Calculating Hospitalization Rates

Overview

Reducing unplanned hospitalizations, including 30-day hospital readmissions, observation stays, and emergency department (ED) visits is a significant concern for skilled nursing facilities (SNFs) as well as acute care hospitals. SNFs are increasingly under pressure by hospitals, health systems, and insurers to reduce 30-day readmissions because of the overall impact on patients and their families, quality outcomes, and financial penalties for hospitals and SNFs.

Post-acute and long-term care organizations should understand that:

- Tracking, trending, and benchmarking specific quality measures, such as an organization’s hospitalization rate, is fundamental to any quality improvement program.
- Unless clearly and consistently defined measures are used, it is not possible to benchmark or compare your measures with other facilities, your marketplace, and state, regional and national data.

The Centers for Medicare & Medicaid Services (CMS) is monitoring readmission and ED rates through various quality measurement initiatives, including the Skilled Nursing Facility Value Based Purchasing Program (SNFVBP) and the Five Star Nursing Home Compare short stay quality measures. These quality measures utilize data sources such as the Minimum Data Set (MDS) and claims data to calculate readmission rates.

There will always be a delay to retrieve necessary information from national data sources, which is unavoidable for national programs. Therefore, at a facility level, SNFs should track overall their overall hospitalization rate on a real-time, ongoing basis for performance improvement and better outcomes. Tracking real-time hospitalization data will provide a benchmark for quality improvement and highlight your organization’s hospitalization quality improvement efforts and position your organization as a preferred provider.

Tracking Hospitalization Rates

In order track, trend, and benchmark rates of hospital transfers, hospitalization, and hospital readmissions post-acute and long-term care organizations should use definitions that are consistent with the definitions used by CMS and other national organizations. The INTERACT Quality Improvement Program has two tools available to assist in calculating hospitalization rates on a real-time basis:

1. **The Acute Care Transfer Log** is a paper and pencil tool that can assist in collecting data to track the basic measures outlined below.
2. **The Hospitalization Rate Tracking Tool** is an Excel workbook with formulae embedded in it that calculate rates for key measures. Facilities may input census data and information on transfers and generate a variety of summary reports. Dropdown lists and other features facilitate logging admissions from hospitals and transfers to hospitals.
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Basic Hospitalization Rates

As shown in the attached Figure several different hospitalization rates can be calculated. **30-Day Readmission Rates**, which are receiving the most attention at present because of the financial penalties associated with them, are a subset of the overall unplanned hospitalization rate. In addition, other measures are important because of their potential for adverse effects on patients and families, as well as on the costs of care, reducing unplanned hospitalizations, including 30-day hospital readmissions, observation stays, and emergency department (ED) visits is a significant concern for skilled nursing facilities (SNFs) as well as acute care hospitals. SNFs are increasingly under pressure by hospitals, health systems, and insurers to reduce 30-day readmissions because of the overall impact on patients and their families, quality outcomes, and financial penalties for hospitals and SNFs.

- The **Unplanned Hospitalization Rate** includes all unplanned inpatient hospitalizations. CMS definitions exclude specific diagnoses from this rate because they are planned (e.g., planned surgical procedure, admission for chemotherapy). This rate includes:
  - **30-Day Readmissions**
  - **Unplanned Admissions** that are not 30-day readmissions
- Both 30-Day Readmissions and other Unplanned Admissions can be further categorized as “Potentially Avoidable” or “Potentially Preventable” (vs. not potentially avoidable or preventable). CMS has specified these conditions, which include the list below (which may be refined in the future):
  - COPD and Asthma
  - Heart failure
  - Bacterial pneumonia
  - Urinary tract infection
  - Skin and subcutaneous tissue infections
  - Dehydration/Electrolyte imbalance
- **Emergency Department (ED) Visits** without hospitalization
- **Observation Stays** (not included in all CMS measures - see below)

Additional Measures

Each of the rates defined above can be tracked and trended in different ways. For example, each rate can be calculated for the entire facility and separately for post-acute unit(s) and long stay unit(s). When combined with data from the INTERACT Quality Improvement Tool, a variety of additional measures can be tracked, such as reasons for transfer, time and day of the week or transfer, primary care clinician ordering the transfer, etc. for quality improvement purposes.

CMS Quality Measures

The federal government is measuring and monitoring skilled nursing facility readmissions through three specific programs:

1. Skilled Nursing Value – Based Purchasing Program (SNFVBP)
2. Skilled Nursing Facility Quality Reporting Program (SNF QRP)
3. Five Star Quality Rating System (Five Star)
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Each of these measures is briefly summarized below and in the Table that follows. Note that there are differences in the method of calculating these rates, as well as rates calculated by other programs.

Key differences include the following:
- Claims-based vs. MDS-based – The former can differentiate between inpatient hospitalizations, observation stays and Emergency Department visits; the latter does not identify these different outcomes.
- Claims-based data does not include Medicare Advantage patients, whereas MDS-based data does include them.
- Observation stays are included in the Five Star readmission measure, but not in the others.

Skilled Nursing Facility Value-Based Purchasing Program (SNF VBP)

The Skilled Nursing Facility Value-Based Purchasing (SNF VBP) Program offers Medicare incentive payments to SNFs paid under the SNF Prospective Payment System (PPS) based on their performance on specified measures of readmissions – Skilled Nursing Facility Readmission Measure (SNFRM). Beginning October 1, 2018, eligible SNFs will be eligible for value-based incentive payments for the quality of care they give to people with Medicare promoting:
- Incentives for facilities to coordinate care
- Protecting patients from potential harms or adverse events associated with hospital readmissions
- Quality improvement efforts in the skilled nursing facility sector and other Medicare VBP Programs
- Confidential feedback via quarterly reports to SNFs with patient stay-level data including SNFRM outcomes and performance for process improvement opportunities

Skilled Nursing Facility Quality Reporting Program (SNF QRP)

The Improving Medicare Post-Acute Care Transformation Act of 2014 (the IMPACT Act) of 2014 required the development and implementation of quality measures from specific quality measure domains, including measures pertaining to resource use, hospitalization, and discharge to the community. There are assessment-based and claims-based measures included in the SNF QRP. The Potentially Preventable 30-Days Post-Discharge Readmission Measure for SNFs is one of the claims-based measures which assesses a SNF’s risk-adjusted rate of unplanned, potentially preventable readmissions within 30 days of SNF discharge.

Skilled nursing facilities can review the SNF QRP measure results on a quarterly basis via the CASPER System identified as Resident-Level QM Reports for the SNF QRP quality measures, including the Potentially Preventable 30-Day Post-Discharge Readmission Measure for SNFs

Five Star Quality Rating System (Five Star)

CMS created the Five-Star Quality Rating System to help consumers, their families, and caregivers compare nursing homes more easily and to help identify areas about which they may seek additional information related to care and quality outcomes. The data for the Five-Star Quality Rating System is located on Nursing Home Compare web site, featuring 16 out of 24 MDS and claims-based quality measures for skilled nursing facilities.
Five Star quality measures are identified as short-stay or long-stay measures. There are two claims-based measures that correlate with hospitalizations and the utilization of emergency department:

Key differences include the following:

1. **Short Stay - Percentage of patients who were re-hospitalized after a nursing home admission.**
   This measure reports the percentage of all new admissions or readmissions to a nursing home from a hospital where the resident was readmitted to a hospital for an inpatient or observation stay within 30 days of entry or reentry into the nursing home.

2. **Percentage of short-stay patients who have had an outpatient emergency department (ED) visit**
   This measure reports the percentage of all new admissions or readmissions to a nursing home from a hospital where the resident had an outpatient ED visit (i.e., an ED visit not resulting in an inpatient hospital admission) within 30 days of entry or reentry.

Understanding the various CMS readmission measures, your organization’s readmission rate and real-time hospitalization rate are key for success in value-based models of care. The CMS readmission measures are claims based and are retrospective in nature. The INTERACT Hospitalization Rate Tracking Tool is based on following an organization’s hospitalization trends on a real-time basis and parallels with the readmission measures outlined in the SNFVBP, SNFQRP and Five Star programs. While the exact numbers will not exactly match the CMS values, tracking and benchmarking trends will be helpful in quality improvement initiatives.
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CMS Measures of Hospitalizations and Readmissions

<table>
<thead>
<tr>
<th>Readmission Measure</th>
<th>Origin</th>
<th>Description</th>
<th>Key Points</th>
</tr>
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<tbody>
<tr>
<td>Skilled Nursing Facility Readmission Measure (SNFRM)</td>
<td>Skilled Nursing Facility Value Based Purchasing (SNF VBP)</td>
<td>The SNFRM is the measure used to evaluate SNFs in the SNF VBP Program. The program ties portions of SNFs payments to their performance on this measure, which is calculated by assessing the risk-standardized rate of all-cause, unplanned hospital readmissions for Medicare fee-for-service SNF patients within 30 days of discharge from a prior proximal hospitalization. The SNFRM estimates risk-standardized rate of all-cause, unplanned hospital readmissions of Medicare SNF beneficiaries within 30 days of discharge from their prior proximal acute hospitalization. This measure will be replaced with the SNF PPR (Skilled Nursing Facility Potentially Preventable Readmission) measure in the near future (see below).</td>
<td>• Identified through claims-based data  • Includes all fee-for-service Medicare A patients  • Tracks readmissions within 30- days after discharge from a prior hospitalization, not discharge from the SNF.  • Includes all unplanned readmissions and excludes planned readmissions (since these are not indicative of poor quality)  • The readmission window starts on the day of or up to 24 hours after discharge from a prior hospitalization.  • Prior hospitalization for the SNFRM’s calculation is defined as an admission to an inpatient prospective payment system (IPPS) hospital, critical access hospital (CAH), or psychiatric hospital.  • Risk-adjusted based on patient demographics, principal diagnosis in prior hospitalization, comorbidities, and other health status variables that affect probability of readmission  • SNFRM forms the basis for the SNF Performance Score for the SNF VBP Program. As of August 2018 SNF performance rankings will be posted on Nursing Home Compare  • SNFRM performance information will be made available to each SNF through Confidential Feedback Quarterly Reports  • The SNFRM is endorsed by the National Quality Forum (NQF #2510)</td>
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Note: The measure used in the SNF VBP Program is not the same as the readmission measure posted on the Nursing Home Compare website and not the same as the measure adopted for the SNF Quality Reporting Program (see below).

(Source CMS SNFVBP Final Rule)
## CMS Measures of Hospitalizations and Readmissions

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<tr>
<td>Skilled Nursing Facility 30-Day Potentially Preventable Readmission Measure (SNFPPR)</td>
<td>Skilled Nursing Facility Value Based Purchasing (SNF VBP)</td>
<td>On July 29, 2016, CMS adopted the SNFPPR measure for future use in the SNF VBP Program. The SNFPPR measure assesses the risk-standardized rate of unplanned, Potentially Preventable Readmissions (PPRs) for Medicare fee- for-service SNF patients within 30 days of discharge from a prior hospitalization. The key difference between the SNFRM and SNFPPR measures is that the SNFPPR focuses on potentially preventable readmissions rather than all-cause readmissions. Note: CMS proposes to replace the SNFRM with the SNFPPR in future rulemaking.</td>
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</tbody>
</table>
| Potentially Preventable 30- Days Post- Discharge Readmission Measure for Skilled Nursing Facility (SNF) Quality Reporting Program (SNF QRP) | SNF Quality Reporting Program (SNF QRP)                                | Assesses a SNF’s risk-adjusted rate of unplanned, potentially preventable readmissions (PPRs) within 30 days of SNF discharge                                                                                                                                              | • Focuses on PPRs rather than all-cause readmissions  
• Uses Medicare claims and is risk adjusted.  
• Includes PPRs that occur in the 30 days following discharge from a hospital directly to a SNF and may include PPRs that occur either during a SNF stay or after discharge from the SNF  
(Source CMS SNFVBP Final Rule) |
| Short Stay - Percentage of patients who were re-hospitalized after a nursing home admission | Five Star Rating and Quality Measure  
Nursing Home Compare                                                      | This measure reports the percentage of all new admissions or readmissions to a nursing home from a hospital where the resident was readmitted to a hospital for an inpatient or observation stay within 30 days of entry or reentry. | • Effective July 2016 - short stay measure  
• Uses Medicare claim and MDS data  
• Includes observation stay  
• Calculated in Five-Star Quality Measure for SNFs  
• Impacts a SNF’s overall Five Star Rating and Quality Measure rating  
(Source CMS Nursing Home Compare Five Star Technical User’s Manual) |
| Short Stay - Percentage of short-stay patients who have had an outpatient emergency department (ED) visit | Five Star Rating and Quality Measure  
Nursing Home Compare                                                      | The short-stay outpatient ED visit measure determines the percentage of all new admissions or readmissions to a SNF from a hospital where the resident had an outpatient ED visit (i.e., an ED visit not resulting in an inpatient hospital admission) within 30 days of entry or reentry. | • Effective July 2016 - short stay measure  
• Uses Medicare claim and MDS data  
• Calculated in Five-Star Quality Measure for SNFs  
• Impacts a SNF’s overall Five Star Rating and Quality Measure rating  
(Source CMS Nursing Home Compare Five Star Technical User’s Manual) |
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**Different Measures of Hospitalization**

**All Acute Care Transfers**

- **Planned Admissions**
  - Surgery (non-emergent), Chemotherapy, Other

- **Admitted Under Observation Status**
  - Remains on Observation Status
  - Switched to Inpatient Status

- **ER Visits without Hospital Admission**
  - Died
  - Returned

- **Admissions to Observation Status**

- **All Unplanned Inpatient Admissions**

- **30-Day Readmissions**
  - Readmissions for ‘Non-Prevantable’ Diagnoses
  - Readmissions for ‘Prevantable’ Diagnoses

- **Other Admission**
  - For Other ‘Non-Prevantable’ Diagnoses
  - For Other ‘Prevantable’ Diagnoses
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Sources

For the Table:


For the Figure: