Frequently Asked Questions (FAQs)

CMS 30-Day Risk-Standardized Readmission Measures for Acute Myocardial Infarction (AMI), Heart Failure (HF), and Pneumonia

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Rationale for the CMS 30-Day Risk-Standardized Readmission Measures

1. Why measure outcomes?

Outcome measures assess a broad set of healthcare activities that affect patients’ well-being. Patients who receive better care during their hospital stays and during the transition to non-acute settings (e.g., home) will likely have improved outcomes such as survival, functional ability, and quality of life as well as reduced readmissions. Improving patient outcomes is the ultimate goal of hospital quality improvement. The measurement of outcomes allows policymakers, hospitals, and stakeholders to evaluate the quality of care and seek improvements that will impact patient well-being.

Legislatively, the Deficit Reduction Act of 2005 mandated that the Secretary of Health and Human Services include measures of hospital outcomes and efficiency in the Hospital Inpatient Quality Reporting (IQR) program. More recently, in 2010, Section 10303(a) of the Affordable Care Act directed the Secretary of Health and Human Services to develop additional outcome measures focused on the five most resource-intensive conditions as well as primary and preventive care. The public reporting of outcome measures is also consistent with the priorities of the Department of Health and Human Services’ National Quality Strategy, which aims to a) improve health care quality, b) improve the health of the U.S. population, and c) reduce the costs of health care.

CMS currently measures and publicly reports hospital data for a number of outcome measures in addition to the 30-day risk-standardized readmission measures for AMI, HF, and pneumonia. For example, the Hospital IQR Program currently includes the 30-day risk-standardized mortality measures for AMI, HF, and pneumonia, as well as the Agency for Healthcare Research and Quality (AHRQ) Patient Safety and Inpatient Quality Indicators. Similarly, CMS also measures and reports the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient satisfaction measures for hospitals that voluntarily elect to publish their data.

2. Why measure readmissions for AMI, HF, and pneumonia and not other conditions?

The measures focus on AMI, HF, and pneumonia because they are common conditions with substantial mortality and morbidity and are part of the core measure set currently reported on Hospital Compare. These conditions impose a substantial burden on patients and the healthcare system and there is marked variation in outcomes by institution.

3. Why measure 30-day readmission?

CMS chose to measure readmission within 30 days of discharge because it is an important outcome assessed in a standard period that can be strongly influenced by
hospital care and the early transition to the outpatient setting. The 30-day standard period is necessary so that the outcome for each patient is measured consistently. National quality measurement guidelines advocate that hospital quality measures assess patient outcomes over a standard period to avoid biased results.

The timeframe of 30 days is a clinically meaningful period for hospitals to collaborate with their communities in an effort to reduce readmissions. Such efforts may include ensuring patients are clinically ready at discharge, reducing risk of infection, reconciling medications, improving communication with community providers participating in transitions of care, educating patients adequately upon discharge, and assuring patients understand follow-up care upon discharge.

4. Why measure all-cause readmission?

The CMS readmission measures are all-cause readmission measures. The patient does not have to be readmitted for the same condition or a “related” condition to be included in the measures. There are several reasons for this choice of outcome.

First, from the patient perspective, readmission for any cause is an adverse event. Second, although most hospitals would not engage in such practices, CMS wants to eliminate any incentive for hospitals to change coding practices in an effort to prevent readmissions from being counted in the measures. Limiting the measures to readmissions for certain diagnoses only may make them susceptible to such practices. Third, it is often hard to exclude quality issues and accountability based on the documented cause of readmission. For example, a patient with HF who develops a hospital-acquired infection may ultimately be readmitted for sepsis. It would be inappropriate to consider the readmission as unrelated to the care the patient received for HF. Finally, hospitals can act to reduce readmissions from all causes; while the measures do not presume that each readmission is preventable, interventions have generally shown reductions in all types of readmissions.

5. What data do you use?

CMS uses administrative Medicare claims data that hospitals submit to CMS for payment and Veterans Health Administration (VA) administrative data for the calculation of the measures. Therefore, hospitals do not need to prepare any data for the calculation of these measures.

6. Why do you believe risk adjustment done with claims data has scientific rigor?

CMS has validated the 30-day readmission measures with models that use medical record-abstracted data for risk adjustment. CMS believes that the claims-based risk adjustment models have scientific rigor because our analyses demonstrated that the
estimates of hospitals’ risk-standardized readmission rates (RSRRs) based on administrative data are very similar to the rates estimated by models based on medical record data. This high level of agreement in the results based on the two different approaches supports the use of the administrative claims-based models for public reporting.

CMS’ approach to gathering risk factors for patients also mitigates the potential limitations of claims data. Because not every diagnosis is coded at every visit, CMS uses inpatient, outpatient, and physician claims data for the year prior to admission, and secondary diagnosis codes during the index admission, for risk adjustment.

The measures are also aligned with the American Heart Association and the American College of Cardiology’s published standards for statistical models used for calculation and public reporting of health outcome measures. The National Quality Forum (NQF) endorsed the AMI, HF, and pneumonia readmission measures in 2008 following a rigorous review process involving clinicians, providers, consumers, purchasers, and researchers. Details and technical information on the development of the 30-day readmission model are provided on QualityNet. In January of 2012, NQF re-endorsed the HF readmission measure after additional review as part of standard measure maintenance. The AMI and pneumonia readmission measures are expected to undergo similar maintenance in the near future.

7. How do the 30-day readmission measures relate to the process of care measures? Do you expect any correlation between these sets of measures?

Risk-standardized outcome measures can provide important additional information about quality of care that is not captured by process measures and is otherwise unavailable to hospitals. Variation in readmission, after adjusting for case-mix, may reflect differences in hospitals’ general environments (such as coordination of care, patient safety policies, and staffing) or variation in care processes not measured in the current core measure set. Outcome measures can focus attention on a broader set of healthcare activities that affect patients’ well-being. Moreover, improving patient outcomes is the ultimate goal of quality improvement.

CMS would expect some correlation between hospitals’ performance on the core process measures for AMI, HF, and pneumonia and on the corresponding readmission measures for these conditions. However, for several reasons, that correlation may not be strong, as the populations assessed in the two types of measures are somewhat different. Moreover, due to improvements made by average and low-performing hospitals and the sustainability of improvement by high-performing hospitals, hospital performance on the core measures currently does not vary greatly.
8. How do the 30-day readmission measures relate to the 30-day mortality measures? Do you expect any correlation between these sets of measures?

The 30-day readmission measures were developed to complement the existing 30-day mortality measures by providing information on additional aspects of quality. Although these two sets of measures assess outcomes in the same initial cohort of patients, they have different inclusion and exclusion criteria that were carefully defined based on the outcome being measured (mortality vs. readmission). There does not appear to be a meaningful correlation between hospital risk-standardized mortality rates and readmission rates. The results show that hospitals can perform well on both measures, demonstrating that achieving high quality on both outcomes is possible and setting a benchmark for performance.

9. My hospital has “better” 30-day mortality and “worse” 30-day readmissions – aren’t those hospitals that keep more of their patients alive to 30 days more likely to have high readmission rates?

Our analyses do not show such an association. The national results suggest that the 30-day mortality and readmission measures are capturing two different and important aspects of quality, and that performance on the two measures is not related in any meaningful way. The best-performing hospitals have low mortality and low readmission rates – demonstrating that achieving high quality on both outcomes is possible and setting a benchmark for performance.

10. Readmission seems less serious than mortality – why should consumers consider readmission outcomes too?

Readmission of patients who were recently discharged after hospitalization with AMI, HF, or pneumonia represents an important, expensive, and often modifiable adverse outcome. The risk of readmission can be modified by the quality and type of care provided to these patients. The readmission and mortality measures contain complementary information, and consumers should consider a hospital’s mortality and readmission results together. Consumers should talk to their doctor about how the outcome measure results are relevant to their situation.
Resources for Reducing Readmissions

11. Are there resources for strategies to reduce readmissions?

Given the serious implications hospital readmission has on quality of patient care and hospital reimbursement, it is important for hospitals to have access to information for reducing readmissions. The HF 30-day readmission methodology report posted on QualityNet provides references for interventions to reduce readmissions in the literature. You can also review the June 2007 Medicare Payment Advisory Commission (MedPAC) report that contains a chapter on lowering HF readmissions. This report and some additional websites and studies CMS has identified in the medical literature are below. CMS will continue to expand this list. These sites/papers do not necessarily represent CMS policies, but may be useful resources.

Initiatives to Reduce Readmissions:

- As part of the Integrating Care for Populations and Communities Aim (ICPCA), QIOs will work to reduce unnecessary readmissions to hospitals and promote seamless transitions between healthcare settings (http://www.cfmc.org/integratingcare).

- The Community Based Care Transitions Program (CCTP), created by Section 3026 of the Affordable Care Act, enabled CMS to allocate funds for qualified hospitals to pursue two-year renewable agreements aiming to test models for improving care transitions from the hospital to other settings and reducing readmissions for high-risk Medicare beneficiaries (http://www.innovations.cms.gov/initiatives/Partnership-for-Patients/CCTP/index.html).

- The National Priorities Partnership (NPP) has a focus on care coordination (http://www.nationalprioritiespartnership.org/PriorityDetails.aspx?id=606).

- The American College of Cardiology (ACC) and Institute for Healthcare Improvement (IHI) have launched a “Hospital to Home” (H2H) national campaign to reduce preventable readmissions (http://www.h2hquality.org).

- IHI has additionally launched the State Action on Avoidable Rehospitalizations (STAAR) initiative, which aims to reduce rehospitalizations by working across organizational boundaries and engaging multiple stakeholders (http://www.ihi.org/offerings/initiatives/STAAR/Pages/default.aspx).


- INTERACT (Interventions to Reduce Acute Care Transfers) is a quality improvement program, developed under CMS, that focuses on clinical and educational tools and
strategies for long-term care facilities to reduce the frequency of transfers to the acute hospital (http://interact2.net).

- The Society of Hospital Medicine has developed Better Outcomes for Older Adults through Safe Transitions (Project BOOST), a national initiative to improve the care of patients as they transition from hospital to home (http://www.hospitalmedicine.org/boost/).

- Project RED (Re-Engineered Discharge) is a research group at Boston University Medical Center that develops and tests strategies to improve the hospital discharge process in a way that promotes patient safety and reduces re-hospitalization rates (http://www.bu.edu/fammed/projectred).

Reports/Studies Focused on Reducing Readmissions:


Readmission Calculator
• A patient-level, medical record-based predictor tool for readmission risk (http://readmissionscore.org).
12. What are the updates to the 30-day readmission measure methodology for 2012?

In addition to updating the years of data to include discharges that occurred between July 1, 2008 and June 30, 2011, CMS made two additional refinements to the 30-day readmission measures for the 2012 public reporting. First, CMS added certain one-day stays at VA hospitals to the measure. Previously, the VA did not provide data on these stays for the measure calculation because they were considered analogous to observation stays rather than admissions. One-day stays (less than 24 hours) at VA hospitals are now included in the measure calculation if they result in a patient dying, leaving against medical advice (AMA), or if they are part of a transfer scenario (patient was transferred in or out to another acute care hospital). These cases are considered analogous to admissions because the short timeframe of the stay was determined not by clinical necessity but by other factors, such as death or transfer. All other stays less than one day are still considered observation stays and excluded, consistent with the measure specifications.

Second, CMS updated the measure code to accommodate the new ACS X12 Version 5010 claims format. The new format increases the amount of spaces allotted for diagnosis codes to 25 from 10; the spaces allotted for procedure codes to 25 from six; and includes up to 12 additional slots to list e-codes. This update allows for the identification of additional comorbidities.

13. What years of data were used to calculate the 30-day readmission measures for the July 2012 public reporting; what is the source of the data?

The information contained in the 2012 Hospital-Specific Reports is based on administrative data for hospital discharges that occurred between July 1, 2008 and June 30, 2011. This is the same time period used for the results of the 2012 public reporting. Hospital inpatient claims for this period are used to identify the cohort of patients to include in the measures and to provide specific characteristics of the index hospitalization. Hospital inpatient and outpatient claims as well as physician practice claims data are used to characterize comorbidities as documented during the index admission and in the year before the admission. This timeframe provides a comprehensive view of patients’ medical histories. These data come from the following sources:

- Medicare Part A and Part B claims
- The Medicare Enrollment Database (used to obtain beneficiary demographic as well as mortality information for CMS beneficiaries with an index admission within a non-federal hospital)
- Administrative data from the National Patient Care Database (for those patients with an index hospitalization within the VA).
Readmissions are identified by subsequent hospital inpatient claims for short-term acute care and critical access facilities.

The deadline for the submission of claims that were used in the 2012 reporting was June 26, 2009 for index hospitalizations that occurred in 2008; June 25, 2010 for index hospitalizations that occurred in 2009; June 24, 2011 for index hospitalizations that occurred in 2010; and September 30, 2011 for index hospitalizations that occurred in 2011.

14. Why is CMS using a three-year period of admissions?

CMS uses a three-year period of index admissions to increase the number of cases per hospital used for measure calculation, which improves the precision of each hospital’s readmission estimate. This approach also identifies more variation in hospital performance (more hospitals above or below the national average), providing more information to consumers, payers and stakeholders. CMS considers improvement sustainable by hospitals for three years most informative and useful for consumers.

15. How does CMS categorize hospital performance?

To categorize hospital performance, CMS estimates each hospital’s risk-standardized readmission rate (RSRR or “readmission rate”) and the corresponding 95% interval estimate. The interval estimate represents the range of probable values of the rate; a 95% interval estimate indicates that there is 95% probability that the true value of the rate lies between the lower limit of the interval and the upper limit. (For more information on how the readmission rates were calculated, see the Methodology section.)

CMS assigns hospitals to a performance category by comparing each hospital’s RSRR interval estimate to the national crude (unadjusted) rate. Comparative performance for hospitals with 25 or more eligible cases is classified as follows:

- “No different than U.S. national rate” if the 95% interval estimate surrounding the hospital’s rate includes the national crude readmission rate.
- “Worse than U.S. national rate” if the entire 95% interval estimate surrounding the hospital’s rate is higher than the national crude readmission rate.
- “Better than U.S. national rate” if the entire 95% interval estimate surrounding the hospital’s rate is lower than the national crude readmission rate.

If a hospital has fewer than 25 cases eligible for a measure, CMS assigns the hospital to a separate category: “The number of cases is too small (fewer than 25) to reliably tell how well the hospital is performing.” If your hospital has fewer than 25 eligible cases, your readmission rates and interval estimates will not be publicly reported for that
measure; however, they are presented in your Hospital-Specific Report (HSR) for your information.

16. Why did CMS add VA data to the readmission measures?

Veterans Health Administration (VA) is committed to transparency in the quality of care provided to enrollees in its healthcare system. Publishing data on Hospital Compare is an activity consistent with the VA’s commitment to transparency. The results will also inform the VA’s extensive quality improvement efforts.

17. How does the addition of VA data impact the categorization of non-federal hospitals’ performance on the readmission measures?

Due to the small proportion of VA hospitals in the overall pool of hospitals included in the readmission measures, CMS does not expect the addition of VA data will impact the performance assessment of non-federal acute care hospitals.

Inclusion/Exclusion Criteria

18. What are the inclusion and exclusion criteria for the CMS 30-day readmission measures?

The readmission measures include Medicare fee-for-service (FFS) enrollees and patients admitted to VA hospitals who have a principal discharge diagnosis of AMI (for the AMI measure), HF (for the HF measure), or pneumonia (for the pneumonia measure) who are at least 65 years of age at the time of their admission. CMS FFS beneficiaries with an index hospitalization at a non-federal hospital are included if they have been enrolled in Part A and Part B Medicare for the 12 months prior to the date of admission to ensure a full year of administrative data for risk adjustment. (This requirement does not apply to patients with an index admission at a VA hospital.)

The specific ICD-9-CM codes meeting the inclusion criteria for AMI, HF, and pneumonia are as follows:

- For the acute myocardial infarction (AMI) measure: 410.00, 410.01, 410.10, 410.11, 410.20, 410.21, 410.30, 410.31, 410.40, 410.41, 410.50, 410.51, 410.60, 410.61, 410.70, 410.71, 410.80, 410.81, 410.90, and 410.91
- For the heart failure (HF) measure: 402.01, 402.11, 402.91, 404.01, 404.03, 404.11, 404.13, 404.91, 404.93, 428.0, 428.1, 428.20, 428.21, 428.22, 428.23, 428.30, 428.31, 428.32, 428.33, 428.40, 428.41, 428.42, 428.43, and 428.9
- For the pneumonia measure: 480.0, 480.1, 480.2, 480.3, 480.8, 480.9, 481, 482.0, 482.1, 482.2, 482.30, 482.31, 482.32, 482.39, 482.40, 482.41, 482.42, 482.49, 482.81, 482.82, 482.83, 482.84, 482.89, 482.9, 483.0, 483.1, 483.8, 485, 486, 487.0, and 488.11
After selecting admissions meeting the above inclusion criteria, the measures exclude index admissions:

- for patients without at least 30 days post-discharge enrollment in FFS Medicare (because the 30-day readmission outcome cannot be assessed in this group). This exclusion applies only to patients who have index admissions in non-VA hospitals;
- for patients who died during the index hospitalization (because there was no opportunity for readmission);
- for patients who were discharged against medical advice (AMA) (because providers did not have the opportunity to deliver full care and prepare the patient for discharge);
- that ended in a transfer to another acute care facility (for patients who are transferred between one acute care hospital and another, the measures consider these multiple contiguous hospitalizations as a single acute episode of care, and readmission for transferred patients is attributed to the hospital that ultimately discharges the patient to a non-acute care setting); and
- that occurred within 30 days of discharge from an index admission (no admission is considered both an index admission and a readmission).

Additionally, for AMI patients only, the measure excludes same-day discharges (admission and discharge date equal), as such patients are unlikely to have had a clinically significant AMI.

** An index hospitalization is any admission included in the measure calculation as the initial admission for an episode of AMI, HF, or pneumonia care.

19. **Why are the numbers of patients for our readmission measures so different from our mortality measures, for example, for AMI?**

Although the 30-day mortality and readmission measures use the same initial cohort definition, they later apply different exclusion criteria that may result in differences in their final cohorts. For example, the final cohorts for the AMI mortality and readmission measures are different in that:

- The readmission measure excludes admissions where a patient died in the hospital.
- The readmission measure excludes admissions without at least 30 days post-discharge enrollment in Medicare FFS.
- The mortality measure randomly selects one hospitalization per patient per year.

See question 18 for the complete inclusion/exclusion criteria for the readmission measures. A complete comparison of the exclusion criteria is available in the Hospital-Specific Report Supplementary Information Packet posted on QualityNet (Hospitals – Inpatient > Claims-Based Measures > Readmission Measures > Hospital-Specific Reports).
20. **How are transferred patients handled in the readmission measures?**

For patients who are transferred between one acute care hospital and another, the measures consider these multiple contiguous hospitalizations as a single acute episode of care. Readmission for transferred patients is attributed to the hospital that ultimately discharges the patient to a non-acute care setting (e.g., to home or a skilled nursing facility). Thus, for patients who are transferred between two or more hospitals, if the patient is readmitted in the 30 days following the final hospitalization, the readmission is attributed to the final hospital.

**Defining Readmission**

21. **What counts as a readmission?**

The 30-day readmission measures count all readmissions to any acute care hospital within 30 days of discharge, with two exceptions: (1) some procedures for AMI that are likely planned (see question 24); and (2) same-day readmissions for the same condition to the same hospital (see question 23).

Only an inpatient admission to an acute care bed can qualify as an index admission or a readmission for the 30-day readmission measures. An acute care bed is defined as any inpatient bed in a short-term acute care facility, except for beds in separate units for rehab, psych, hospice care, or long-term care. Observation stays and emergency department visits do not qualify as readmissions. In addition, rehabilitation centers, psychiatric hospitals, hospice facilities, long-term care or long-term acute care hospitals, and skilled nursing facilities do not meet the definition of a short-term acute care hospital, and all admissions to these facilities are excluded from the measure cohort.

The measures do not count as readmissions any transfers (or subsequent admissions) to non-acute care units or hospitals, such as rehabilitation or hospice, as defined above.

22. **How are readmissions counted if there are multiple readmissions within 30 days; do any of these multiple readmissions count as new index admissions?**

The readmission measures count readmission as a “yes/no” outcome regardless of the number of times the patient was readmitted during the 30-day post-discharge time period. Thus, if a patient has more than one admission within 30 days of discharge from the index hospitalization, this patient’s readmission status would be “yes” because there were one or more readmissions within 30 days of being discharged from the index admission.

In addition, hospitalizations occurring within the 30-day post-discharge timeframe are not eligible to be counted as additional index admissions. However, once the 30-day
measurement period that is associated with the first index admission has passed, the next eligible hospitalization is considered a new index admission.

For example, if a patient was discharged from a heart failure (HF) stay on January 1, and was readmitted for HF on January 15, and then again on January 25, the patient would count as "readmitted" for the January 1 index admission. Neither the January 15 or January 25 stay would be used as an additional index admission. However, if the patient had a subsequent readmission for HF on February 10 that met other measure criteria, that stay would be used as an additional index admission in the measure.

23. **How do the 30-day readmission measures handle same-day readmissions?**

The readmission measures do not count as readmissions claims for same-day readmissions to the same hospital for the same condition. This is done to put all hospitals on an even playing field, as CMS rules already require Prospective Payment System (PPS) acute care hospitals to combine same-day, same-condition readmissions into one claim (so the readmission would appear as part of the initial stay in the administrative data). However, a patient admitted to a different acute care hospital on the same day as he/she had been discharged from an index admission would be considered a readmission.

24. **Do “planned” (or elective) readmissions, such as for PCI following admission for heart attack, still count as readmissions?**

For the 30-day AMI readmission measure, CMS does not count readmissions within 30 days for percutaneous transluminal coronary angioplasty (PTCA) or coronary artery bypass graft (CABG) procedures if they likely represent planned readmissions that are part of the same episode of care as the index admission. CMS still counts readmissions with these procedures, however, if the discharge diagnosis indicates the readmission was clearly not planned (specifically, discharge diagnoses of HF, AMI, unstable angina, arrhythmia, and cardiac arrest).

This approach was reached based on consultation with clinical experts, including cardiologists, and review of the data. CMS similarly considered whether to exclude particular admissions following heart failure and pneumonia, but concluded that the clinical and policy rationale for carving out additional readmissions from these all-cause measures was not as strong as it was for PTCA and CABG following AMI; CMS therefore chose not to make any exceptions for HF and pneumonia.

**Risk Adjustment**

25. **How are the risk-standardized readmission rates (RSRRs) calculated?**
The RSRRs are calculated as the ratio of the number of “predicted” readmissions to the number of “expected” readmissions, multiplied by the national unadjusted readmission rate. For each hospital, the numerator of the ratio is the number of readmissions within 30 days predicted based on the hospital’s performance with its observed case-mix. The denominator is the number of readmissions expected based on the nation’s performance with that hospital’s case-mix. This approach is analogous to a ratio of “observed” to “expected” used in other types of statistical analyses. It conceptually allows for a comparison of a particular hospital’s performance given its case-mix to an average hospital’s performance with the same case-mix. Thus a ratio of less than one indicates a lower-than-expected readmission rate (or better quality), and a ratio of greater than one indicates a higher-than-expected readmission rate (or worse quality). For details on the statistical approach used to determine the predicted and expected rates, please refer to the measure methodology and measures maintenance reports posted on QualityNet (Hospitals – Inpatient > Claims-Based Measures > Readmission Measures > Measure Methodology).

26. Will hospitals be able to duplicate the RSRRs for the purpose of validation?

Hospitals will not be able to replicate the risk-standardized readmission rates (RSRRs) independently. While hospitals have access to the inclusion/exclusion criteria and risk-adjustment coefficients used, the model requires input of patient longitudinal data across care settings and data from the entire national sample to estimate hospital-specific effects used in the equations.

To be transparent in how the RSRRs are calculated, CMS has made the measure calculation methodology (including the condition category algorithm) available on QualityNet. Hospitals may also request a copy of the SAS software used to estimate the RSRRs by emailing cmsreadmissionmeasures@yale.edu. However, please note that CMS does not provide training, consultations, or technical assistance for using the software.

27. How can I best track my hospital’s performance on the readmission measures for quality improvement purposes?

CMS’ risk-standardized readmission rates are not designed for hospitals’ internal quality tracking purposes, since they are measures of each hospital’s performance relative to other hospitals in a given time period. For quality improvement purposes, tracking your hospital’s raw (unadjusted) readmission rate may be helpful. The raw rate, however, will not capture readmission to other hospitals, which represents approximately 20% of readmissions for HF, for example, and varies across hospitals. Additionally, this will not capture major changes to your hospital’s case-mix that affect risk-standardized readmission rates. However, if your hospital’s case-mix and the proportion of patients readmitted to other hospitals are stable over time, your raw rate can be used to track improvement.
28. Where can I find more information about how the RSRRs are calculated?

The best source of information on the risk-adjustment models are the methodology reports, including Hospital 30-Day Heart Failure Readmission Measure Methodology, Hospital 30-Day AMI Readmission Measure Methodology, and Hospital 30-Day Pneumonia Readmission Measure Methodology, and the Measures Maintenance Reports posted on QualityNet (Hospitals – Inpatient > Claims-Based Measures > Readmission Measures > Measure Methodology).

Additional references on the readmission measures can also be found in the published literature section on QualityNet (Hospitals – Inpatient > Claims-Based Measures > Readmission Measures > Published Literature).


29. What are the risk factors used for risk adjustment; which diagnosis codes are included in each risk factor?

Each measure adjusts for gender and age as well as a wide variety of clinical risk factors. The number of risk factors ranges from 31 to 40 across the readmission measures. You can find a list of the risk factors in Appendix A, Table A.2 of the
Hospital-Specific Report (HSR) Supplementary Information Packet; this table also shows the relative effect of each risk factor on 30-day readmission. The HSR Supplementary Information Packet is available on QualityNet at: (http://www.qualitynet.org) > Hospitals – Inpatient > Claims-Based Measures > Readmission Measures > Hospital-Specific Reports. In addition, the Excel file containing your discharge-level data included with your hospital’s HSR on My QualityNet presents the prevalence of each risk factor for your hospital’s patients, compared to state and national averages.

Some of the patient risk factors are grouped using the CMS Condition Categories (CC) classification. A crosswalk of CCs to ICD-9-CM codes is available at: (http://www.qualitynet.org) > Hospitals – Inpatient > Claims-Based Measures > Readmission Measures > Resources.

**Treatment of Small Hospitals**

30. **How do the models treat small volume hospitals?**

CMS took a careful approach to assessing the performance of small volume hospitals on the 30-day readmission measures. A key factor in accurately classifying a hospital’s quality of care is the number of patient cases that are available for observation. Some hospitals have small numbers of cases and this leads to less certainty in their results. For example, in the extreme case where a hospital had only one index admission, CMS would not want to report that the readmission rate was 0% (if the patient was not readmitted) or 100% (if the single patient was readmitted).

In developing the model for the 30-day readmission measures, CMS had a choice of excluding small hospitals entirely or including as many hospitals as possible while accurately reflecting the level of certainty in the estimates; CMS adopted the latter strategy.

The hierarchical logistic regression model that CMS uses to calculate the 30-day measures allows the inclusion of hospitals with relatively few observations but takes into account the uncertainty associated with sample size in estimating their risk-standardized readmission rates (RSRRs). The model takes into account the uncertainty in the estimate of readmission rates for small hospitals by assuming that each hospital is a typically performing hospital. It weighs that assumption along with the outcomes for the particular hospital in calculating the RSRR. Hence, the estimated RSRRs for smaller hospitals will likely be close to the national readmission rate because the limited cases in the hospital tell little about that hospital’s true RSRR.

To help consumers distinguish clearly between hospitals with estimates that are similar to the national rate because they have few patients and those hospitals with many patients and average performance, CMS reports the results for hospitals with 25 or fewer cases in a separate category, labeled “The number of cases is too small (fewer than 25) to reliably tell how the hospital is performing.” The readmission rates and interval estimates will not be reported on Hospital Compare for these hospitals. Cases posted 5/1/12
for these hospitals will continue to be included in the measure calculation as explained above, and hospitals will receive their data in their Hospital-Specific Reports.

Third, CMS reports discharges from a combined three-year period, which increases sample size, allowing for more precise measure estimates and categorization of performance, and also reduces the likelihood of hospitals falling into the category for fewer than 25 cases.

Finally, CMS allows suppression of reporting on Hospital Compare for critical access hospitals (CAHs) and other hospitals not participating in the Hospital Inpatient Quality Reporting (IQR) Program.

31. Why did CMS choose 25 cases as the cutoff for the “number of cases too small” group?

Hospitals with fewer than 25 cases over a three-year period would almost always be classified as “no different than U.S. national rate,” regardless of their true performance. This is because there is not enough information to show that their performance is different from that of an average hospital, so their estimated rates are near the average. CMS places these hospitals in their own category to avoid misleading consumers about their results. The cutoff of 25 is also consistent with the process of care measures.

Other Methodology

32. Why doesn't CMS adjust for socioeconomic status (SES) in the 30-day readmission measures?

The measures do not adjust for socioeconomic status (SES) because the association between SES and health outcomes can be due, in part, to the differences in the quality of health care. Risk-adjusting or stratifying outcomes for patient SES would suggest that hospitals with low SES patients are held to different standards for the risk of readmission than hospitals treating higher SES patient populations. For example, if patients of low socioeconomic status have higher readmission rates, then adjusting for SES in the model will lower the risk-standardized rates for hospitals with a higher proportion of these patients relative to other hospitals with clinically similar patients and similar outcomes. CMS does not want to hold hospitals with different SES mixes to different standards. Adjusting for SES would also obscure differences that are important to identify if we want to reduce disparities where they do exist. Thus, the choice was to adjust only for clinical differences in the populations among hospitals. This is consistent with guidance from the National Quality Forum recommending against adjusting for patient characteristics such as socioeconomic status in outcome measures.
33. **My hospital provides discharge planning and education, but we cannot ensure patients follow up when they go home. Don’t the readmission measures penalize us for patient behavior we cannot control?**

CMS recognizes that some patients who receive education and discharge planning do not follow up on the plan when they leave the hospital, even if they have access to the care they need. However, all hospitals have the opportunity to reduce the rate of readmission, even among less compliant patients. Improving readmission rates is the joint responsibility of hospitals and other clinicians. Measuring readmission will create incentives to invest in interventions to improve hospital care, better assess the readiness of patients for discharge, and facilitate transitions to outpatient status.
Public Reporting Process

34. **How will the readmission measures impact my hospital’s reimbursement?**

Section 3025 of the Affordable Care Act establishes the Hospital Readmissions Reduction Program, which requires CMS to reduce payments to hospitals with excess readmissions, effective for discharges beginning on October 1, 2012. The results of the 30-day readmission measures that are used in the Hospital Inpatient Quality Reporting (IQR) Program and publicly reported on Hospital Compare in July 2012 are not the actual results that will be used to determine a hospital’s payment adjustment under the Hospital Readmissions Reduction Program. CMS will calculate and report the excess readmission ratios for the Hospital Readmissions Reduction Program through a separate process as proposed in the FY2013 IPPS Proposed Rule (April 2012), and hospital results may differ somewhat from those for the Hospital IQR Program.

Both the Hospital IQR Program and the Hospital Readmissions Reduction Program use CMS’ 30-day AMI, HF, and pneumonia readmission measure methodology to calculate a ratio of predicted (numerator) to expected (denominator) readmissions (see question 25) for each hospital. For the Hospital IQR Program, this ratio is multiplied by the national raw readmission rate to produce each hospital’s RSRR. For the Hospital Readmissions Reduction Program, the ratio is the excess readmission ratio CMS will use in the payment calculation as set forth in the FY2013 IPPS Proposed Rule. The main difference between the two programs is that they include slightly different hospitals in the calculation. As currently proposed in the FY2013 IPPS Proposed Rule, the excess readmission ratio for the Hospital Readmissions Reduction Program will be calculated using only hospitalizations (that is, admissions and readmissions) from subsection (d) hospitals and Maryland hospitals. The term “subsection (d) hospital” encompasses any hospital located in one of the fifty States or the District of Columbia which does not meet any of the exclusion criteria defined in the Social Security Act. The following are not considered subsection (d) hospitals: psychiatric, rehabilitation, children’s, or long-term care hospitals, and cancer specialty centers. By definition, all other hospitals are considered subsection (d) hospitals.

CMS proposed further details on the methodology for the calculation of the excess readmission ratio and the readmission payment adjustment factor, as well as public reporting of the results, in the FY2013 IPPS Proposed Rule. The Proposed Rule is available on the IPPS website ([http://www.cms.hhs.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS](http://www.cms.hhs.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS)).

35. **Where can the public find hospitals’ readmission measure results on Hospital Compare?**

With the July 2012 re-organization of the Hospital Compare website, the readmission measures can be accessed under the new “Readmissions, Complications, and Deaths” tab.
36. Will hospitals have an opportunity to preview their readmission measure results prior to the annual public reporting on Hospital Compare?

Yes. Each year hospitals will have an opportunity to preview their readmission rates prior to public reporting during the 30-day preview period for the outcome, patient experience, and process measures. The preview period for the July 2012 reporting will run from May 1, 2012 through May 30, 2012. At the start of the preview period, hospitals will be able to access their preview reports with results for these measures through the HQA Preview Reports link located in the Reports section of My QualityNet, the secure portion of QualityNet (formerly QualityNet Exchange). In addition, hospitals will receive a Hospital-Specific Report (HSR) via My QualityNet with detailed results on the 30-day readmission rates for AMI, HF, and pneumonia.

If your hospital is having trouble locating and downloading your HSR from My QualityNet, please contact HSRrequest@iaqio.sdps.org. Please provide the name of your hospital and your hospital’s CMS Certification Number (CCN) (previously known as the Medicare Provider number).

If your hospital has technical issues in viewing the preview report or downloading the HSR from My QualityNet, please contact the QualityNet Help Desk at qnetsupport@sdps.org.

37. What information is included in the Hospital-Specific Report?

The Hospital-Specific Report (HSR) for July 2012 contains information for six outcome measures: 30-day mortality and readmission for AMI, HF, and pneumonia. In addition, the 2012 HSR contains information on the Hospital-Acquired Condition (HAC) measures as well as the AHRQ Patient Safety and Inpatient Quality Indicators. The HSR provides your hospital with results from your hospital and other hospitals in your state and the nation for each measure. It is accompanied by a discharge-level Excel data file that lists your AMI, HF, and pneumonia patients who were readmitted within 30 days of admission. The Excel data files also contain the prevalence of risk factors for your patients. The HSR is intended to provide important information to aid you in your quality improvement efforts and help you understand what will be publicly reported.

Beginning in 2011, CMS posted an HSR Supplementary Information Packet on QualityNet that contains background information about the six publicly reported outcome measures, a detailed description of the measure calculation methodology, the method for assigning hospital performance categories, and estimates of the impact of the risk factors on the readmission rates.

For those hospitals who did not receive an HSR (see question 40), a “mock” HSR is available on QualityNet. It contains simulated hospital and state data, but actual national data. In addition, an additional reference file contains: 1) the prevalence of risk factors in a hypothetical hospital, and 2) a simulated discharge-level data file, along with corresponding readme files.
38. Can my hospital suppress reporting of its readmission measures?

Hospitals participating in the Hospital Inpatient Quality Reporting (IQR) Program (formerly known as Reporting Hospital Quality Data for Annual Payment Update) should be aware that, in order to receive full Annual Payment Update (APU) for FY 2013, they must agree to the public reporting of their 30-day readmission measures. However, performance on the readmission measures will not affect a hospital’s APU.

Critical access hospitals (CAHs) and hospitals that are Hospital Quality Alliance (HQA)-only participating facilities will be able to suppress publication of their readmission measures during the preview period that precedes the reporting of the measures each quarter. While the 30-day readmission measures will only be refreshed annually, the initial set of results will be reported each subsequent quarter, for one full year. Eligible hospitals will need to suppress each quarter if they do not want their readmission measure results posted on Hospital Compare.

To withhold publication of its performance on the 30-day measures, your hospital must contact its QIO hospital public reporting contact with its request to withhold and transmit a completed “Inpatient Hospital Compare Request For Withholding Data From Public Reporting” form to that contact no later than the end of the preview period for that quarter. The form and QIO contacts for each state are located within the HQA section of QualityNet.

39. My hospital does not currently report data for Hospital Compare. How can we see our risk-standardized readmission rates?

Hospitals not currently reporting data for Hospital Compare, and thus not registered on My QualityNet, will not be able to view their individual hospital rates for the AMI, HF, and pneumonia 30-day readmission (or 30-day mortality) measures. However, these hospitals will be able to access a “mock” Hospital-Specific Report (HSR), as well as an HSR Supplementary Information Packet containing background and methodology information, on QualityNet. The “mock” HSR contains actual national-level results, but simulated hospital patient data as well as simulated state data. In addition, CMS posted a simulated patient-level data file along with its corresponding readme file. Use of simulated data ensures that hospitals gain experience looking at the rates but do not see data reflective of any hospital’s actual information.

40. Why didn’t my hospital receive a Hospital-Specific Report?

If your hospital did not receive a Hospital-Specific Report (HSR) for the most recent reporting period, it could be due to any of the following reasons:
• Your hospital was not open during the data time period for the measures, or did not appear as open by the deadline for the reporting period. For July 2012, this deadline was February 10, 2012.

• Your hospital had no eligible cases in the data time periods for any of the three measure sets (the 30-day mortality and readmission measures, the HAC measures, and the AHRQ measures).

• Your hospital is not currently pledged for either Annual Hospital Inpatient Quality Reporting (IQR) or Hospital Quality Alliance (HQA), or did not pledge prior to the end of the preview period.

• Your hospital did not have a registered My QualityNet user with the two designated roles of “QIO Clinical Warehouse Feedback Reports” (to receive the report) and “File Exchange & Search” (to download the report from My QualityNet). Please note that the “QIO Clinical Warehouse Feedback Reports” role will be known as the “Hospital Reporting Feedback – Inpatient” role in the near future.

If any of the above applies to your hospital, you will not be able to view your individual hospital rates for the 30-day readmission measures for AMI, HF and pneumonia. However, you may access a “mock” HSR on QualityNet. The “mock” HSR contains actual national-level results and simulated state data.

If you have questions about whether an HSR is available or was sent to your hospital, please contact HSRrequest@iaqio.sdps.org. Please provide the name of your hospital and the hospital’s CMS Certification Number (CCN) (previously referred to as the Medicare Provider number). If you have questions about your registration status, please contact the QualityNet Help Desk at qnetsupport@sdps.org. If you have questions about your assigned roles on My QualityNet, please contact your facility’s QualityNet Security Administrator.

41. My hospital is not yet registered for My QualityNet. How do we register?

All hospitals not currently registered for My QualityNet are encouraged to consider registration. Instructions for registration can be found on QualityNet. Once you are successfully registered and have a My QualityNet inbox with the designated roles—“QIO Clinical Warehouse Feedback Reports” and “File & Exchange Search”—contact HSRrequest@iaqio.sdps.org to request an upload of your Hospital-Specific Report (HSR). Please provide the name of your hospital and your hospital’s CMS Certification Number (CCN) (previously known as the Medicare Provider number). Note that the “QIO Clinical Warehouse Feedback Reports” role will be known as the “Hospital Reporting Feedback – Inpatient” role in the near future.