- GG0170B1. Sit to lying
- GG0170C1. Lying to sitting on side of bed
- GG0170D1. Sit to stand
- GG0170E1. Chair/bed-to-chair transfer
- GG0170F1. Toilet transfer
- GG0170G1. Car transfer
- GG0170I1. Walk 10 feet
- GG0170J1. Walk 50 feet with two turns
- GG0170K1. Walk 150 feet
- GG0170L1. Walking 10 feet on uneven surfaces
- GG0170M1. 1 step (curb)
- GG0170N1 4 steps
- GG0170O1 12 steps.
- GG0170P1. Picking up object

Valid codes and code definitions for the coding of the admission Mobility items are:

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

- 07 – Patient refused
- 09 – Not applicable
- 10 – Not attempted due to environmental limitations
- 88 – Not attempted due to medical condition or safety concerns
- ^ – Skip pattern: only valid for items GG0170J1 through GG0170L1; GG0170N1, GG0170O1
- - – Not assessed/no information

1.1 To obtain the score, use the following procedure

- If code is between 01 and 06, then use code as the score
- If code is 07, 09, 10, or 88, then recode to 01 and use this code as the score.
- If the mobility item is skipped (^), dashed (-), or missing, recode to 01 and use this code as the score.

1.2 Sum the scores of the admission mobility items to create an admission mobility score for each patient stay. Scores can range from 15 – 90, with a higher score indicating greater independence.

2. Calculate the discharge Mobility score (steps 2.1 through 2.2) using the discharge Mobility items and valid codes, identified below:

The Mobility assessment items used for discharge Mobility score calculations are:

- GG0170A3. Roll left and right
- GG0170B3. Sit to lying
- GG0170C3. Lying to sitting on side of bed
- GG0170D3. Sit to stand
- GG0170E3. Chair/bed-to-chair transfer
- GG0170F3. Toilet transfer
- GG0170G3. Car transfer
- GG0170I3. Walk 10 feet
- GG0170J3. Walk 50 feet with two turns
- GG0170K3. Walk 150 feet
- GG0170L3. Walking 10 feet on uneven surfaces
- GG0170M3. 1 step (curb)
- GG0170N3 4 steps
- GG0170O3 12 steps
- GG0170P3. Picking up object

Valid codes and code definitions for the coding of the discharge Mobility items are:

- 06 – Independent
- 05 – Setup or clean-up assistance
- 04 – Supervision or touching assistance
- 03 – Partial/moderate assistance
- 02 – Substantial/maximal assistance
- 01 – Dependent
- 07 – Patient refused
- 09 – Not applicable
- 10 – Not attempted due to environmental limitations
- 88 – Not attempted due to medical condition or safety concerns
- ^ – Skip pattern
- - – Not assessed/no information

2.1 To obtain the score, use the following procedure:

- If code is between 01 and 06, then use code as the score.
- If code is 07, 09, 10, or 88, then recode to 01 and use this code as the score.
- If the mobility item is skipped (^), dashed (-), or missing, recode to 01 and use this code as the score.

2.2 Sum the scores of the discharge mobility items to create a discharge mobility score for each patient stay. Scores can range from 15 – 90, with a higher score indicating greater independence.

3. Identify excluded stays. Patient is excluded if any of the following are true (steps 3.1 through 3.5).

3.1 Incomplete stays:

- 3.1.1 Length of stay is less than 3 days: Discharge Date (Item 40) – Admission Date (Item 12) < 3 days.
- 3.1.2 Discharged against medical advice: Patient discharged against medical advice (Item 41 = 1).
- 3.1.3 Died while in IRF: Was the patient discharged alive (Item 44C = 0).
- 3.1.4 Medical emergency: Patient discharge destination (Item 44D): Short-term General Hospital (Item 44D = [02]), Long-term Care Hospital (LTCH) (Item 44D = [63]), Inpatient Psychiatric Facility (Item 44D = [65]), Critical Access Hospital (Item 44D = [66])
- 3.1.5 Patients discharged directly to another IRF: Another Inpatient Rehabilitation Facility (Item 44D = [62]).

3.2 Patients who are independent with all mobility activities at the time of admission.

Items used to identify these patient records:

- Roll left and right (Item GG0170A1 = [06]) and;
- Sit to lying (Item GG0170B1 = [06]) and;
- Lying to sitting on side of bed (Item GG0170C1 = [06]) and;
- Sit to stand (Item GG0170D1 = [06]) and;
- Chair/bed-to-chair transfer (Item GG0170E1 = [06]) and;
- Toilet transfer (Item GG0170F1 = [06]) and;
- Car transfer (Item GG0170G1 = [06]) and;
- Walk 10 feet (Item GG0170I1 = [06]) and;
- Walk 50 feet with two turns (Item GG0170J1 = [06]) and;
- Walk 150 feet (Item GG0170K1 = [06]) and;
- Walk 10 feet on uneven surfaces (Item GG0170L1 = [06]) and;
- 1 step (curb) (Item GG0170M1 = [06]) and;
- 4 steps (Item GG0170N1 = [06]) and;
- 12 steps (Item GG0170O1 = [06]) and;
- Picking up object (Item GG0170P1 = [06])

- 3.3 Patients in a coma, persistent vegetative state, complete tetraplegia, locked-in state, severe anoxic brain damage, cerebral edema or compression of brain.

Items used to identify these patient records:

- Impairment Group (Item 21A = [0004.1221 or 0004.1222 or 0004.2221 or 0004.2222])
- Etiologic Diagnosis A, B, or C (Item 22 = any one of the ICD-10-CM codes listed in **Appendix A**, [Table A-4](#))
- Comorbid Condition (Item 24 = any of the ICD-10-CM codes listed in **Appendix A**, [Table A-4](#)).

- 3.4 Patients younger than 21 years: Age in years is calculated based on the truncated difference between admission date (Item 12) and birth date (Item 6); i.e. the difference is not rounded to nearest whole number.

- 3.5 Patients discharged to hospice (home or institutional facility) (Item 44D = [50 or 51]).

- 4. Determine the included records.** Determine the total number of stay-level records with an IRF-PAI in the measure target period, which did not meet the exclusion criteria. Note that this measure does not have a simple form for the numerator and denominator.
- 5. Calculate the observed change in mobility scores for each stay-level record.** For each stay-level record included, calculate the difference between the admission mobility score (step 1) from the discharge mobility score (step 2). If a patient's mobility score decreased from admission to discharge, the difference will be a negative value.

6. Calculate the facility-level average observed change in mobility score. Calculate an average observed change in mobility score for each IRF as the mean of the observed change in mobility scores for all patients in the facility who are not excluded (step 3).

7. Round the value to one decimal place.

7.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.

7.2 Drop all the digits following the first decimal place.

**CASPER QM Report Measure Calculations for IRF Functional Outcome Measure:
Change in Mobility Score for Medical Rehabilitation Patients (NQF #2634) (CMS ID:
I010.02)**

This measure is risk-adjusted for the CASPER QM Reports and therefore an observed (i.e., not risk-adjusted) and a risk-adjusted value are reported. Using the definitions in [Table 7-6](#), the following steps are used to calculate the measure.

1. Calculate the facility-level average observed change in mobility score (steps 1.1 through 1.2).

1.1 To calculate the facility-level average observed change in mobility score, complete steps 1 – 6 from **Chapter 6, Section 6.6**, “CASPER Review and Correct Report Measure Calculations” for NQF #2634.

1.2 Do not round to the nearest first decimal place. All rounding will be done at the end of the measure calculation.

2. Calculate the national average change in mobility score⁴¹ as the mean of the observed change in mobility scores for all patient stays calculated from steps 1-5 in **Chapter 6, Section 6.6**. This will be used in step 5 to calculate the risk-adjusted average change in mobility score.

Note: Because there is limited public accessibility to national assessment data, this document provides a national average observed score based on the reporting period of the regression intercept and coefficients. The national average observed score can be seen in [Table A-1](#) of [Appendix A](#) and the associated Risk Adjustment Appendix File. Please note that, depending on the reporting period and time of calculation, the national average observed score used in the CASPER QM Report, Provider Preview Report, and on public display on the Compare Website may vary from the national average observed score provided by these documents.

3. Calculate the expected change in mobility score.

3.1 For each stay-level record, use the intercept and regression coefficients to calculate the expected change in mobility score using the formula below:

$$[1] \text{ Expected change in mobility score} = \beta_0 + \beta_1(COV_1) + \dots + \beta_n(COV_n)$$

Where:

⁴¹ The national average observed score is calculated using the patient stay as the unit of analysis.

- *Expected change in mobility score* identifies the expected change in mobility score for each IRF patient
- β_0 is the regression intercept
- β_1 through β_n are the regression coefficients for the covariates (see Risk Adjustment Appendix File).

See **Appendix A**, [Table A-5](#) and [Table A-6](#), and the associated Risk Adjustment Appendix File for the regression intercept and coefficients as well as detailed IRF-PAI coding for each risk adjuster.⁴² The regression intercept and regression coefficients are values obtained through Generalized Linear Model regression analysis. Please note that the CASPER QM and Provider Preview Reports use fixed regression intercepts and coefficients based on the target period stated in [Table A-5](#) and [Table A-6](#) and the Risk Adjustment Appendix File.

- 4. Calculate the facility-level average expected change in mobility score.** Calculate an average expected change in mobility score for each IRF as the mean of the expected change in mobility scores for all patients in the facility.
- 5. Calculate the risk-adjusted average change in mobility score** (steps 5.1 through 5.2).
 - 5.1 Divide the facility-level average observed change in mobility score (step 1) by the facility-level average expected change in mobility score (step 3) to create an observed to expected ratio.
 - 5.2 Multiply each IRF's ratio by the national average change in mobility score. This is the risk-adjusted average change in mobility score.
- 6. Round the value to one decimal place.**
 - 6.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
 - 6.2 Drop all of the digits following the first decimal place.

⁴² The regression constant (intercept) and coefficient values have been rounded to four decimal places. When applying these values to the equation to calculate facility-level QM scores, these intercept and coefficient values should be used; do not round to fewer than four decimal places. This is to ensure consistency and accuracy of measure calculations.

Section 6.7: IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients (NQF #2635) (CMS ID: I011.02)

CASPER Review and Correct Report Measure Calculations for IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients (NQF #2635) (CMS ID: I011.02)

This measure requires risk-adjusted data for the Review and Correct Reports since it estimates the percent of IRF patients who meet or exceed an expected discharge self-care score. Using the definitions from [Table 7-7](#), the following steps are used to calculate the quality measure.

- 1. Calculate the observed discharge Self-Care score** (steps 1.1 through 1.2) using the discharge Self-Care items and valid codes, identified below:

The Self-Care assessment items used for discharge Self-Care score calculations are:

- GG0130A3. Eating
- GG0130B3. Oral hygiene
- GG0130C3. Toileting hygiene
- GG0130E3. Shower/bathe self
- GG0130F3. Upper body dressing
- GG0130G3. Lower body dressing
- GG0130H3. Putting on/taking off footwear

Valid codes and code definitions for the coding of the discharge Self-Care items are:

- 06 – Independent
- 05 – Setup or clean-up assistance
- 04 – Supervision or touching assistance
- 03 – Partial/moderate assistance
- 02 – Substantial/maximal assistance
- 01 – Dependent
- 07 – Patient refused
- 09 – Not applicable
- 10 – Not attempted due to environmental limitations
- 88 – Not attempted due to medical condition or safety concerns
- ^ – Skip pattern
- - – Not assessed/no information

- 1.1 To obtain the score, use the following procedure:**

- If code is between 01 and 06, then use code as the score.

- If code is 07, 09, 10, or 88, then recode to 01 and use this code as the score.
 - If the self-care item is skipped (^), dashed (-) or missing, recode to 01 and use this code as the score.
- 1.2 Sum the scores of the discharge self-care items to create a discharge self-care score for each patient stay-level record. Scores can range from 7 to 42, with a higher score indicating greater independence.
- 2. Identify excluded stays.** Patient is excluded if any of the following are true (steps 2.1 through 2.4).
- 2.1 Incomplete stays:
- 2.1.1 Length of stay is less than 3 days: Discharge Date (Item 40) – Admission Date (Item 12) < 3 days.
 - 2.1.2 Discharged against medical advice: Patient discharged against medical advice (Item 41 = 1).
 - 2.1.3 Died while in IRF: Was the patient discharged alive (Item 44C = 0).
 - 2.1.4 Medical emergency: Patients discharge destination (Item 44D): Short-term General Hospital (Item 44D = [02]), Long-term Care Hospital (LTCH) (Item 44D = [63]), Inpatient Psychiatric Facility (Item 44D = [65]), Critical Access Hospital (Item 44D = [66])
 - 2.1.5 Patient discharged directly to another IRF: Another Inpatient Rehabilitation Facility (Item 44D = [62]).
- 2.2 Patients in a coma, persistent vegetative state, complete tetraplegia, locked-in state, severe anoxic brain damage, cerebral edema or compression of brain.
- Items used to identify these patient records:
- Impairment Group (Item 21A = [0004.1221 or 0004.1222 or 0004.2221 or 0004.2222])
 - Etiologic Diagnosis A., B. or C (Item 22 = any one of the ICD-10-CM codes listed in **Appendix A, [Table A-4](#)**)
 - Comorbid Condition (Item 24 = any of the ICD-10-CM codes listed in **Appendix A, [Table A-4](#)**)
- 2.3 Patients younger than 21 years: Age in years is calculated based on the truncated difference between admission date (Item 12) and birth date (Item 6); i.e. the difference is not rounded to nearest whole number.
- 2.4 Patients discharged to hospice (home or institutional facility) (Item 44D = [50 or 51]).
- 3. Calculate the expected discharge Self-Care score.**
- 3.1 For each stay-level record: use the intercept and regression coefficients to calculate the expected discharge self-care score using the formula below:

$$[1] \text{ Expected discharge of self-care score} = \beta_0 + \beta_1(COV_1) + \dots + \beta_n(COV_n)$$

Where:

- **Expected discharge self-care score** estimates an expected discharge self-care score
- β_0 is the regression intercept
- β_1 through β_n are the regression coefficients for the covariates (see Risk Adjustment Appendix File).
 - Note that any expected discharge self-care score greater than the maximum (i.e., 42) would be recoded to be the maximum score.

See **Appendix A**, [Table A-5](#) and [Table A-6](#), and the associated Risk Adjustment Appendix File for the regression intercept and coefficients as well as detailed IRF-PAI coding for each risk adjustor.⁴³ The regression intercept and regression coefficients are values obtained through Generalized Linear Model regression analysis. Please note that the CASPER QM and Provider Preview Reports use fixed regression intercepts and coefficients based on the target period stated in [Table A-5](#) and [Table A-6](#) and the Risk Adjustment Appendix File.

4. **Calculate the difference in observed and expected discharge self-care scores.** For each patient stay-level record, compare each patient's observed discharge self-care score (step 1) and expected discharge self-care score (step 3) and classify the difference as one of the following:
 - 4.1 Observed discharge score is equal to or higher than the expected discharge score.
 - 4.2 Observed discharge score is lower than the expected discharge score.
5. **Determine the denominator count.** Determine the total number of stay-level records with an IRF-PAI in the measure target period, which do not meet the exclusion criteria.
6. **Determine the numerator count.** The numerator for this quality measure is the number of stay-level records with an observed discharge score that is the same as or higher than the expected discharge score (step 4.1).
7. **Calculate the facility-level discharge self-care percent.** Divide the facility's numerator count by its denominator count to obtain the facility-level discharge self-care percent; that is, divide the result of step 6 by the result of step 5 and then multiply by 100 to obtain a percent value.
8. **Round the percent value to one decimal place.**
 - 8.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
 - 8.2 Drop all the digits following the first decimal place.

⁴³ The regression constant (intercept) and coefficient values have been rounded to four decimal places. When applying these values to the equation to calculate facility-level QM scores, these intercept and coefficient values should be used; do not round to fewer than four decimal places. This is to ensure consistency and accuracy of measure calculations.

**CASPER QM Report Measure Calculations for IRF Functional Outcome Measure:
Discharge Self-Care Score for Medical Rehabilitation Patients (NQF #2635) (CMS ID:
I011.02)**

This measure requires risk-adjustment for the CASPER QM Reports. Follow the steps provided above for the CASPER Review and Correct Report measure calculations for the IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients (NQF #2635) (CMS ID: I011.02).

Section 6.8: IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients (NQF #2636) (CMS ID: I012.02)

CASPER Review and Correct Report Measure Calculations for IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients (NQF #2636) (CMS ID: I012.02)

This measure requires risk-adjusted data for the Review and Correct Reports since it estimates the percent of IRF patients who meet or exceed an expected discharge mobility score. Using the definitions from [Table 7-8](#), the following steps are used to calculate the quality measure.

- 1. Calculate the observed discharge Mobility score** (steps 1.1 through 1.2) using the discharge Mobility items and valid codes, identified below:

The Mobility assessment items used for discharge Mobility score calculations are:

- GG0170A3. Roll left and right
- GG0170B3. Sit to lying
- GG0170C3. Lying to sitting on side of bed
- GG0170D3. Sit to stand
- GG0170E3. Chair/bed-to-chair transfer
- GG0170F3. Toilet transfer
- GG0170G3. Car transfer
- GG0170I3. Walk 10 feet
- GG0170J3. Walk 50 feet with two turns
- GG0170K3. Walk 150 feet
- GG0170L3. Walking 10 feet on uneven surfaces
- GG0170M3. 1 step (curb)
- GG0170N3. 4 steps
- GG0170O3. 12 steps
- GG0170P3. Picking up object

Valid codes and code definitions for the coding of the discharge Mobility items are:

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

- 07 – Patient refused
- 09 – Not applicable
- 10 – Not attempted due to environmental limitations
- 88 – Not attempted due to medical condition or safety concerns
- ^ – Skip pattern
- - – Not assessed/no information

1.1 To obtain the score, use the following procedure

- If code is between 01 and 06, then use code as the score.
- If code is 07, 09, 10, or 88, then recode to 01 and use this code as the score.
- If the mobility item is skipped (^), dashed (-), or missing, recode to 01 and use this code as the score.

1.2 Sum the scores of the discharge mobility items to create a discharge mobility score for each patient stay. Scores can range from 15 – 90, with a higher score indicating greater independence.

2. Identify excluded stays. Patient is excluded if any of the following are true (steps 2.1 through 2.4).

2.1 Incomplete stays:

- 2.1.1 Length of stay is less than 3 days: Discharge Date (Item 40) – Admission Date (Item 12) < 3 days.
- 2.1.2 Discharged against medical advice: Patient discharged against medical advice (Item 41 = [1]).
- 2.1.3 Died while in IRF: Was the patient discharged alive (Item 44C = [0]).
- 2.1.4 Medical emergency: Patients discharge destination (Item 44D): Short-term General Hospital (Item 44D = [02]), Long-term Care Hospital (LTCH) (Item 44D = [63]), Inpatient Psychiatric Facility (Item 44D = [65]), Critical Access Hospital (Item 44D = [66]).
- 2.1.5 Patients discharged directly to another IRF: Another Inpatient Rehabilitation Facility (Item 44D = [62]).

2.2 Patients in a coma, persistent vegetative state, complete tetraplegia, locked-in state, severe anoxic brain damage, cerebral edema or compression of brain.

Items used to identify these patient records:

- Impairment Group (Item 21A = [0004.1221 or 0004.1222 or 0004.2221 or 0004.2222])
- Etiologic Diagnosis A., B., or C (Item 22 = any one of the ICD-10-CM codes listed in **Appendix A**, [Table A-4](#))

- Comorbid Condition (Item 24 = any of the ICD-10-CM codes listed in **Appendix A, Table A-4**).
- 2.3 Patients younger than 21 years: Age in years is calculated based on the truncated difference between admission date (Item 12) and birth date (Item 6); i.e. the difference is not rounded to nearest whole number. Patients discharged to hospice (home or institutional facility) (Item 44D = [50 or 51]).

3. Calculate the expected discharge Mobility score.

- 3.1 For each stay-level record: use the intercept and regression coefficients to calculate the expected discharge mobility score using the formula below:

Where:

- *Expected discharge in Mobility score* identifies a patient's expected discharge mobility score
- β_0 is the regression intercept
- β_1 through β_n are the regression coefficients for the covariates (see Risk Adjustment Appendix File).
 - Note that any expected discharge mobility score greater than the maximum (i.e., 90) would be recoded to be the maximum score.

See **Appendix A, Table A-5** and **Table A-6**, and the associated Risk Adjustment Appendix File for the regression intercept and coefficients as well as detailed IRF-PAI coding for each risk adjustor.⁴⁴ The regression intercept and regression coefficients are values obtained through Generalized Linear Model regression analysis. Please note that the CASPER QM and Provider Preview Reports use fixed regression intercepts and coefficients based on the target period stated in **Table A-5** and **Table A-6** and the Risk Adjustment Appendix File.

4. **Calculate the difference in observed and expected discharge Mobility scores.** For each patient stay-level record which does not meet the exclusion criteria, compare each patient's observed discharge mobility score (step 1) and expected discharge mobility score (step 3) and classify the difference as one of the following:

- 4.1 Observed discharge score is equal to or higher than the expected discharge score.
- 4.2 Observed discharge score is lower than the expected discharge score.

5. **Determine the denominator count.** Determine the total number of stay-level records with an IRF-PAI in the measure target period, which do not meet the exclusion criteria.
6. **Determine the numerator count.** The numerator for this quality measure is the number of stay-level records in which the observed discharge score is the same as or higher than the expected discharge score.
7. **Calculate the facility-level discharge mobility percent.** Divide the facility's numerator count by its denominator count to obtain the facility-level discharge mobility percent; that is,

⁴⁴ The regression constant (intercept) and coefficient values have been rounded to four decimal places. When applying these values to the equation to calculate facility-level QM scores, these intercept and coefficient values should be used; do not round to fewer than four decimal places. This is to ensure consistency and accuracy of measure calculations.

divide the result of step 6 by the result of step 5 and then multiply by 100 to obtain a percent value.

8. Round the percent value to one decimal place.

- 8.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
- 8.2 Drop all the digits following the first decimal place.

**CASPER QM Report Measure Calculations for IRF Functional Outcome Measure:
Discharge Mobility Score for Medical Rehabilitation Patients (NQF #2636) (CMS ID:
I012.02)**

This measure requires risk-adjustment for the CASPER QM Reports. Follow the steps provided above for the CASPER Review and Correct Report measure calculations for the IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients (NQF #2636) (CMS ID: I012.02).

Section 6.9: Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680) (CMS ID: I002.01)

CASPER Review and Correct Report Measure Calculations for Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680) (CMS ID: I002.01)

Since this measure is not risk-adjusted or stratified, only the facility-level observed score is computed and the following steps can be applied to both the CASPER Review and Correct Report measure calculation and the CASPER QM Report measure calculation. Additional steps are required for the CASPER QM Report measure calculations. Using the definitions from [Table 7-9](#), the following steps are used to calculate the measure.

- 1. Identify excluded stay-level records** (step 1.1 through 1.2).
 - 1.1 Calculate the patient's age at discharge. Calculate the age in days using the discharge date or the last date of the influenza vaccination season (March 31 of relevant year), whichever comes first in time. Use exact values in calculating age; do not round to nearest whole number.
 - 1.2 Exclude stay-level records for which the patient's age on selected influenza vaccination assessment is 0-179 days. Patients who are 180 days old or more, based on this calculation, are included in the measure. Patients who are 0-179 days old, based on this calculation, are excluded from the measure.
- 2. Determine the denominator count.** Select all stay-level records with a discharge date within the influenza season (i.e., July 1 to June 30). From these selected records, determine the total number of records in which the patient stayed 1 or more days in the IRF during the influenza vaccination season, that do not meet the exclusion criteria above.
- 3. Determine the numerator count.** Determine the total number of stay-level records in the denominator meeting any one of the following criteria on the selected IRF-PAI:
 - 3.1 Patient received the influenza vaccine during the most recent influenza vaccination season, either in the facility (O0250A = [1]) or outside the facility (O0250C = [2]); or
 - 3.2 Patient was ineligible due to medical contraindication(s) (O0250C = [3]); or
 - 3.3 Patient was offered and declined the influenza vaccine (O0250C = [4]).
- 4. Calculate the facility-level observed score.** Divide the facility's numerator count (step 3) by its denominator count (step 2) and multiply by 100 to obtain the facility-level observed score.
- 5. Round the percent value to one decimal place.**
 - 5.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
 - 5.2 Drop all the digits following the first decimal place.

CASPER QM Report Measure Calculations for Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680) (CMS ID: I002.01)

This measure requires three numerator counts for the CASPER QM Reports. Using the definitions from [Table 7-9](#), [7-9a](#), [7-9b](#) and [7-9c](#), the following steps are used to calculate the measure and relevant sub measures. The relevant sub measures are as follows:

- Percent of Residents or Patients Received the Seasonal Influenza Vaccine (Short Stay) (NQF #0680a) (CMS ID: I003.01)
- Percent of Residents or Patients Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay) (NQF #0680b) (CMS ID: I004.01)
- Percent of Residents or Patients Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Short Stay) (NQF #0680c) (CMS ID: I005.01)

1. Calculate the facility-level observed score (steps 1.1 through 1.2).

- 1.1 To calculate the facility-level observed score, complete steps 1 – 4 from **Chapter 6, Section 6.9**, “CASPER Review and Correct Report Measure Calculations” for Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680) (CMS ID: I002.01).
- 1.2 Do not round to the nearest first decimal place. All rounding will be done at the end of the measure calculation.

2. Determine the facility’s three numerator counts (steps 2.1 through 2.3).

- 2.1 *Numerator for NQF #0680a*: Determine the total number of stay-level records in the denominator in which the patient received the influenza vaccine during the most recent influenza vaccination season, either in the facility (O0250A = [1]) or outside the facility (O0250C = [2]).
- 2.2 *Numerator for NQF #0680b*: Determine the total number of stay-level records in the denominator in which the patient was offered and declined the influenza vaccine (O0250C = [4]).
- 2.3 *Numerator for NQF #0680c*: Determine the total number of stay-level records in the denominator in which the patient was ineligible due to medical contraindication(s) (O0250C = [3]).

3. Calculate the facility-level overall observed score. Divide the facility’s overall numerator count by its denominator count to obtain the facility-level overall observed score; that is, divide the result of step 3 (**Chapter 6, Section 6.9**) by the result of step 2 (**Chapter 6, Section 6.9**).

4. Calculate the facility-level observed scores for each numerator count (steps 4.1 through 4.3).

- 4.1 Divide the facility’s numerator count for **NQF #0680a** (step 2.1) by the denominator count and multiply by 100 to obtain the facility-level observed score associated with NQF #0680a. Refer to [Table 7-9a](#) for measure calculations.

- 4.2 Divide the facility's numerator count for **NQF #0680b** (step 2.2) by the denominator count and multiply by 100 to obtain the facility-level observed score associated with NQF #0680b. Refer to [*Table 7-9b*](#) for measure calculations.
 - 4.3 Divide the facility's numerator count for **NQF #0680c** (step 2.3) by the denominator count and multiply by 100 to obtain the facility-level observed score associated with NQF #0680c. Refer to [*Table 7-9c*](#) for measure calculations.
- 5. Round the percent value to one decimal place for each facility-level observed score numerator count** (steps 5.1 through 5.2).
- 5.1 If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
 - 5.2 Drop all the digits following the first decimal place.

Section 6.10: Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP (CMS ID: I021.01)

CASPER Review and Correct Report Measure Calculations for Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP (CMS ID: I021.01)

Since this measure is not risk-adjusted or stratified, only the facility-level observed score is computed and the following steps can be applied to both the CASPER Review and Correct Report measure calculation and the CASPER QM Report measure calculation. Using the definitions from [Table 7-10](#), the following steps are used to calculate the measure.

1. **Determine the denominator count.** Select any Medicare patient stays (Part A or Medicare Advantage during the reporting period.
2. **Determine the numerator count.**

Include patient stays in the numerator count if both of the following criteria (2.1 and 2.2) are met:

 - 2.1. The facility conducted a drug regimen review on admission which resulted in one of the following three scenarios:
 - 2.1.1. No potential or actual clinically significant medication issues were found during the review (N2001 = [0]); or
 - 2.1.2. Potential or actual clinically significant medication issues were found during the review (N2001 = [1]) and a physician (or physician-designee) was contacted and prescribed/recommended actions were completed by midnight of the next calendar day (N2003 = [1]); or
 - 2.1.3. The patient was not taking any medications (N2001 = [9]).
 - 2.2. Appropriate follow-up occurred each time a potential or actual clinically significant medication issue was identified during the stay (N2005 = [1]); or no potential or actual clinically significant medications issues were identified since admission or patient was not taking any medications (N2005 = [9]).
3. **Calculate the facility-level observed score.** Divide the facility's numerator count by its denominator count to obtain the facility-level observed score; that is, divide the result of step 2 by the result from step 1 and then multiply by 100 to obtain a percent value.
4. **Round the percent value to one decimal place.**
 - 4.1. If the digit in the second decimal place is 5 or greater, add 1 to the first decimal place, otherwise leave the first decimal place unchanged.
 - 4.2. Drop all the digits following the first decimal place.

CASPER QM Report Measure Calculations for Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP (CMS ID: I021.01)

As previously stated, this measure is not risk-adjusted or stratified. The steps to calculate the CASPER Review and Correct Report can be applied to calculate the CASPER QM Report. Follow the steps provided above for the CASPER QM Report measure calculation for the Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP (CMS ID: I021.01).

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Chapter 7

Measure Logic Specifications for Assessment-Based Quality Measures (IRF-PAI)

Table 7-1

Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay)
(NQF #0678) (CMS ID: I001.02)⁴⁵

Measure Description
This measure reports the percentage of stay-level records with Stage 2, 3, or 4 pressure ulcers that are new or worsened since admission. The measure is calculated by reviewing a patient's IRF-PAI pressure ulcer discharge assessment data for reports of Stage 2-4 pressure ulcers that were not present or were at a lesser stage at the time of admission.
Measure Specifications ⁴⁶
<p>Numerator</p> <p>Patient stay-level records for whom the IRF-PAI indicates one or more new or worsened Stage 2, 3, or 4 pressure ulcers since admission:</p> <p>For IRF-PAI Version 1.3, items used to determine presence of new or worsened Stage 2, 3, or 4 pressure ulcer(s) at discharge:⁴⁷</p> <ol style="list-style-type: none"> 1. Stage 2 (M0300B4) > 0, <i>or</i> 2. Stage 3 (M0300C4) > 0, <i>or</i> 3. Stage 4 (M0300D4) > 0 <p>For IRF-PAI Version 1.4 and Version 1.5, items used to determine presence of new or worsened Stage 2, 3, or 4 pressure ulcer(s) at discharge:</p> <ol style="list-style-type: none"> 1. Stage 2 (M0800A) > 0, <i>or</i> 2. Stage 3 (M0800B) > 0, <i>or</i> 3. Stage 4 (M0800C) > 0. <p>Denominator</p> <p>The total number of IRF-PAI Medicare Part A and Medicare Advantage patient stay-level records, which do not meet the exclusion criteria, in the measure target period.</p>

(continued)

⁴⁵ This measure is NQF-endorsed for use in the IRF setting (<http://www.qualityforum.org/QPS/0678>) (in addition to being endorsed for use in the Long-Term Care Hospital and Skilled Nursing Facility/Nursing Home (SNF/NH) settings) and finalized for reporting by IRFs under the IRF QRP (*Federal Register* 78 (6 August 2013): 47903-47919. Web. <http://www.gpo.gov/fdsys/pkg/FR-2013-08-06/pdf/2013-18770.pdf> and *Federal Register* 79 (6 August 2014): 45908-45918. Web. <http://www.gpo.gov/fdsys/pkg/FR-2014-08-06/pdf/2014-18447.pdf>. The use of the words “resident” and “short stay” in the title of this measure refers to the use of this measure in the SNF/NH setting. CMS’s use of these words does not imply that the IRF patient is a “resident” or that a stay in an IRF is a “short stay.”

⁴⁶ A copy of IRF-PAI V.1.5, including items for the measure, “Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678)”, is available at: https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-15-Effective-October-1-2017_PRA-Update.pdf. Some of the items used in calculation of this measure are removed from IRF-PAI V.2.0, which is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>.

⁴⁷ CMS ID: I001.01 refers to IRF-PAI V1.2 and V1.3 pressure ulcer items (M0300). CMS ID: I001.02 refers to IRF-PAI V1.4 and V1.5 pressure ulcer items (M0800).

Table 7-1 (continued)
Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay)
(NQF #0678) (CMS ID: I001.02)

Measure Specifications (continued)
<p>Exclusions</p> <p>Patient stay-level record is excluded if:</p> <p>Data on new or worsened Stage 2, 3, and 4 pressure ulcer(s) are missing at discharge:</p> <ul style="list-style-type: none"> For IRF-PAI Version 1.3: M0300B4 = [-] and M0300C4 = [-] and M0300D4 = [-] For IRF-PAI Version 1.4 and Version 1.5: M0800A = [-] and M0800B = [-] and M0800C = [-] <p>Patient died during the IRF stay:</p> <ul style="list-style-type: none"> Item 44C (was the patient discharged alive?) = [0]
Covariates
<p><i>Data for each covariate is derived from the IRF-PAI admission assessment data included in the target stay-level records.</i></p> <ol style="list-style-type: none"> Indicator of minimal or more assistance for the functional mobility item Transfers: Bed, Chair, Wheelchair (FIM® item 39I): <ol style="list-style-type: none"> Covariate = [1] (yes) if 39I = [00, 01, 02, 03, 04] ([00] = Activity did not occur, [01] = Total assistance, [02] = Maximal assistance, [03] = Moderate assistance, [04] = Minimal assistance) Covariate = [0] (no) if 39I = [05, 06, 07] ([05] = Supervision, [06] = Modified independence (Device), [07] = Complete independence (Timely, Safely)) Indicator of bowel incontinence at least occasionally (Item 32): <ol style="list-style-type: none"> Covariate = [1] (yes) if item 32 [01, 02, 03, 04, 05] ([01] = Five or more accidents in the past 7 days, [02] = Four accidents in the past 7 days, [03] = Three accidents in the past 7 days, [04] = Two accidents in the past 7 days, [05] = One accident in the past 7 days) Covariate = [0] (no) if item 32 = [06, 07] ([06] = No accidents; uses device such as an ostomy, [07] = No accidents) Have peripheral vascular disease or peripheral arterial disease or diabetes: <p><u>For IRF-PAI Version 1.3:</u></p> <ol style="list-style-type: none"> Covariate = [1] (yes) if one or more of the following are true: <ol style="list-style-type: none"> I0900A = [1] (checked) I0900B = [1] (checked) I2900A = [1] (checked) Covariate = [0] (no) if I0900A = [0, -] AND I0900B = [0, -] AND I2900 = [0, -] ([0] = No, [-] = No response available) <p><u>For IRF-PAI Version 1.4 and Version 1.5:</u></p> <ol style="list-style-type: none"> Covariate = 1 (yes)_if any of the following are true: <ol style="list-style-type: none"> I0900 = [1] (checked) I2900 = [1] (checked) Covariate = [0] (no) if I0900 = [0, -] AND I2900 = [0, -] ([0] = No, [-] = No response available)

(continued)

Table 7-1 (continued)
Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay)
(NQF #0678) (CMS ID: I001.02)

Covariates	
4. Indicator of low body mass index (BMI), based on height (Item 25A) and weight (Item 26A):	
a. Covariate = [1] (yes) if BMI \geq [12.0] AND \leq [19.0]	
b. Covariate = [0] (no) if BMI < [12.0] OR BMI > [19.0]	
c. Covariate = [0] (no) if Item 25A = [0, 00, -] OR Item 26A = [-] ([-] = No response available)	
Where: BMI = (weight * 703 / height ²) = ([Item 26A] * 703) / (Item 25A ²) and the resulting value is rounded to one decimal place. ⁴⁸	

⁴⁸ To round off the percent value to one decimal place, if the digit in the second decimal place is greater than 5, add 1 to the digit in the first decimal place, otherwise leave the digit in the first decimal place unchanged. Drop all the digits following the digit in the first decimal place.

Table 7-2

Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01) Please refer to Chapter 6, Section 6.1.A on the effective date for data collection and implementation date for the CASPER reports.

Measure Description
This measure reports the percentage of patient stays with Stage 2-4 pressure ulcers, or unstageable pressure ulcers due to slough/eschar, non-removable dressing/device, or deep tissue injury, that are new or worsened since admission.
Measure Specifications ⁴⁹
<p>The measure is calculated by reviewing a patient's IRF-PAI pressure ulcer discharge assessment data for reports of Stage 2-4 pressure ulcers, or unstageable pressure ulcers due to slough/eschar, non-removable dressing/device, or deep tissue injury, that were not present or were at a lesser stage at the time of admission.\</p> <p>Numerator</p> <p>The numerator is the number of Medicare (Part A and Medicare Advantage) stays for which the IRF-PAI indicates one or more Stage 2-4 pressure ulcer(s), or unstageable pressure ulcers due to slough/eschar, non-removable dressing/device, or deep tissue injury, that are new or worsened at discharge compared to admission.</p> <ol style="list-style-type: none"> 1) Stage 2 (M0300B1) - (M0300B2) > 0, OR 2) Stage 3 (M0300C1) - (M0300C2) > 0, OR 3) Stage 4 (M0300D1) - (M0300D2) > 0, OR 4) Unstageable – Non-removable dressing/device (M0300E1) - (M0300E2) > 0, OR 5) Unstageable – Slough and/or eschar (M0300F1) - (M0300F2) > 0, OR 6) Unstageable – Deep tissue injury (M0300G1) - (M0300G2) > 0 <p>Denominator</p> <p>The denominator is the total number of Medicare (Part A and Medicare Advantage) patient stays with discharge date in the measure target period, except those that meet the exclusion criteria.</p> <p>Exclusions</p> <p>Patient stay-level record is excluded if:</p> <p>Data on new or worsened Stage 2, 3, 4, and unstageable pressure ulcers, including deep tissue injuries, are missing at discharge:</p> <ul style="list-style-type: none"> • (M0300B1 = [-] or M0300B2 = [-]) and (M0300C1 = [-] or M0300C2 = [-]) and (M0300D1 = [-] or M0300D2 = [-]) and (M0300E1 = [-] or M0300E2 = [-]) and (M0300F1 = [-] or M0300F2 = [-]) and (M0300G1 = [-] or M0300G2 = [-]) <p>The patient died during the IRF stay:</p> <ul style="list-style-type: none"> • Item 44C = [0]

(continued)

⁴⁹ A copy of IRF-PAI Version 2.0, including items for the measure, “Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury”, is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>.

Table 7-2 (continued)

Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury (CMS ID: I022.01)

Covariates	
<i>Data for each covariate is derived from the IRF-PAI admission assessment data included in the target stay-level records.</i>	
1. Functional Mobility Admission Performance:	
Coding of dependent or substantial/maximal assistance for the functional mobility item Lying to Sitting on Side of Bed at admission:	
a.	Covariate = [1] (yes) if GG0170C = [01, 02, 07, 09, 10, 88] ([01] = Dependent, [02] =Substantial/maximal assistance, [07] = Patient refused, [09] = Not applicable, [10] = Not attempted due to environmental limitations, [88] = Not attempted due to medical condition or safety concerns)
b.	Covariate = [0] (no) if GG0170C = [03, 04, 05, 06, -] ([03] =Partial/moderate assistance, [04] =Supervision or touching assistance, [05] =Setup or clean-up assistance, [06] = Independent, [-] =No response available)
2. Bowel Incontinence:	
Bowel Continence (H0400) at admission	
a.	Covariate = [1] (yes) if H0400 = [1, 2, 3] ([1] = Occasionally incontinent, [2] = Frequently incontinent, [3] = Always incontinent)
b.	Covariate = [0] (no) if H0400 = [0, 9, -] ([0] = Always continent, [9] = Not rated, [-] = Not assessed/no information)
3. Peripheral Vascular Disease / Peripheral Arterial Disease or Diabetes Mellitus:	
a.	Covariate = [1] (yes) if any of the following are true:
i.	I0900 = [1] (checked)
ii.	I2900 = [1] (checked)
b.	Covariate = [0] (no) if I0900 = [0, -] AND I2900 = [0, -] ([0] = No, [-] = No response available)
4. Low body mass index (BMI), based on height (25A) and weight (26A):	
a.	Covariate = [1] (yes) if BMI \geq [12.0] AND \leq [19.0]
b.	Covariate = [0] (no) if BMI < [12.0] OR BMI > [19.0]
c.	Covariate = [0] (no) if Item 25A = [0, 00, -] OR Item 26A = [-] ([-] = No response available)
Where: BMI = (weight * 703 / height ²) = ([Item 26A] * 703) / (Item 25A ²) and the resulting value is rounded to one decimal place. ⁵⁰	

⁵⁰ To round off the percent value to one decimal place, if the digit in the second decimal place is greater than 5, add 1 to the digit in the first decimal place, otherwise leave the digit in the first decimal place unchanged. Drop all the digits following the digit in the first decimal place.

Table 7-3
Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay)
(NQF #0674) (CMS ID: I013.01)⁵¹

Measure Description ⁵²
This quality measure reports the percentage of patients/residents who experience one or more falls with major injury (defined as bone fractures, joint dislocations, closed head injuries with altered consciousness, or subdural hematoma) during the IRF stay.
Measure Specifications ⁵³
<p>Numerator</p> <p>Total number Medicare (Part A or Medicare Advantage) stays in the denominator during the selected time window who experienced one or more falls that resulted in major injury: J1900C = [1] or [2].</p> <p>Denominator</p> <p>The total number of Medicare Part A and Medicare Advantage patient stay-level IRF-PAI records with a discharge date in the measure target period, which do not meet the exclusion criteria.</p> <p>Exclusions</p> <p>Stay-level record is excluded if the number of falls with major injury was not coded on the discharge IRF-PAI:</p> <ul style="list-style-type: none"> J1900C (Falls with Major Injury) = [-]
Covariates
None.

⁵¹ This measure is NQF-endorsed for long-stay residents in nursing homes (<http://www.qualityforum.org/QPS/0674>) and an application of this quality measure is finalized for reporting by IRFs under the IRF QRP (Federal Register 80 (6 August 2015): 47096-47100). Web. <https://www.gpo.gov/fdsys/pkg/FR-2015-08-06/pdf/2015-18973.pdf>

⁵² Beginning on October 1, 2016, IRFs began to use the IRF-PAI Version 1.4 to collect and submit falls data for the IRF QRP.

⁵³ A copy of IRF-PAI V 2.0, including items for the measure, “Application of Percent of Residents Experiencing One or More Falls with Major Injury (Long Stay)”, is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>

Table 7-4
Application of Percent of Long-Term Care Hospital (LTCH) Patients with an Admission and Discharge Functional Assessment and a Care Plan that Addresses Function (NQF #2631) (CMS ID: I008.02)⁵⁴

Measure Description
This measure reports the percentage of all Inpatient Rehabilitation Facility (IRF) patient stay-level records with an admission and discharge functional assessment and a care plan that addresses function.
Measure Specifications ⁵⁵
<p>Numerator</p> <p>Total number of patient stay-level records in the denominator meeting the following criteria on the selected functional assessment data:</p> <p><u>For patients with a complete stay, the record is counted in the numerator if:</u></p> <ul style="list-style-type: none"> a. a valid score indicating functional status (01 to 06) or a valid code indicating the activity was not attempted/not assessed (07, 09, 10, 88 or ^) for each of the functional assessment items on the admission assessment, and⁵⁶ b. a valid score indicating functional status (01 to 06) for a discharge goal indicating the patient's expected level of independence or a valid code indicating the activity was not attempted/not assessed (07, 09, 10, 88), for at least one self-care or mobility item on the admission assessment, and c. a valid score indicating functional status (01 to 06) or a valid code indicating the activity was not attempted/not assessed (07, 09, 10, 88 or ^) for each of the functional assessment items on the discharge assessment <p><u>For patients with an incomplete stay, the record is counted in the numerator if:</u>⁵⁷</p> <ul style="list-style-type: none"> a. a valid score indicating functional status (01 to 06) or a valid code indicating the activity was not attempted/not assessed (07, 09, 10, 88 or ^) for each of the functional assessment items on the admission assessment, and b. a valid score indicating functional status (01 to 06) for a discharge goal indicating the patient's expected level of independence or a valid code indicating the activity was not attempted/not assessed (07, 09, 10, 88), for at least one self-care or mobility item on the admission assessment

(continued)

⁵⁴ This measure is NQF-endorsed for use in the LTCH setting (<http://www.qualityforum.org/QPS/2631>) and an application of this quality measure is finalized for reporting by IRFs under the IRF QRP (*Federal Register* 80 (6 August 2015): 47100-47111). Web. <https://www.gpo.gov/fdsys/pkg/FR-2015-08-06/pdf/2015-18973.pdf>

⁵⁵ A copy of IRF-PAI V 2.0, including items for the measure, "Application of Percent of Long-Term Care Hospital (LTCH) Patients with an Admission and Discharge Functional Assessment and a Care Plan that Addresses Function (NQF #2631)", is available at <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>

⁵⁶ Functional assessment items included in this measure on the admission and discharge assessments are three self-care items (GG0130A, GG0130B, and GG0130C) and twelve mobility items (GG0170B, GG0170C, GG0170D, GG0170E, GG0170F, GG0170I, GG0170J, GG0170K, GG0170R, GG0170RR, GG0170S, GG0170SS). All functional assessment items are included when selecting a patient's discharge goal (GG0130A2, GG0130B2, GG0130C2, GG0130E2, GG0130F2, GG0130G2, GG0130H2, GG0170A2, GG0170B2, GG0170C2, GG0170D2, GG0170E2, GG0170F2, GG0170G2, GG0170I2, GG0170J2, GG0170K2, GG0170L2, GG0170M2, GG0170N2, GG0170O2, GG0170P2, GG0170R2, GG0170S2).

⁵⁷ Incomplete stays are defined as those patients (1) with incomplete stays due to a medical emergency (i.e., discharged to acute care), (2) who leave the IRF against medical advice, (3) who die while in the IRF, or (4) who had a stay of less than 3 days. All patient stay-level records that are not classified as incomplete stays are classified as complete stays. Refer to **Chapter 6, Section 6.4** for the steps for determining complete and incomplete stays.

Table 7-4 (continued)

Application of Percent of Long-Term Care Hospital (LTCH) Patients with an Admission and Discharge Functional Assessment and a Care Plan that Addresses Function (NQF #2631) (CMS ID: I008.02)

Measure Specifications (continued)	
<i>Denominator</i>	The total number of Medicare Part A and Medicare Advantage patient stay-level IRF-PAI records with a discharge date during the targeted 12 months (i.e., 4 quarters) time period.
<i>Exclusions</i>	There are no denominator exclusions for this measure.
Covariates	
None.	

Table 7-5

IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients
(NQF #2633) (CMS ID: I009.02)⁵⁸

Measure Description
This measure estimates the risk-adjusted mean change in self-care score between admission and discharge for Inpatient Rehabilitation Facility (IRF) Medicare patients.
Measure Specifications ⁵⁹
<p>Numerator</p> <p>The measure does not have a simple form for the numerator and denominator. This measure estimates the risk-adjusted change in self-care score between admission and discharge among Inpatient Rehabilitation Facility (IRF) Medicare patients age 21 or older. The change in self-care score is calculated as the difference between the discharge self-care score and the admission self-care score.⁶⁰</p> <p>Denominator</p> <p>The total number of Medicare Part A and Medicare Advantage patient stay-level IRF-PAI records with a discharge date in the measure target period, which do not meet the exclusion criteria.</p> <p>Exclusions</p> <p>Patient stay-level record is excluded if:</p> <p>Patient had an incomplete stay:</p> <ul style="list-style-type: none"> • Length of stay is less than 3 days; i.e., Item 40 (Discharge Date) – Item 12 (Admission Date) is less than three days; • Discharged against medical advice (Item 41 = [1]); • Died while in IRF (Item 44C = [0]); • Discharge destination (Item 44D) indicates the patient had a medical emergency (Item 44D = [02, 63, 65, 66]); • Discharged directly to another IRF (Item 44D = [62]). <p>Patient is independent on all self-care activities at the time of admission:⁶¹</p> <ul style="list-style-type: none"> • Items used to identify these patient records are as follows: Eating (Item GG0130A1), Oral hygiene (Item GG0130B1), Toileting hygiene (Item GG0130C1), Shower/Bathe self (Item GG0130E1), Upper body dressing (Item GG0130F1), Lower body dressing (Item GG0130G1), Putting on/taking off footwear (Item GG0130H1).

(continued)

⁵⁸ This measure is NQF-endorsed for use in the IRF setting (<http://www.qualityforum.org/QPS/2633>) and finalized for reporting by IRFs under the IRF QRP (*Federal Register* 80 (6 August 2015): 47111-47117). Web: <https://www.gpo.gov/fdsys/pkg/FR-2015-08-06/pdf/2015-18973.pdf>

⁵⁹ A copy of IRF-PAI V 2.0, including items for the "IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients (NQF #2633)", is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>

⁶⁰ Functional assessment items included in this measure on the admission and discharge assessments GG0130A1, GG0130B1, GG0130C1, GG0130E1, GG0130F1, GG0130G1, GG0130H1, GG0130A3, GG0130B3, GG0130C3, GG0130E3, GG0130F3, GG0130G3, and GG0130H3.

⁶¹ All seven self-care items must = [06] on admission assessment for this exclusion to apply.

Table 7-5 (continued)

**IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients
(NQF #2633) (CMS ID: I009.02)**

Covariates
<p>Patient has the following medical conditions:⁶²</p> <ul style="list-style-type: none"> • Coma, persistent vegetative state, complete tetraplegia, locked-in syndrome, or severe anoxic brain damage, cerebral edema or compression of brain. <p>Patient is younger than age 21:</p> <ul style="list-style-type: none"> • Truncate (Item 12 (Admission Date) – Item 6 (Birth Date)). • Age in years is calculated based on the truncated difference between admission date (Item 12) and birth date (Item 6); i.e. the difference is not rounded to nearest whole number. <p>Patient is discharged to hospice:</p> <ul style="list-style-type: none"> • Item 44D (Discharge destination/Living setting) = [50, 51]).
<p><i>Data for each covariate are derived from the admission assessment included in the target patient stay-level records.</i></p> <ol style="list-style-type: none"> 1. Age group 2. Admission self-care score – continuous 3. Admission self-care score – squared 4. Primary diagnosis group 5. Interaction between admission self-care and primary diagnosis group 6. Prior acute or IRF primary diagnosis – surgical 7. Prior functioning: self-care 8. Prior functioning: indoor ambulation 9. Prior mobility/device aids 10. Stage 2 pressure ulcer 11. Stage 3, 4, or unstageable pressure ulcer/injury 12. Cognitive function 13. Communication impairment 14. Bladder incontinence 15. Bowel incontinence 16. Swallowing ability 17. Comorbidities <p>See covariate details in Appendix A, Table A-5 and Table A-6 and the associated Risk Adjustment Appendix File.</p>

⁶² The medical conditions are identified by: Impairment Group 0004.1221 or 0004.1222 or 0004.2221 or 0004.2222 on Item 21A or; ICD-10-CM on Item 22 or Item 24 (see **Appendix A**, [Table A-4](#) and [A-5](#)).

Table 7-6
IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients
(NQF #2634) (CMS ID: I010.02)⁶³

Measure Description
This measure estimates the risk-adjusted mean change in mobility score between admission and discharge for Inpatient Rehabilitation Facility (IRF) Medicare patients.
Measure Specifications ⁶⁴
<p>Numerator</p> <p>The measure does not have a simple form for the numerator and denominator. This measure estimates the risk-adjusted change in mobility score between admission and discharge among Inpatient Rehabilitation Facility (IRF) Medicare patients age 21 or older. The change in mobility score is calculated as the difference between the discharge mobility score and the admission mobility score.⁶⁵</p> <p>Denominator</p> <p>The total number of Medicare Part A and Medicare Advantage patient stay-level IRF-PAI records with a discharge date in the measure target period, which do not meet the exclusion criteria.</p> <p>Exclusions</p> <p>Patient stay-level record is excluded if:</p> <p>Patient had an incomplete stay:</p> <ul style="list-style-type: none"> Length of stay is less than 3 days; i.e., Item 40 (Discharge Date) – Item 12 (Admission Date) is less than three days; Discharged against medical advice (Item 41 = [1]); Died while in IRF (Item 44C = [0]); Discharge destination (Item 44D) indicates the patient had a medical emergency (Item 44D = [02, 63, 65, 66]); Discharged directly to another IRF (Item 44D = [62]). <p>Patient is independent on all mobility activities at the time of the admission:⁶⁶</p> <ul style="list-style-type: none"> Items used to identify these patient records are as follows: Roll left and right (GG0170A1), Sit to lying (GG0170B1), Lying to sitting on side of bed (GG0170C1), Sit to stand (GG0170D1), Chair/bed-to-chair transfer (GG0170E1), Toilet transfer (GG0170F1), Car transfer (GG0170G1), Walk 10 feet (GG0170I1), Walk 50 feet with two turns (GG0170J1), Walk 150 feet (GG0170K1), Walking 10 feet on uneven surfaces (GG0170L1), 1 step (curb) (GG0170M1), 4 steps (GG0170N1), 12 steps (GG0170O1), and Picking up object (GG0170P1).

(continued)

⁶³ This measure is NQF-endorsed for use in the IRF setting (<http://www.qualityforum.org/QPS/2634>) and finalized for reporting by IRFs under the IRF QRP (*Federal Register* 80 (6 August 2015): 47117-47118). Web. <https://www.gpo.gov/fdsys/pkg/FR-2015-08-06/pdf/2015-18973.pdf>.

⁶⁴ A copy of IRF-PAI V 2.0, including items for the "IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients (NQF #2634)", is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>

⁶⁵ Functional assessment items included in this measure on the admission and discharge assessments are GG0170A1, GG0170B1, GG0170C1, GG0170D1, GG0170E1, GG0170F1, GG0170G1, GG0170I1, GG0170J1, GG0170K1, GG0170L1, GG0170M1, GG0170N1, GG0170O1, GG0170P1, GG0170A3, GG0170B3, GG0170C3, GG0170D3, GG0170E3, GG0170F3, GG0170G3, GG0170I3, GG0170J3, GG0170K3, GG0170L3, GG0170M3, GG0170N3, GG0170O3, and GG0170P3.

⁶⁶ All fifteen mobility items must = [06] on admission assessment for this exclusion to apply.

Table 7-6 (continued)
IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients
(NQF #2634) (CMS ID: I010.02)

Measure Specifications (continued)	
<p>Patient has the following medical conditions:⁶⁷</p> <ul style="list-style-type: none"> • Coma, persistent vegetative state, complete tetraplegia, locked-in syndrome, or severe anoxic brain damage, cerebral edema or compression of brain. <p>Patient is younger than age 21:</p> <ul style="list-style-type: none"> • Truncate (Item 12 (Admission Date) – Item 6 (Birth Date)). • Age in years is calculated based on the truncated difference between admission date (Item 12) and birth date (Item 6); i.e. the difference is not rounded to nearest whole number. <p>Patient is discharged to hospice:</p> <ul style="list-style-type: none"> • Item 44D (Discharge destination/Living setting) = [50, 51]). 	
Covariates	
<p><i>Data for each covariate are derived from the admission assessment included in the target patient stay-level records.</i></p> <ol style="list-style-type: none"> 1. Age group 2. Admission mobility score – continuous 3. Admission mobility score – squared 4. Primary diagnosis group 5. Interaction between admission mobility and primary diagnosis group; 6. Prior acute or IRF primary diagnosis – surgical 7. Prior functioning: indoor ambulation 8. Prior functioning: stair negotiation 9. Prior functioning: cognition 10. Prior mobility/device aids 11. Stage 2 pressure ulcer 12. Stage 3, 4, or unstageable pressure ulcer/injury 13. Cognitive function 14. Communication impairment 15. Bladder incontinence 	

(continued)

⁶⁷ The medical conditions are identified by: Impairment Group 0004.1221 or 0004.1222 or 0004.2221 or 0004.2222 on Item 21A or; ICD-10-CM on Item 22 or Item 24 (see Appendix A, [Table A-4](#) and [A-5](#)).

Table 7-6 (continued)

**IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients
(NQF #2634) (CMS ID: I010.02)**

Covariates (continued)	
16. Bowel incontinence	
17. Swallowing ability	
18. Total parenteral nutrition	
19. History of falls	
20. Comorbidities	
See covariate details in Appendix A , Table A-5 and Table A-6 and the associated Risk Adjustment Appendix File.	

Table 7-7

**IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients
(NQF #2635) (CMS ID: I011.02)⁶⁸**

Measure Description
This measure estimates the percentage of Inpatient Rehabilitation Facility (IRF) Medicare patients who meet or exceed an expected discharge self-care score.
Measure Specifications ⁶⁹
<p>Numerator The numerator is the number of patients in an IRF with a discharge self-care score that is equal to or higher than the calculated expected discharge self-care score.⁷⁰</p> <p>Denominator The total number of Medicare Part A and Medicare Advantage patient stay-level IRF-PAI records with a discharge date in the measure target period, which do not meet the exclusion criteria.</p> <p>Exclusions Patient stay-level record is excluded if:</p> <p>Patient had an incomplete stay:</p> <ul style="list-style-type: none"> Length of stay is less than 3 days; i.e., Item 40 (Discharge Date) – Item 12 (Admission Date) is less than three days; Discharged against medical advice (Item 41 = [1]); Died while in IRF (Item 44C = [0]); Discharge destination (Item 44D) indicates the patient had a medical emergency (Item 44D = [02, 63, 65, 66]); Discharged directly to another IRF (Item 44D = [62]). <p>Patient has the following medical conditions:⁷¹</p> <ul style="list-style-type: none"> Coma, persistent vegetative state, complete tetraplegia, locked-in syndrome, or severe anoxic brain damage, cerebral edema or compression of brain. <p>Patient is younger than age 21:</p> <ul style="list-style-type: none"> Truncate (Item 12 (Admission Date) – Item 6 (Birth Date)). Age in years is calculated based on the truncated difference between admission date (Item 12) and birth date (Item 6); i.e. the difference is not rounded to nearest whole number. <p>Patient is discharged to hospice:</p> <ul style="list-style-type: none"> Item 44D (Discharge destination/Living setting) = [50, 51]).

⁶⁸ This measure is NQF-endorsed for use in the IRF setting (<http://www.qualityforum.org/QPS/2635>) and finalized for reporting by IRFs under the IRF QRP (*Federal Register* 80 (6 August 2015): 47118-47119). Web. <https://www.gpo.gov/fdsys/pkg/FR-2015-08-06/pdf/2015-18973.pdf>.

⁶⁹ A copy of IRF-PAI V 2.0, including items for the "IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients (NQF #2635)", is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>

⁷⁰ Functional assessment items included in this measure on the discharge assessment are: GG0130A3, GG0130B3, GG0130C3, GG0130E3, GG0130F3, GG0130G3, and GG0130H3.

⁷¹ The medical conditions are identified by: Impairment Group 0004.1221 or 0004.1222 or 0004.2221 or 0004.2222 on Item 21A or; ICD-10-CM on Item 22 or Item 24 (see **Appendix A, Table A-4** and **A-5**).

Table 7-7 (continued)

**IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients
(NQF #2635) (CMS ID: I011.02)**

Covariates
<p><i>Data for each covariate are derived from the admission assessment included in the target patient stay-level records.</i></p> <ol style="list-style-type: none"> 1. Age group 2. Admission self-care score – continuous 3. Admission self-care score – squared 4. Primary diagnosis group 5. Interaction between admission self-care and primary diagnosis group 6. Prior acute or IRF primary diagnosis – surgical 7. Prior functioning: self-care 8. Prior functioning: indoor ambulation 9. Prior mobility/device aids 10. Stage 2 pressure ulcer 11. Stage 3, 4, or unstageable pressure ulcer/injury 12. Cognitive function 13. Communication impairment 14. Bladder incontinence 15. Bowel incontinence 16. Swallowing ability 17. Comorbidities <p>See covariate details in Appendix A, Table A-5 and Table A-6 and the associated Risk Adjustment Appendix File.</p>

Table 7-8
IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients
(NQF #2636) (CMS ID: I012.02)⁷²

Measure Description
This measure estimates the percentage of Inpatient Rehabilitation Facility (IRF) Medicare patients who meet or exceed an expected discharge mobility score.
Measure Specifications ⁷³
<p>Numerator</p> <p>The numerator is the number of patients in an IRF with a discharge mobility score that is equal to or higher than the calculated expected discharge mobility score.⁷⁴</p> <p>Denominator</p> <p>The total number of Medicare Part A and Medicare Advantage patient stay-level IRF-PAI records with a discharge date in the measure target period, which do not meet the exclusion criteria.</p> <p>Exclusions</p> <p>Patient stay-level record is excluded if:</p> <p>Patient had an incomplete stay:</p> <ul style="list-style-type: none"> Length of stay is less than 3 days; i.e., Item 40 (Discharge Date) – Item 12 (Admission Date) is less than three days; Discharged against medical advice (Item 41 = [1]); Died while in IRF (Item 44C = [0]); Discharge destination (Item 44D) indicates the patient had a medical emergency (Item 44D = [02, 63, 65, 66]); Discharged directly to another IRF (Item 44D = [62]). <p>Patient has the following medical conditions:⁷⁵</p> <ul style="list-style-type: none"> Coma, persistent vegetative state, complete tetraplegia, locked-in syndrome, or severe anoxic brain damage, cerebral edema or compression of brain. <p>Patient is younger than age 21:</p> <ul style="list-style-type: none"> Truncate (Item 12 (Admission Date) – Item 6 (Birth Date)). Age in years is calculated based on the truncated difference between admission date (Item 12) and birth date (Item 6); i.e. the difference is not rounded to nearest whole number. <p>Patient is discharged to hospice:</p> <ul style="list-style-type: none"> Item 44D (Discharge destination/Living setting) = [50, 51]).

⁷² This measure is NQF-endorsed for use in the IRF setting (<http://www.qualityforum.org/QPS/2636>) and finalized for reporting by IRFs under the IRF QRP (*Federal Register* 80 (6 August 2015): 47119-47120). Web. <https://www.gpo.gov/fdsys/pkg/FR-2015-08-06/pdf/2015-18973.pdf>.

⁷³ A copy of IRF-PAI V 2.0 , including items for "IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients (NQF #2636)", is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>

⁷⁴ Functional assessment items included in this measure on the assessment are GG0170A3, GG0170B3, GG0170C3, GG0170D3, GG0170E3, GG0170F3, GG0170G3, GG0170I3, GG0170J3, GG0170K3, GG0170L3, GG0170M3, GG0170N3, GG0170O3, and GG0170P3.

⁷⁵ The medical conditions are identified by: Impairment Group 0004.1221 or 0004.1222 or 0004.2221 or 0004.2222 on Item 21 or; ICD-10-CM on Item 22 or Item 24 (see **Appendix A, Table A-4** and **A-5**).

Table 7-8 (continued)

**IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients
(NQF #2636) (CMS ID: I012.02)**

Covariates
<p><i>Data for each covariate are derived from the admission assessment included in the target patient stay-level records.</i></p> <ol style="list-style-type: none"> 1. Age group 2. Admission mobility score – continuous 3. Admission mobility score – squared 4. Primary diagnosis group 5. Interaction between admission mobility and primary diagnosis group 6. Prior acute or IRF primary diagnosis – surgical 7. Prior functioning: indoor ambulation 8. Prior functioning: stairs 9. Prior functioning: cognition 10. Prior mobility/device aids 11. Stage 2 pressure ulcer 12. Stage 3, 4, or unstageable pressure ulcer/injury 13. Cognitive function 14. Communication impairment 15. Bladder incontinence 16. Bowel incontinence 17. Swallowing ability 18. Total parenteral nutrition 19. History of falls 20. Comorbidities <p>See covariate details in Appendix A, Table A-5 and Table A-6 and the associated Risk Adjustment Appendix File.</p>

Table 7-9
Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay)
(NQF #0680) (CMS ID: I002.01)⁷⁶

Measure Description
This measure reports the percentage of stay-level records in which the patient was assessed and appropriately given the influenza vaccine during the most recent influenza vaccination season.
Measure Specifications ⁷⁷
<p>Numerator</p> <p>Total number of patient stay-level records in the denominator meeting any one of the following criteria on the selected influenza vaccination assessment, with each criterion reported and computed separately:</p> <ol style="list-style-type: none"> 1. Patient received the influenza vaccine during the most recent influenza vaccination season, either in the facility (O0250A = [1]) or outside the facility (O0250C = [2]); <i>or</i> 2. Patient not eligible due to medical contraindication(s) (O0250C = [3]); <i>or</i> 3. Patient was offered and declined the influenza vaccine (O0250C = [4]). <p>Denominator</p> <p>The denominator consists of patient stay-level records with a discharge date within the current influenza season (i.e., July 1 to June 30) who were in the facility for at least 1 or more days during the influenza vaccination season (i.e., October 1 to March 31), that do not meet any of the exclusion criteria. Note: IRF-PAI records are submitted to CMS for Medicare patients only.</p> <p>Exclusions</p> <p>Stay-level records for which the patient's age on the selected influenza vaccination assessment is 0-179 days:</p> <ul style="list-style-type: none"> • Calculate the patient's age in days using the discharge date (Item 40) or the last date of the influenza vaccination season (March 31 of relevant year), whichever comes first in time. Patients who are 180 days old or more, by this calculation, are included in the measure. Patients who are 0-179 days old, by this calculation, are excluded from the measure.
Covariates
None.

⁷⁶ This measure is NQF-endorsed for use in the IRF setting (<http://www.qualityforum.org/QPS/0680>) (in addition to Long Term Care Hospital and Nursing Home (NH) settings) and finalized for reporting by IRFs under the IRF QRP (*Federal Register* 78 (6 August 2013): 47903-47919. Web. <http://www.gpo.gov/fdsys/pkg/FR-2013-08-06/pdf/2013-18770.pdf> and *Federal Register* 79 (6 August 2014): 45908-45918. Web. <http://www.gpo.gov/fdsys/pkg/FR-2014-08-06/pdf/2014-18447.pdf>). The use of the words “resident” and “short stay” in the title of this measure refer to the use of this measure in the NH home setting. CMS’s use of these words does not imply that the IRF patient is a “resident” or that a stay in an IRF is a “short stay.”

⁷⁷ A copy of IRF-PAI V 2.0, including items for Percent of Residents or Patients Who Were Assessed and Appropriately Given the Seasonal Influenza Vaccine (Short Stay) (NQF #0680), is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>

Table 7-9a**Percent of Residents or Patients Who Received the Seasonal Influenza Vaccine (Short Stay) (NQF #0680a) (CMS ID: I003.01)⁷⁸**

Measure Description
<p>This measure reports the percentage of stay-level records in which the patient received the influenza vaccine during the most recent influenza vaccination season.</p> <p>The measure score is computed and reported for the three numerator components separately.</p>
Measure Specifications ⁷⁹
<p>Numerator</p> <p>Total number of patient stay-level records in the denominator meeting any of the following criteria on the selected influenza vaccination assessment:</p> <ol style="list-style-type: none"> 1. Patient received the influenza vaccine during the most recent influenza vaccination season, either in the facility (O0250A = [1]) or outside the facility (O0250C = [2]). <p>Denominator</p> <p>The denominator consists of patient stay-level records with a discharge date within the current influenza season (i.e., July 1 to June 30) who were in the facility for at least 1 or more days during the influenza vaccination season (i.e., October 1 to March 31), that do not meet any of the exclusion criteria. Note: IRF-PAI records are only submitted to CMS for Medicare patients.</p> <p>Exclusions</p> <p>Stay-level records for which the patient's age on the selected influenza vaccination assessment is 0-179 days:</p> <ul style="list-style-type: none"> • Calculate the patient's age in days using the discharge date or the last date of the influenza vaccination season (March 31 of relevant year), whichever comes first in time. Patients who are 180 days old or more, by this calculation, are included in the measure. Patients who are 0-179 days old, by this calculation, are excluded from the measure.
Covariates
None.

⁷⁸ This measure is NQF-endorsed for use in the IRF setting (<http://www.qualityforum.org/QPS/0680>) (in addition to Long Term Care Hospital Nursing Home (NH) settings) and finalized for reporting by IRFs under the IRF QRP (*Federal Register* 78 (6 August 2013): 47903-47919. Web. <http://www.gpo.gov/fdsys/pkg/FR-2013-08-06/pdf/2013-18770.pdf> and *Federal Register* 79 (6 August 2014): 45908-45918. Web. <http://www.gpo.gov/fdsys/pkg/FR-2014-08-06/pdf/2014-18447.pdf>). The use of the words “resident” and “short stay” in the title of this measure refer to the use of this measure in the NH home setting. CMS’s use of these words does not imply that the IRF patient is a “resident” or that a stay in an IRF is a “short stay.”

⁷⁹ A copy of IRF-PAI V 2.0, including items for patient influenza vaccination measure, is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>

Table 7-9b
Percent of Residents or Patients Who Were Offered and Declined the Seasonal Influenza Vaccine (Short Stay)
(NQF #0680b) (CMS ID: I004.01)⁸⁰

Measure Description
<p>This measure reports the percentage of stay-level records in which the patient was offered and declined the influenza vaccine during the most recent influenza vaccination season.</p> <p>The measure score is computed and reported for the three numerator components separately.</p>
Measure Specifications ⁸¹
<p>Numerator</p> <p>Total number of patient stay-level records in the denominator meeting any of the following criteria on the selected influenza vaccination assessment:</p> <ol style="list-style-type: none"> 1. Patient was offered and declined the influenza vaccine (O0250C = [4]) <p>Denominator</p> <p>The denominator consists of patient stay-level records with a discharge date within the current influenza season (i.e., July 1 to June 30) who were in the facility for at least 1 or more days during the influenza vaccination season (i.e., October 1 to March 31), that do not meet any of the exclusion criteria. Note: IRF-PAI records are only submitted to CMS for Medicare patients.</p> <p>Exclusions</p> <p>Stay-level records for which the patient's age on the selected influenza vaccination assessment is 0-179 days:</p> <ul style="list-style-type: none"> • Calculate the patient's age in days using the discharge date or the last date of the influenza vaccination season (March 31 of relevant year), whichever comes first in time. Patients who are 180 days old or more, by this calculation, are included in the measure. Patients who are 0-179 days old, by this calculation, are excluded from the measure.
Covariates
None.

⁸⁰ This measure is NQF-endorsed for use in the IRF setting (<http://www.qualityforum.org/QPS/0680>) (in addition to Long Term Care Hospital and Nursing Home (NH) settings) and finalized for reporting by IRFs under the IRF QRP (*Federal Register* 78 (6 August 2013): 47903-47919. Web. <http://www.gpo.gov/fdsys/pkg/FR-2013-08-06/pdf/2013-18770.pdf> and *Federal Register* 79 (6 August 2014): 45908-45918. Web. <http://www.gpo.gov/fdsys/pkg/FR-2014-08-06/pdf/2014-18447.pdf>). The use of the words “resident” and “short stay” in the title of this measure refer to the use of this measure in the NH home setting. CMS’s use of these words does not imply that the IRF patient is a “resident” or that a stay in an IRF is a “short stay.”

⁸¹ A copy of IRF-PAI V 2.0, including items for patient influenza vaccination measure, is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>

Table 7-9c

Percent of Residents or Patients Who Did Not Receive, Due to Medical Contraindication, the Seasonal Influenza Vaccine (Short Stay) (NQF #0680c) (CMS ID: I005.01)⁸²

Measure Description
This measure reports the percentage of stay-level records in which the patient did not receive the influenza vaccine during the most recent influenza vaccination season, due to a medical contraindication. The measure score is computed and reported for the three numerator components separately.
Measure Specifications ⁸³
<p>Numerator</p> <p>Total number of patient stay-level records in the denominator meeting any of the following criteria on the selected influenza vaccination assessment:</p> <ol style="list-style-type: none"> 1. Patient was ineligible due to medical contraindication(s) (O0250C = [3]) <p>Denominator</p> <p>The denominator consists of patient stay-level records with a discharge date within the current influenza season (i.e., July 1 to June 30) who were in the facility for at least 1 or more days during the influenza vaccination season (i.e., October 1 to March 31), that do not meet any of the exclusion criteria. Note: IRF-PAI records are only submitted to CMS for Medicare patients.</p> <p>Exclusions</p> <p>Stay-level records for which the patient's age on the selected influenza vaccination assessment is 0-179 days:</p> <ul style="list-style-type: none"> • Calculate the patient's age in days using the discharge date or the last date of the influenza vaccination season (March 31 of relevant year), whichever comes first in time. Patients who are 180 days old or more, by this calculation, are included in the measure. Patients who are 0-179 days old, by this calculation, are excluded from the measure.
Covariates
None.

⁸² This measure is NQF-endorsed for use in the IRF setting (<http://www.qualityforum.org/QPS/0680>) (in addition to Long Term Care Hospital and Nursing Home (NH) settings) and finalized for reporting by IRFs under the IRF QRP (*Federal Register* 78 (6 August 2013): 47903-47919. Web. <http://www.gpo.gov/fdsys/pkg/FR-2013-08-06/pdf/2013-18770.pdf> and *Federal Register* 79 (6 August 2014): 45908-45918. Web. <http://www.gpo.gov/fdsys/pkg/FR-2014-08-06/pdf/2014-18447.pdf>). The use of the words “resident” and “short stay” in the title of this measure refer to the use of this measure in the NH home setting. CMS’s use of these words does not imply that the IRF patient is a “resident” or that a stay in an IRF is a “short stay.”

⁸³ A copy of IRF-PAI V 2.0, including items for patient influenza vaccination measure, is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>

Table 7-10
Drug Regimen Review Conducted with Follow-Up for Identified Issues – PAC IRF QRP
(CMS ID: I021.01)⁸⁴

Measure Description
This measure reports the percentage of patient/resident stays in which a drug regimen review was conducted at the time of admission and timely follow-up with a physician occurred each time potential clinically significant medication issues were identified throughout that stay.
Measure Specifications ⁸⁵
<p>Numerator</p> <p>Total number of patient stays in the denominator meeting each of the following two criteria:</p> <ol style="list-style-type: none"> 1. The facility conducted a drug regimen review on admission which resulted in one of the following three scenarios being true: <ol style="list-style-type: none"> a) No potential or actual clinically significant medication issues were found during the review (N2001 = [0]; or b) Potential or actual clinically significant medication issues were found during the review (N2001 = [1]) and a physician (or physician-designee) was contacted and prescribed/recommended actions were completed by midnight of the next calendar day (N2003 = [1]); or c) The patient was not taking any medications (N2001 = [9]). 2. Appropriate follow-up occurred each time a potential or actual clinically significant medication issue was identified during the stay (N2005 = [1]); or no potential or actual clinically significant medication issues were identified since admission or patient was not taking any medications (N2005 = [9]). <p>Denominator</p> <p>Any patient stays (Medicare Part A or Medicare Advantage) during the reporting period.</p> <p>Exclusions</p> <p>There are no denominator exclusions for this measure.</p>
Covariates
None.

⁸⁴ This measure was finalized for reporting by IRFs under the FY 2017 IPPS/IRF PPS final rule (81 FR 24178)

⁸⁵ Effective on October 1, 2018, the IRF-PAI Version 2.0 is used to collect and submit DRR data for the IRF QRP. A copy of the IRF-PAI Version 2.0 is available at: <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/IRF-Quality-Reporting/Downloads/Final-IRF-PAI-Version-20-Effective-October-1-2018.pdf>

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Appendix A: Model Parameters

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Appendix A provides the following information:

- Tables listing the covariates and associated IRF-PAI items used to calculate each covariate for assessment-based quality measures requiring risk-adjustment (Section A.1).
- Overview of the Risk-Adjustment Appendix File for the Inpatient Rehabilitation Facility Quality Reporting Program Measure Calculations and Reporting User's Manual (Risk-Adjustment Appendix File) (Section A.2).
- Procedure on how to use the Inpatient Rehabilitation Facility Quality Reporting Program Measure Calculations and Reporting User's Manual and the associated Risk-Adjustment Appendix File information to apply intercept and coefficient values for measure calculations (Section A.3).

The risk-adjusted quality measures addressed in this Appendix are listed in Table A-1 below. Note that a “✓” indicates that the national average observed score or covariate values are included in the risk-adjustment calculation for that quality measure. An “n/a” indicates that it is not applicable in the risk-adjustment calculation for that quality measure.

Table A-1
IRF-PAI Quality Measures Requiring National Average Observed Scores and Covariate Values for Risk-Adjustment

Quality Measure	NQF #	CMS ID	Measure Reference Name	National Average Observed Scores*	Covariate Values*
Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay)	0678	I001.02	Pressure Ulcer	✓	✓
Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury	N/A	I020.01	Pressure Ulcer/Injury	✓	✓
IRF Functional Outcome Measure: Change in Self-Care Score for Medical Rehabilitation Patients	2633	I009.02	Change in Self-Care	✓	✓
IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients	2634	I010.02	Change in Mobility	✓	✓
IRF Functional Outcome Measure: Discharge Self-Care Score for Medical Rehabilitation Patients	2635	I011.02	Discharge Self-Care Score	n/a	✓
IRF Functional Outcome Measure: Discharge Mobility Score for Medical Rehabilitation Patients	2636	I012.02	Discharge Mobility Score	n/a	✓

*National Average Observed Scores and Intercept/Coefficient values provided in Risk-Adjustment Appendix File

Section A.1: Covariate Tables

This section contains tables listing the covariates and associated IRF-PAI items used to calculate each covariate for assessment-based quality measures requiring risk-adjustment.

Table A-2
Risk-Adjustment Covariates for the Percent of Residents or Patients with Pressure Ulcers That Are New or Worsened (Short Stay) (NQF #0678)

Covariate*	IRF-PAI Item(s) and Calculations
Model Intercept	—
Functional Limitation	= 1 if 39I = [00, 01, 02, 03, 04] = 0 if 39I = [05, 06, 07]
Bowel Incontinence	= 1 if item 32 [01, 02, 03, 04, 05] = 0 if item 32 = [06, 07]
Diabetes or PVD/PAD	<p><u>For IRF-PAI Version 1.3:</u></p> <p>= 1 if one or more of the following are true:</p> <ul style="list-style-type: none"> • I0900A = [1] • I0900B = [1] • I2900A = [1] <p>= 0 if I0900A = [0, -] AND I0900B = [0, -] AND I2900 = [0, -]</p> <p><u>For IRF-PAI Version 1.4 and Version 1.5:</u></p> <p>= 1 if any of the following are true:</p> <ul style="list-style-type: none"> • I0900 = [1] • I2900 = [1] <p>= 0 if I0900 = [0, -] AND I2900 = [0, -]</p>
Low BMI	<p>= 1 if BMI \geq [12.0] AND \leq [19.0] = 0 if BMI < [12.0] OR BMI > [19.0] = 0 if Item 25A = [0, 00, -] OR Item 26A = [-] Where: BMI = (weight * 703 / height²) = ([Item 26A] * 703) / (Item 25A2) and the resulting value is rounded to one decimal place.</p>

*Covariates are based on IRF-PAI admission items.

Table A-3
Risk-Adjustment Covariates for the Changes in Skin Integrity Post-Acute Care: Pressure Ulcer/Injury

Covariate*	IRF-PAI Item(s) and Calculations
Model Intercept	—
Functional Limitation	= 1 if GG0170C = [01, 02, 07, 09, 10, 88] = 0 if GG0170C = [03, 04, 05, 06, -]
Bowel Incontinence	= 1 if H0400 = [1, 2, 3] = 0 if H0400 = [0, 9, -]
Diabetes or PVD/PAD	= 1 if any of the following are true: <ul style="list-style-type: none"> I0900 = [1] I2900 = [1] = 0 if I0900 = [0, -] AND I2900 = [0, -]
Low BMI	= 1 if BMI \geq [12.0] AND \leq [19.0] = 0 if BMI < [12.0] OR BMI > [19.0] = 0 if Item 25A = [0, 00, -] OR Item 26A = [-] Where: BMI = (weight * 703 / height ²) = ([Item 26A] * 703) / (Item 25A ²) and the resulting value is rounded to one decimal place.

*Covariates are based on IRF-PAI admission items.

Table A-4
Etiologic Diagnosis or Comorbid Conditions – ICD-10-CM Codes

Etiologic Diagnosis (Item 22) or Comorbid Conditions (Item 24)	ICD-10-CM Codes			
Coma	R40.20, R40.2110, R40.2111, R40.2112, R40.2113, R40.2114, R40.2120, R40.2121, R40.2122, R40.2123,	R40.2124, R40.2210, R40.2211, R40.2212, R40.2213, R40.2214, R40.2220, R40.2221, R40.2222, R40.2223,	R40.2224, R40.2310, R40.2311, R40.2312, R40.2313, R40.2314, R40.2320, R40.2321, R40.2322, R40.2323,	R40.2324, R40.2340, R40.2341, R40.2342, R40.2343, R40.2344, R40.243, R40.244
Persistent vegetative state	R40.3			
Severe brain damage	G93.9, G97.82			
Complete tetraplegia	G82.51, G82.53, S14.111A, S14.111D, S14.111S, S14.112A, S14.112D, S14.112S,	S14.113A, S14.113D, S14.113S, S14.114A, S14.114D, S14.114S, S14.115A, S14.115D,	S14.115S, S14.116A, S14.116D, S14.116S, S14.117A, S14.117D, S14.117S,	S14.118A, S14.118D, S14.118S, S14.119A, S14.119D, S14.119S
Locked-in state	G83.5			
Severe anoxic brain damage, edema or compression	G93.1, G93.5, G93.6			

Note that a “✓” under each measure in Table A-5 below indicates that the covariate is included in the risk-adjustment calculation for that quality measure. An “n/a” indicates that the covariate is not included in the risk-adjustment calculation for that quality measure. The intercept and coefficient values are available in each of the respective quality measure tabs in the Risk-Adjustment Appendix File.

Table A-5
Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Model Intercept	—	—	✓	✓	✓	✓
Age Group	<35 years	Truncate (Item 12 – Item 6) = age; If age <35 years = 1; else = 0	✓	✓	✓	✓
Age Group	35–44 years	Truncate (Item 12 – Item 6) = age; If age 35–44 years = 1; else = 0	✓	✓	✓	✓
Age Group	45–54 years	Truncate (Item 12 – Item 6) = age; If age 45–54 years = 1; else = 0	✓	✓	✓	✓
Age Group	55–64 years	Truncate (Item 12 – Item 6) = age; If age 55–64 years = 1; else = 0	✓	✓	✓	✓
Age group (reference category)	65–74 years (reference category)	Truncate (Item 12 – Item 6) = age; If age 65–74 years = 1; else = 0	n/a	n/a	n/a	n/a
Age Group	75–84 years	Truncate (Item 12 – Item 6) = age; If age 75–84 years = 1; else = 0	✓	✓	✓	✓
Age Group	85–90 years	Truncate (Item 12 – Item 6) = age; If age 85–90 years = 1; else = 0	✓	✓	✓	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Age Group	>90 years	Truncate (Item 12 – Item 6) = age; If age >90 years = 1; else = 0	✓	✓	✓	✓
Admission Self-Care - continuous form		Note: use recoded item values (valid codes = 01, 02, 03, 04, 05, 06); Self-Care Scores can range from 7 to 42.** Admission Self-Care Score = (GG0130A1 + GG0130B1 + GG0130C1 + GG0130E1 + GG0130F1 + GG0130G1 + GG0130H1)	✓	n/a	✓	n/a
Admission Self-Care - squared form		Note: use recoded values (valid codes = 01, 02, 03, 04, 05, 06); Self-Care Scores can range from 7 to 42.** Admission Self-Care Score Squared = (GG0130A1 + GG0130B1 + GG0130C1 + GG0130E1 + GG0130F1 + GG0130G1 + GG0130H1) * (GG0130A1 + GG0130B1 + GG0130C1 + GG0130E1 + GG0130F1 + GG0130G1 + GG0130H1)	✓	n/a	✓	n/a

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Admission Mobility - continuous form		Note: use recoded values (valid codes = 01, 02, 03, 04, 05, 06); Mobility Scores can range from 15 to 90.** Admission Mobility Score = (GG0170A1 + GG0170B1 + GG0170C1 + GG0170D1 + GG0170E1 + GG0170F1 + GG0170G1 + GG0170I1 + GG0170J1 + GG0170K1 + GG0170L1 + GG0170M1 + GG0170N1 + GG0170O1 + GG0170P1)	n/a	✓	n/a	✓
Admission Mobility - squared form		Note: use recoded values (valid codes = 01, 02, 03, 04, 05, 06); Mobility Scores can range from 15 to 90.** Admission Mobility Squared = (GG0170A1 + GG0170B1 + GG0170C1 + GG0170D1 + GG0170E1 + GG0170F1 + GG0170G1 + GG0170I1 + GG0170J1 + GG0170K1 + GG0170L1 + GG0170M1 + GG0170N1 + GG0170O1 + GG0170P1) * (GG0170A1 + GG0170B1 + GG0170C1 + GG0170D1 + GG0170E1 + GG0170F1 + GG0170G1 + GG0170I1 + GG0170J1 + GG0170K1 + GG0170L1 + GG0170M1 + GG0170N1 + GG0170O1 + GG0170P1)	n/a	✓	n/a	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Primary Diagnosis Group (reference category)	Hip and Knee Replacements (reference category)***	= 1 if Item 21A = 0008.51 or 0008.52 or 0008.61 or 0008.62 or 0008.71 or 0008.72; else = 0***	n/a	n/a	n/a	n/a
Primary Diagnosis Group	Stroke	= 1 if Item 21A = 0001.1 or 0001.2 or 0001.3 or 0001.4 or 0001.9; else = 0	✓	✓	✓	✓
Primary Diagnosis Group	Non-Traumatic Brain Dysfunction	= 1 if Item 21A = 0002.1 or 0002.9; else = 0	✓	✓	✓	✓
Primary Diagnosis Group	Traumatic Brain Dysfunction	= 1 if Item 21A = 0002.21 or 0002.22 or 0014.1 or 0014.2; else = 0	✓	✓	✓	✓
Primary Diagnosis Group	Non-Traumatic Spinal Cord Dysfunction	= 1 if Item 21A = 0004.110 or 0004.111 or 0004.112 or 0004.120 or 0004.1211 or 0004.1212 or 0004.130; else = 0	✓	✓	✓	✓
Primary Diagnosis Group	Traumatic Spinal Cord Dysfunction	= 1 if Item 21A = 0004.210 or 0004.211 or 0004.212 or 0004.220 or 0004.2211 or 0004.2212 or 0004.230 or 0014.3; else = 0	✓	✓	✓	✓
Primary Diagnosis Group	Progressive Neurological Conditions	= 1 if Item 21A = 0003.1 or 0003.2; else = 0	✓	✓	✓	✓
Primary Diagnosis Group	Other Neurological Conditions	= 1 if Item 21A = 0003.3 or 0003.4 or 0003.5 or 0003.8 or 0003.9; else = 0	✓	✓	✓	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Primary Diagnosis Group	Fractures and Other Multiple Trauma	= 1 if Item 21A = 0008.11 or 0008.12 or 0008.2 or 0008.3 or 0008.4 or 0014.9; else = 0	✓	✓	✓	✓
Primary Diagnosis Group	Amputation	= 1 if Item 21A = 0005.1 or 0005.2 or 0005.3 or 0005.4 or 0005.5 or 0005.6 or 0005.7 or 0005.9; else = 0	✓	✓	✓	✓
Primary Diagnosis Group	Other Orthopedic Conditions	= 1 if Item 21A = 0006.1 or 0006.2 or 0006.9 or 0007.1 or 0007.2 or 0007.3 or 0007.9 or 0008.9; else = 0	✓	✓	✓	✓
Primary Diagnosis Group	Debility, Cardiorespiratory Conditions	= 1 if Item 21A = 0009 or 0010.1 or 0010.9 or 0016 or 0017.4 or 0017.51 or 0017.52; else = 0	✓	✓	✓	✓
Primary Diagnosis Group	Medically Complex Conditions	= 1 if Item 21A = 0011 or 0012.1 or 0012.9 or 0013 or 0015 or 0017.1 or 0017.2 or 0017.31 or 0017.32 or 0017.6 or 0017.7 or 0017.8 or 0017.9; else = 0	✓	✓	✓	✓
Interaction of admission self-care score and primary diagnosis group	Hip and Knee Replacements (reference category)	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Hip and Knee Replacements (see above)	n/a	n/a	n/a	n/a

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Interaction of admission self-care score and primary diagnosis group	Stroke	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Stroke (see above)	✓	n/a	✓	n/a
Interaction of admission self-care score and primary diagnosis group	Non-Traumatic Brain Dysfunction	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Non-Traumatic Brain Dysfunction (see above)	✓	n/a	✓	n/a
Interaction of admission self-care score and primary diagnosis group	Traumatic Brain Dysfunction	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Traumatic Brain Dysfunction (see above)	✓	n/a	✓	n/a
Interaction of admission self-care score and primary diagnosis group	Non-Traumatic Spinal Cord Dysfunction	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Non-Traumatic Spinal Cord Dysfunction (see above)	✓	n/a	✓	n/a

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Interaction of admission self-care score and primary diagnosis group	Traumatic Spinal Cord Dysfunction	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Traumatic Spinal Cord Dysfunction (see above)	✓	n/a	✓	n/a
Interaction of admission self-care score and primary diagnosis group	Progressive Neurological Conditions	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Progressive Neurological Conditions (see above)	✓	n/a	✓	n/a
Interaction of admission self-care score and primary diagnosis group	Other Neurological Conditions	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Other Neurological Conditions (see above)	✓	n/a	✓	n/a
Interaction of admission self-care score and primary diagnosis group	Fractures and Other Multiple Trauma	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Fractures and Other Multiple Trauma (see above)	✓	n/a	✓	n/a
Interaction of admission self-care score and primary diagnosis group	Amputation	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Amputation (see above)	✓	n/a	✓	n/a

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Interaction of admission self-care score and primary diagnosis group	Other Orthopedic Conditions	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Other Orthopedic Conditions (see above)	✓	n/a	✓	n/a
Interaction of admission self-care score and primary diagnosis group	Debility, Cardiorespiratory Conditions	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Debility, Cardiorespiratory Conditions (see above)	✓	n/a	✓	n/a
Interaction of admission self-care score and primary diagnosis group	Medically Complex Conditions	Admission self-care: continuous form (see above) multiplied by Primary diagnosis: Medically Complex Conditions (see above)	✓	n/a	✓	n/a
Interaction of admission mobility score and primary diagnosis group	Hip and Knee Replacements (reference category)	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Hip and Knee Replacements (see above)	n/a	n/a	n/a	n/a
Interaction of admission mobility score and primary diagnosis group	Stroke	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Stroke (see above)	n/a	✓	n/a	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Interaction of admission mobility score and primary diagnosis group	Non-Traumatic Brain Dysfunction	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Non-Traumatic Brain Dysfunction (see above)	n/a	✓	n/a	✓
Interaction of admission mobility score and primary diagnosis group	Traumatic Brain Dysfunction	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Traumatic Brain Dysfunction (see above)	n/a	✓	n/a	✓
Interaction of admission mobility score and primary diagnosis group	Non-Traumatic Spinal Cord Dysfunction	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Non-Traumatic Spinal Cord Dysfunction (see above)	n/a	✓	n/a	✓
Interaction of admission mobility score and primary diagnosis group	Traumatic Spinal Cord Dysfunction	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Traumatic Spinal Cord Dysfunction (see above)	n/a	✓	n/a	✓
Interaction of admission mobility score and primary diagnosis group	Progressive Neurological Conditions	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Progressive Neurological Conditions (see above)	n/a	✓	n/a	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Interaction of admission mobility score and primary diagnosis group	Other Neurological Conditions	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Other Neurological Conditions (see above)	n/a	✓	n/a	✓
Interaction of admission mobility score and primary diagnosis group	Fractures and Other Multiple Trauma	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Fractures and Other Multiple Trauma (see above)	n/a	✓	n/a	✓
Interaction of admission mobility score and primary diagnosis group	Amputation	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Amputation (see above)	n/a	✓	n/a	✓
Interaction of admission mobility score and primary diagnosis group	Other Orthopedic Conditions	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Other Orthopedic Conditions (see above)	n/a	✓	n/a	✓
Interaction of admission mobility score and primary diagnosis group	Debility, Cardiorespiratory Conditions	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Debility, Cardiorespiratory Conditions (see above)	n/a	✓	n/a	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Interaction of admission mobility score and primary diagnosis group	Medically Complex Conditions	Admission mobility: continuous form (see above) multiplied by Primary diagnosis: Medically Complex Conditions (see above)	n/a	✓	n/a	✓
Prior surgery	Surgical	=1 if J2000 = 1; else = 0	✓	✓	✓	✓
Prior functioning: self-care	Dependent	=1 if GG0100A = 1; else = 0	✓	n/a	✓	n/a
Prior functioning: self-care	Some help	=1 if GG0100A = 2; else = 0	✓	n/a	✓	n/a
Prior functioning: indoor ambulation	Dependent, Some help	=1 if GG0100B = 1 or GG0100B = 2; else = 0	✓	n/a	✓	n/a
Prior functioning: indoor ambulation	Dependent	=1 if GG0100B = 1; else = 0	n/a	✓	n/a	✓
Prior functioning: indoor ambulation	Some help	=1 if GG0100B = 2; else = 0	n/a	✓	n/a	✓
Prior functioning: stair negotiation	Dependent	=1 if GG0100C = 1; else = 0	n/a	✓	n/a	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Prior functioning: stair negotiation	Some help	=1 if GG0100C = 2; else = 0	n/a	✓	n/a	✓
Prior functioning: cognition	Dependent	=1 if GG0100D = 1; else = 0	n/a	✓	n/a	✓
Prior Mobility Device/Aid	Walker	=1 if GG0110D = 1; else = 0	✓	✓	✓	✓
Prior Mobility Device/Aid	Manual Wheelchair or Motorized Wheelchair and/or Scooter	=1 if GG0110A = 1 or GG0110B = 1; else = 0	✓	✓	✓	✓
Prior Mobility Device/Aid	Mechanical Lift	=1 if GG0110C = 1; else = 0	✓	✓	✓	✓
Prior Mobility Device/Aid	Orthotics/Prosthetics	=1 if GG0110E = 1; else = 0	✓	✓	✓	✓
Stage 2 Pressure Ulcer – Admission	Present	=1 if M0300B1 ≥ 1; else = 0	✓	✓	✓	✓
Stage 3, 4 or Unstageable Pressure Ulcer/Injury - Admission	Present	=1 if M0300C1 ≥ 1 or M0300D1 ≥ 1 or M0300E1 ≥ 1 or M0300F1 ≥ 1 or M0300G1 ≥ 1; else = 0	✓	✓	✓	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Cognitive Function: Brief Interview for Mental Status score - Admission	Moderately Impaired	=1 if C0500 = 8, 9, 10, 11, or 12 or ([C0900A = 1 and C0900B = 1] or [C0900B = 1 and C0900C = 1] or [C0900A = 1 and C0900C = 1]) or [C0900A = 1 and C0900E = 1] or [C0900B = 1 and C0900E = 1] or [C0900C = 1 and C0900E = 1]); else = 0	✓	✓	✓	✓
Cognitive Function: Brief Interview for Mental Status score - Admission	Severely Impaired	=1 if C0500 = ≤ 7 or (C0900Z = 1 or ([C0900A=1 and C0900B = 0, and C0900C = 0, and C0900E = 0] or [C0900B=1 and C0900A = 0, and C0900C = 0, and C0900E = 0] or [C0900C=1 and C0900A = 0, and C0900B = 0, and C0900E = 0] or [C0900E=1 and C0900A = 0, and C0900B = 0, and C0900C = 0])); else = 0	✓	✓	✓	✓
Communication Impairment - Admission	Moderate to Severe	=1 if BB0800 = 1 or BB0800 = 2 or BB0700 = 1 or BB0700 = 2; else = 0	✓	✓	✓	✓
Communication Impairment - Admission	Mild	=1 if BB0800 = 3 or BB0700 = 3; else = 0	n/a	✓	n/a	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Bladder Incontinence - Admission	Less than daily, Daily, Always incontinent	=1 if H0350 = 2 or H0350 = 3 or H0350 = 4; else = 0	✓	✓	✓	✓
Bladder Incontinence - Admission	Indwelling urinary catheter	=1 if H0350 = 9; else = 0	✓	n/a	✓	n/a
Bowel Incontinence - Admission	Always incontinent	=1 if H0400 = 3; else = 0	✓	✓	✓	✓
Bowel Incontinence - Admission	Less than daily, Daily	=1 if H0400 = 1 or H0400 = 2; else = 0	✓	✓	✓	✓
Health Conditions - Admission	History of Falls	= 1 if J1750 = 1; else = 0	n/a	✓	n/a	✓
Swallowing Ability - Admission	Modified Food Consistency	=1 if K0110B = 1; else = 0	✓	n/a	✓	n/a
Swallowing Ability - Admission	Tube/Parenteral Feeding	=1 if K0110C = 1; else = 0	✓	✓	✓	✓
Special Treatments, Procedures, and Programs - Admission	Total Parenteral Nutrition	= 1 if O0100N = 1; else = 0	n/a	✓	n/a	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Comorbidity HCC Group 1	Major Infections: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock (HCC2), Other Infectious Diseases (HCC7)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC2, HCC7; =0 if item 21A = 0017.1; else = 0	✓	n/a	✓	n/a
Comorbidity HCC Group 2	Major Infections: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock (HCC2)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC2; =0 if item 21A = 0017.1; else = 0	n/a	✓	n/a	✓
Comorbidity HCC Group 3	Other Infectious Diseases (HCC7)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC7; =0 if item 21A = 0017.1; else = 0	n/a	✓	n/a	✓
Comorbidity HCC Group 4	Central Nervous System Infections: Bacterial, Fungal, and Parasitic Central Nervous System Infections (HCC3), Viral and Late Effects Central Nervous System Infections (HCC4)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC3, HCC4; =0 if item 21A = 0017.1 or 0002.1 or 0002.9 or 0004.110 or 0004.111 or 0004.112 or 0004.120 or 0004.1211 or 0004.1212 or 0004.1221 or 0004.1222 or 0004.130; ; else = 0	✓	✓	✓	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Comorbidity HCC Group 5	Metastatic Cancer and Acute Leukemia (HCC8)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC8; =0 if item 21A = 0017.2 or 0002.1 or 0002.9 or 0004.11 thru 0004.13; else = 0	✓	✓	✓	✓
Comorbidity HCC Group 6	Lung and Other Severe Cancers (HCC9)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC9; =0 if item 21A = 0017.2; else = 0	n/a	✓	n/a	✓
Comorbidity HCC Group 7	Lymphoma and Other Cancers (HCC10)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC10; =0 if item 21A = 0017.2 or 0002.1 or 0002.9 or 0004.11 thru 0004.13; else = 0	n/a	✓	n/a	✓
Comorbidity HCC Group 8	Other Major Cancers: Colorectal, Bladder, and Other Cancers (HCC11), Other Respiratory and Heart Neoplasms (HCC13), Other Digestive and Urinary Neoplasms (HCC14), Other Neoplasms (HCC15)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC11, HCC 13, HCC14, HCC15; =0 if item 21A = 0017.2; else = 0	n/a	✓	n/a	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Comorbidity HCC Group 9	Diabetes: Diabetes with Chronic Complications (HCC18), Diabetes without Complication (HCC19), Type I Diabetes Mellitus (HCC20)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC18, HCC19, HCC20; else = 0	✓	✓	✓	✓
Comorbidity HCC Group 10	Other Significant Endocrine and Metabolic Disorders (HCC23)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC23; else = 0	✓	n/a	✓	n/a
Comorbidity HCC Group 11	Intestinal Obstruction/Perforation (HCC33)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC33; else = 0	✓	n/a	✓	n/a
Comorbidity HCC Group 12	Severe Hematological Disorders (HCC46)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC46; else = 0	n/a	✓	n/a	✓
Comorbidity HCC Group 13	Delirium and Encephalopathy (HCC50)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC50; else = 0	✓	✓	✓	✓
Comorbidity HCC Group 14	Dementia: Dementia With Complications (HCC51), Dementia Without Complications (HCC52)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC51, HCC52; else = 0	✓	✓	✓	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Comorbidity HCC Group 15	Mental Health Disorders: Schizophrenia (HCC57), Major Depressive, Bipolar, and Paranoid Disorders (HCC58), Reactive and Unspecified Psychosis (HCC59), Personality Disorders (HCC60)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC57, HCC58, HCC59, HCC60; else = 0	n/a	✓	n/a	✓
Comorbidity HCC Group 16	Tetraplegia (HCC70)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC70; =0 if Primary Diagnosis Group (calculation in Table A-3) = Non-traumatic spinal cord dysfunction or Traumatic spinal cord dysfunction; else = 0****	✓	✓	✓	✓
Comorbidity HCC Group 17	Paraplegia (HCC71)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC71; =0 if Primary Diagnosis Group (calculation in Table A-3) = Non-traumatic spinal cord dysfunction or Traumatic spinal cord dysfunction; else = 0	✓	✓	✓	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Comorbidity HCC Group 18	Multiple Sclerosis (HCC77)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC77; =0 if item 21A = 0003.1; else = 0	✓	✓	✓	✓
Comorbidity HCC Group 19	Parkinson's and Huntington's Diseases (HCC78)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC78; =0 if item 21A = 0003.2; else = 0	✓	n/a	✓	n/a
Comorbidity HCC Group 20	Polyneuropathy, Mononeuropathy, Other Neurological Conditions/Injuries (HCC81)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC81; = 0 if item 21A = 0003.3 or 0003.4 or 0003.8 or 0003.9; else = 0	✓	✓	✓	✓
Comorbidity HCC Group 21	Angina Pectoris (HCC88)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC88; =0 if item 21A = 0009; else = 0	✓	✓	✓	✓
Comorbidity HCC Group 22	Coronary Atherosclerosis/Other Chronic Ischemic Heart Disease (HCC89)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC89; =0 if item 21A = 0009 or 0017.4; else = 0	✓	✓	✓	✓
Comorbidity HCC Group 23	Hypertensive Heart Disease (HCC94)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC94; else = 0	✓	✓	✓	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Comorbidity HCC Group 24	Hemiplegia/Other Late Effects of CVA: Hemiplegia/Hemiparesis (HCC103), Late Effects of Cerebrovascular Disease Except Paralysis (HCC105)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC103, HCC105; =0 if Primary Diagnosis Group (calculation in Table A-3) = Stroke or Non-traumatic brain dysfunction or Traumatic brain dysfunction; else = 0	✓	✓	✓	✓
Comorbidity HCC Group 25	Atherosclerosis of the Extremities with Ulceration or Gangrene (HCC106)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC106; =0 if item 21A = 0017.4; else = 0	n/a	✓	n/a	✓
Comorbidity HCC Group 26	Aspiration, Bacterial, and Other Pneumonias: Aspiration and Specified Bacterial Pneumonias (HCC114), Pneumococcal Pneumonia, Empyema, Lung Abscess (HCC115)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC114, HCC115; =0 if item 21A = 0017.51 or 0017.52; else = 0	n/a	✓	n/a	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Comorbidity HCC Group 27	Legally Blind (HCC119)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC119; else = 0	n/a	✓	n/a	✓
Comorbidity HCC Group 28	Kidney Transplant Status (HCC132)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC132; =0 if item 21A = 0017.9; else = 0	✓	n/a	✓	n/a
Comorbidity HCC Group 29	Dialysis and Chronic Kidney Disease - Stage 5: Dialysis Status (HCC134), Chronic Kidney Disease, Stage 5 (HCC136)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC134, HCC136; =0 if item 21A = 0017.9 or if item 22A, 22B or 22C = N18.5; else = 0	✓	✓	✓	✓
Comorbidity HCC Group 30	Chronic Kidney Disease - Stages 1-4, Unspecified: Chronic Kidney Disease, Severe (Stage 4) (HCC137), Chronic Kidney Disease, Moderate (Stage 3) (HCC138), Chronic Kidney Disease, Mild or Unspecified (Stages 1-2 or Unspecified) (HCC139)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC137, HCC138, HCC139; =0 if item 22A, 22B or 22C = N18.1 or N18.2 or N18.3 or N18.4 or N18.9; else = 0	n/a	✓	n/a	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Comorbidity HCC Group 31	Urinary Obstruction and Retention (HCC142)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC142; else = 0	✓	n/a	✓	n/a
Comorbidity HCC Group 32	Chronic Ulcer of Skin, Excluding Pressure Ulcer (HCC161)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC161; =0 if item 21A = 0017.7; else = 0	✓	✓	✓	✓
Comorbidity HCC Group 33	Hip Fracture/Dislocation (HCC170)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC170; =0 if item 21A = 0008.51 or 0008.52 or 0008.11 or 0008.12 or 0008.3; else = 0	n/a	✓	n/a	✓
Comorbidity HCC Group 34	Major Fracture, Except of Skull, Vertebrae, or Hip (HCC171)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC171; =0 if item 21A = 0008.2 or 0008.4 or 0008.9 or 0014.9; else = 0	n/a	✓	n/a	✓
Comorbidity HCC Group 35	Amputations: Traumatic Amputations and Complications (HCC173), Amputation Status, Lower Limb/ Amputation Complications (HCC189), Amputation Status, Upper Limb (HCC190)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC173, HCC189, HCC190; =0 if Primary Diagnosis Group (calculation in Table A-3) = Amputation; else = 0	✓	✓	✓	✓

(continued)

Table A-5 (continued)

Risk-Adjustment Covariates for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

Covariate	Covariate Category	IRF-PAI Item(s) and Calculations*	Change in Self-Care (NQF #2633)	Change in Mobility (NQF #2634)	Discharge Self-Care (NQF #2635)	Discharge Mobility (NQF #2636)
Comorbidity HCC Group 36	Transplant Status: Kidney Transplant Status (HCC132), Major Organ Transplant or Replacement Status (HCC186), Other Organ Transplant Status/Replacement (HCC187)	=1 if Item 24 = see Crosswalk ICD-10 codes to HCC132, HCC186, HCC187; else = 0	n/a	✓	n/a	✓

HCC = Hierarchical Condition Category

Note: 'n/a' in a measure's coefficient column indicates a 0 value, and the risk adjuster can be left out of the regression model; The logic for calculating most risk adjusters is summarized as "*new variable* = [1] if *old item* = [X]; else = [0]". Thus, any instances of missing, a caret, or a dash should be coded as 0 for that risk adjuster item and the patient stay would not be dropped.

*Calculation steps are run in the order in which they are presented so that exceptions to the coding logic are accurately applied.

**When calculating the admission self-care and mobility score risk adjusters, first recode each function item so that a code of 07, 09, or 88 is recoded to 01. Use this code as the score. If the mobility item is dash (-), skipped (^), or missing, recode to 01 and use this code as the score. If code is between 01 and 06, then use code as the score. The self-care – continuous covariate will have a range of scores from 7 to 42, and the mobility – continuous covariate will have a range of 15 to 90 after recoding.

***The 13 Primary Diagnosis Groups should account for all patient stay-level records. If a record is not included in one of the 13 groups due to missing information, please default to coding = [1] for Hip and Knee Replacement so all records are included in one of the 13 groups. Please note that these groups are mutually exclusive.

****Although Complete Tetraplegia is originally part of this HCC, it has been excluded from this comorbidity in our model because it is an exclusion criterion for the IRF Discharge Self-Care Score Quality Measure. Patients with Incomplete or Unspecified Tetraplegia would be included in this category.

Table A-6

Exceptions to Risk-Adjuster Comorbidities for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF #2635, and NQF #2636)

HCC Group*	HCC Category	HCC Code	Exclusions to Comorbidity Risk Adjuster Coding Based on Primary Diagnosis and Impairment Groups at Admission		
			Previously Defined “Primary Diagnosis Group” (see <i>Table A-5</i>)	Specific Impairment Group Codes	Comorbid Conditions, ICD-10 Codes
1	Septicemia, Sepsis, Other Infectious Diseases				
	Major Infections: Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	HCC2		= 0, if item 21A = 0017.1	
	Other Infectious Diseases	HCC7		= 0, if item 21A = 0017.1	
2	Septicemia, Sepsis, Systemic Inflammatory Response Syndrome/Shock	HCC2		= 0, if item 21A = 0017.1	
3	Other Infectious Diseases	HCC7		= 0, if item 21A = 0017.1	
4	CNS Infections				
	Bacterial, Fungal, and Parasitic Central Nervous System Infections	HCC3		= 0, if item 21A = 0017.1 or 0002.1 or 0002.9 or 0004.11 thru 0004.13	
	Viral and Late Effects Central Nervous System Infections	HCC4		= 0, if item 21A = 0017.1 or 0002.1 or 0002.9 or 0004.11 thru 0004.13	
5	Metastatic Cancer and Acute Leukemia	HCC8		= 0, if item 21A = 0017.2 or 0002.1 or 0002.9 or 0004.11 thru 0004.13	
6	Lung and Other Severe Cancers	HCC9		= 0, if item 21A = 0017.2	
7	Lymphoma and Other Cancers	HCC10		= 0, if item 21A = 0017.2 or 0002.1 or 0002.9 or 0004.11 thru 0004.13	

(continued)

Table A-6 (continued)

QM Report Measure Calculation: Exceptions to Risk-Adjuster Comorbidities for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF # 2635, and NQF #2636)

HCC Group*	HCC Category	HCC Code	Exclusions to Comorbidity Coding Based on Primary Diagnosis and Impairment Groups at Admission		
			Previously Defined “Primary Diagnosis Group” (see Table A-5)	Specific Impairment Group Codes	Comorbid Conditions, ICD-10 Codes
8	Other major cancers except breast, prostate, skin & other				
	Colorectal, Bladder, and other cancers	HCC11		= 0, if item 21A = 0017.2	
	Other respiratory and heart neoplasms	HCC13		= 0, if item 21A = 0017.2	
	Other Digestive and Urinary Neoplasms	HCC14		= 0, if item 21A = 0017.2	
	Other Neoplasms	HCC15		= 0, if item 21A = 0017.2	
16	Tetraplegia	HCC70	= 0, if Non-traumatic spinal cord dysfunction or Traumatic spinal cord dysfunction		
17	Paraplegia	HCC71	= 0, if Non-traumatic spinal cord dysfunction or Traumatic spinal cord dysfunction		
18	Multiple Sclerosis	HCC77		= 0, if item 21A = 0003.1	
19	Parkinson's and Huntington's Diseases	HCC78		= 0, if item 21A = 0003.2	= 0, if item 22A, 22B or 22C = G10
21	Angina Pectoris	HCC88		= 0, if item 21A = 0009	
22	Coronary Atherosclerosis/Other Chronic Ischemic Heart Disease	HCC89		= 0, if item 21A = 0009	

(continued)

Table A-6 (continued)

QM Report Measure Calculation: Exceptions to Risk-Adjuster Comorbidities for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF # 2635, and NQF #2636)

HCC Group*	HCC Category	HCC Code	Exclusions to Comorbidity Coding Based on Primary Diagnosis and Impairment Groups at Admission		
			Previously Defined “Primary Diagnosis Group” (see Table A-5)	Specific Impairment Group Codes	Comorbid Conditions, ICD-10 Codes
23	Hypertensive Heart Disease	HCC94			= 0, if item 22A, 22B or 22C = I13.10 - I13.2 (Hypertensive heart and renal disease)
24	Hemiplegia/Other Late Effects of CVA				
	Late Effects of Cerebrovascular Disease, Except Paralysis	HCC105	=0, if Stroke		
	Hemiplegia/Hemiparesis	HCC103	= 0 if Stroke or Non-traumatic brain dysfunction or Traumatic brain dysfunction		
25	Atherosclerosis of the Extremities with Ulceration or Gangrene	HCC106		= 0, if item 21A = 0017.4	
26	Aspiration and Bacterial Pneumonias, Other Pulmonary				
	Aspiration and Specified Bacterial Pneumonias	HCC114		= 0, if item 21A = 0017.51 or 0017.52	
	Pneumococcal Pneumonia, Empyema, Lung Abscess	HCC115		= 0, if item 21A = 0017.51 or 0017.52	
28	Kidney Transplant Status	HCC132		= 0, if item 21A = 0017.8 or 0017.9	

(continued)

Table A-6 (continued)

QM Report Measure Calculation: Exceptions to Risk-Adjuster Comorbidities for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF # 2635, and NQF #2636)

HCC Group*	HCC Category	HCC Code	Exclusions to Comorbidity Coding Based on Primary Diagnosis and Impairment Groups at Admission		
			Previously Defined “Primary Diagnosis Group” (see <i>Table A-5</i>)	Specific Impairment Group Codes	Comorbid Conditions, ICD-10 Codes
29	Dialysis and Chronic Kidney Disease, Stage 5				
	Dialysis Status	HCC134		= 0, if item 21A = 0017.9	
	Chronic Kidney Disease, Stage 5	HCC136			= 0, if item 22A, 22B or 22C = N18.5
30	Chronic Kidney Disease, Stages 1-4, Unspecified				
	Chronic Kidney Disease, Severe (Stage 4)	HCC137			= 0, if item 22A, 22B or 22C = N18.4
	Chronic Kidney Disease, Moderate (Stage 3)	HCC138			= 0, if item 22A, 22B or 22C = N18.3
	Chronic Kidney Disease, Mild or Unspecified (Stages 1-2 or Unspecified)	HCC139			= 0, if item 22A, 22B or 22C = N18.1 or N18.2 or N18.9
32	Chronic Ulcer of Skin, Except Pressure	HCC161		= 0, if item 21A = 0017.7	
33	Hip Fracture/Dislocation	HCC170		= 0, if item 21A = 0008.51 or 0008.52 or 0008.11 or 0008.12 or 0008.3	
34	Major Fracture, Except of Skull, Vertebrae, or Hip	HCC171		= 0, if item 21A = 0008.2 or 0008.4 or 0008.9 or 0014.9	

(continued)

Table A-6 (continued)

QM Report Measure Calculation: Exceptions to Risk-Adjuster Comorbidities for the Change in Self-Care, Change in Mobility, Discharge Self-Care, and Discharge Mobility Measures (NQF #2633, NQF #2634, NQF # 2635, and NQF #2636)

HCC Group*	HCC Category	HCC Code	Exclusions to Comorbidity Coding Based on Primary Diagnosis and Impairment Groups at Admission		
			Previously Defined “Primary Diagnosis Group” (see Table A-5)	Specific Impairment Group Codes	Comorbid Conditions, ICD-10 Codes
35	Amputations				
	Traumatic Amputations and Complications	HCC173	= 0, if Amputation		
	Amputation Status, Lower Limb/Amputation Complications	HCC189	= 0, if Amputation		
	Amputation Status, Upper Limb	HCC190	= 0, if Amputation		
36	Transplant Status				
	Kidney Transplant Status	HCC132		= 0, if item 21A = 0017.8	
	Major Organ Transplant or Replacement Status	HCC186		= 0, if item 21A = 0017.8	
	Other Organ Transplant Status/Replacement	HCC187		= 0, if item 21A = 0017.8	

* HCC Group number matches the numbers listed in column 1 of [Table A-5](#) for the comorbidities. [Table A-5](#) and [A-6](#) are used in tandem to calculate the QM expected scores. A patient may be coded a “1, yes” for having a specific HCC comorbidity according to [Table A-5](#) but [Table A-6](#) must also be checked to ensure the comorbidity is not already accounted for under the Primary Diagnosis Group codes or the Impairment Group Codes. If the condition is already accounted for in another risk adjuster, the HCC Group the risk adjuster is changed to “0, no” for the comorbidity, because the diagnosis is a patient’s primary condition. See coding in this table to determine which items have these exclusions.

Section A.2: Risk-Adjustment Appendix File Overview

The intercept and coefficient values for each of the covariates listed by quality measure in Section A-1 are available in the Risk-Adjustment Appendix File, which can be accessed on the [IRF Quality Reporting Measures Information website](#). This Risk-Adjustment Appendix File, which is used alongside this appendix, contains current and historical intercept and coefficient values and the risk-adjustment schedule including applicable discharge dates for each update to the intercept and coefficient values.

Excel Worksheets in the Risk-Adjustment Appendix File:

Overview: Brief description of the document and its content.

Schedule: The risk-adjustment schedule for each quality measure.

- *Quality Measure Name:* Full measure name as referenced throughout the Inpatient Rehabilitation Facility Quality Reporting Program Measure Calculations and Reporting User's Manual V3.0. A National Quality Forum (NQF) identification number is provided with the quality measure name, as applicable.
- *Measure Reference Name:* Abbreviated name for the quality measure.
- *Risk-Adjustment Update ID:* Number assigned to the initial and subsequent updates of the coefficient and intercept values for a unique risk-adjusted quality measure.
- *QM User's Manual Specification Version:* Number assigned to the initial and subsequent versions of the Inpatient Rehabilitation Facility Quality Reporting Program Measure Calculations and Reporting User's Manual, located on the title page.
- *QM User's Manual Specification Posting Date:* Month and year of the Inpatient Rehabilitation Facility Quality Reporting Program Measure Calculations and Reporting User's Manual posting on the [IRF Quality Reporting Measures Information website](#).
- *Measure Calculation Application Dates:* Discharge dates associated with the intercept and coefficient values for each Risk-Adjustment Update ID.

National Average: This document provides a national average observed score for each Risk-Adjustment Update ID to be used for applicable risk-adjusted quality measures. Values are provided because there is limited public accessibility to national assessment data. Please note that, depending on the reporting period and time of calculation, the national average observed score used in the CASPER QM Reports, Provider Preview Reports, and on public display on the Compare Website may vary from the national average observed score provided by this document.

Quality Measure Specific Tabs: Lists each covariate and its associated coefficient value for each risk-adjustment update ID.

Section A.3: Risk-Adjustment Procedure

Below is the procedure on how to use the Inpatient Rehabilitation Facility Quality Reporting Program Measure Calculations and Reporting User's Manual and the associated Risk-Adjustment Appendix File information to apply intercept and coefficients values to calculate the risk-adjusted score. Steps to calculate the risk-adjusted quality measure may vary by each measure. The following procedure contain the general steps:

1. Utilize the record selection guidance as listed in Chapter 4 Record Selection for Assessment-Based Quality Measures (IRF-PAI) in this manual.
2. Follow the guidance for the version or versions of the IRF-PAI applicable to the assessment dates (based on discharge date) required for your calculation found in Chapter 5, Section 5.3: Measure Calculations During the Transition from IRF-PAI v1.5 to IRF-PAI v2.0.
3. Use the specific calculation steps provided in Chapter 6 Measure Calculations for Assessment-Based Quality Measures (IRF-PAI) for the measure(s).
 - a. Refer to Appendix A on details to calculate the covariates for each quality measure.
4. Refer to the Risk-Adjustment Appendix File information to apply intercept and coefficient values to measure calculations. Under the Schedule tab, refer to the QM User's Manual Specification Version relevant to the timeframe for which you want to calculate the measure.
5. Use the column "Measure Calculation Application Dates" to select the applicable discharge dates then identify the Risk-Adjustment Update ID associated with those discharge dates.
6. Select the applicable quality measure tab then use the applicable Risk-Adjustment Values Update ID column. Apply the intercept and coefficient values for each covariate.
 - a. For quality measures using the national average observed score in the measure calculation, select the National Average tab and use the national average observed score that corresponds to the Risk-Adjustment Values Update ID column used.

Example (Steps 4–6): IRF Functional Outcome Measure: Change in Mobility Score for Medical Rehabilitation Patients

- IRF-PAI record had a discharge date of 06/15/2017
- In the Schedule tab of the Risk-Adjustment Appendix File, refer to the Change in Mobility measure.
 - The discharge date of 06/15/2017 is within the discharge date range for Risk-Adjustment Update ID 1 (01/01/2017 – 12/31/2017). Therefore, the user should use the information provided in the Risk-Adjustment ID 1 column.
- Select the Change in Mobility tab and apply the intercept and coefficient values in the Risk-Adjustment ID 1 column for each covariate.
- Select the National Average tab and use the Risk-Adjustment Update ID 1 column for the Change in Mobility national average observed score.