Readmission Measures

The readmission rate is defined as the number of patients readmitted within the specified date range divided by the total number of discharges during the same time frame.

Measure List

The table below lists available readmission measures in Axiom Clinical Analytics. Keep in mind that, as stated above, each measure has forward/backward and Same Hospital versions.

Short Description	Long Description
Days to Read-mission	This measure uses date math calculations to determine the number of days between an encounter discharge and the following admit for that patient. MRN (Medical Record Number) is required for this calculation to identify multiple encounters for a single patient.
Same Day Read-mission Rate	Number of patients admitted to the facility on the same day as the previous discharge divided by the total number of discharges This is one way to identify transfers, as defined by CMS. Days to Readmission = 0
3 Day Read-mission Rate	Number of patients admitted to the facility within 3 days of the previous discharge divided by the total number of discharges Days to Readmission ≤ 3 There are not Same Hospital versions of this measure.
7 Day Read-mission Rate	Number of patients readmitted within 7 days of the previous discharge divided by the total number of discharges Days to Readmission ≤ 7
10 Day Read-mission Rate	Number of patients readmitted within 10 days of the previous discharge divided by the total number of discharges Days to Readmission ≤ 10
14 Day Read-mission Rate	Number of patients readmitted within 14 days of the previous discharge divided by the total number of discharges Days to Readmission ≤ 14
30 Day Read-mission Rate	Number of patients readmitted within 30 days of the previous discharge divided by the total number of discharges Days to Readmission ≤ 30
1 to 30 Day Read-mission Rate	Number of patients readmitted within 30 days of the previous discharge, excluding Same Day readmissions, divided by the total number of discharges CMS defines transfers as same-day readmissions, so this is one way to look at readmissions excluding transfers. Days to Readmission ≤ 30 AND Days to Readmission ≠ 0
90 Day Read-mission Rate	Number of patients readmitted within 90 days of the previous discharge divided by the total number of discharges Days to Readmission ≤ 90

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Short Description	Long Description
180 Day Readmission Rate	Number of patients readmitted within 180 days of the previous discharge divided by the total number of discharges Days to Readmission ≤ 180
1 Year Readmission Rate	Number of patients readmitted within 365 days of the previous discharge divided by the total number of discharges Days to Readmission ≤ 365
CMS Readmission Measures	
CMS 30 Day All Cause Readmission Rate - Cardio-Respiratory Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS All Cause Hospital-Wide Cardio-Respiratory Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.
CMS 30 Day All Cause Readmission Rate - Cardiovascular Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS All Cause Hospital-Wide Cardiovascular Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.
CMS 30 Day All Cause Readmission Rate - Medical Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS All Cause Hospital-Wide Medical Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.
CMS 30 Day All Cause Readmission Rate - Neurology Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS All Cause Hospital-Wide Neurology Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.
CMS 30 Day All Cause Readmission Rate - Surgical Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS All Cause Hospital-Wide Surgical Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.
CMS 30 Day All Cause Readmission Rate - Roll Up All Cohorts	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS All Cause Hospital-Wide Readmissions measure (includes all 5 Hospital-Wide All Cause Readmissions Cohorts). All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.

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Short Description	Long Description
CMS 30 Day Readmission Rate - AMI Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS AMI (Acute Myocardial Infarction) Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.
CMS 30 Day Readmission Rate - CABG Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS CABG (Coronary Artery Bypass Graft) Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.
CMS 30 Day Readmission Rate - COPD Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS COPD (Chronic Obstructive Pulmonary Disease) Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.
CMS 30 Day Readmission Rate - Heart Failure Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS Heart Failure (HF) Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.
CMS 30 Day Readmission Rate - Pneumonia Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS Pneumonia (PN) Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.
CMS 30 Day Readmission Rate - Stroke Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS Ischemic Stroke (STK) Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.
CMS 30 Day Readmission Rate - THA/TKA Cohort	30-day forward unplanned readmission rate for encounters in the selected Profile also included in the CMS THA/TKA (Total Hip Arthroplasty/Total Knee Arthroplasty) Cohort Readmissions measure. All CMS inclusions and exclusions are accounted for except for the age and payer restrictions.

CMS Readmission Measures

The 13 CMS Readmission measures (see above) provide you an estimate of your raw CMS Hospital-Wide, condition-specific and procedure-specific readmission rates. These measures include Planned Readmission logic, as specified by CMS, as well as other cohort inclusion and exclusion rules. Current measure specifications can be found on QualityNet's website.

For analytic flexibility, these measures as-is do NOT exclude non-Medicare patients. To more closely replicate your CMS values, please apply Profile Filters to your population of interest. You will want to limit the analysis to patients aged 65+ with a Medicare Payer.

All of these CMS readmission measures include NRD-based benchmarks, which follow the same inclusion, exclusion, and planned readmission logic, plus additional restrictions for Age and Payer, in keeping with CMS specifications. These NRD Benchmarks include patients aged 65+ with Medicare as a Primary Payer.

External Benchmarks

Readmission benchmarks are built using the 2017 National Readmission Database. There are 4 All Payer peer groups for utilizing the NRD data:

» NRD Nationwide (All Payer)
» NRD – Bedsize – Small (All Payer)
» NRD – Bedsize – Medium (All Payer)
» NRD – Bedsize – Large (All Payer)

The Bedsize assignments are specified within the NRD dataset and not determined by Clinical Analytics. For more information, please see: https://www.hcup-us.ahrq.gov/db/vars/hosp_bedsize/nrdnote.jsp

DRG-level external benchmarks for readmission rates are available for the following measures

» 3 Day Readmission Rate Forward
» 7 Day Readmission Rate Forward
» 10 Day Readmission Rate Forward
» 14 Day Readmission Rate Forward
» 30 Day Readmission Rate Forward
» 1 to 30 Day Readmission Rate Forward
» 90 Day Readmission Rate Forward
» 180 Day Readmission Rate Forward

Due to the intent of benchmarks, readmission measure definitions, and the nature of the NRD data, external benchmarks are NOT available for any of the same-day, same-hospital or backward readmission rate measures. There are also no benchmarks for the 1-year readmission rate measures, as the NRD includes only one year of data and encounters are not linkable between years.

Facility-level external benchmarks for readmission rates are available for the following measures

» CMS 30-Day Hospital-Wide Readmission Measures
　　» CMS 30 Day All Cause Readmission Rate - Cardio-Respiratory Cohort
　　» CMS 30 Day All Cause Readmission Rate - Cardiovascular Cohort
　　» CMS 30 Day All Cause Readmission Rate - Medical Cohort
　　» CMS 30 Day All Cause Readmission Rate - Neurology Cohort
　　» CMS 30 Day All Cause Readmission Rate - Surgical Cohort
　　» CMS 30 Day All Cause Readmission Rate - Roll Up All Cohorts
» CMS 30-Day Procedure-Specific Readmission Measures
　　» CMS 30 Day Readmission Rate - CABG Cohort
　　» CMS 30 Day Readmission Rate - THA/TKA Cohort

» CMS 30-Day Condition-Specific Readmission Measures
  » CMS 30 Day Readmission Rate - AMI Cohort
  » CMS 30 Day Readmission Rate - COPD Cohort
  » CMS 30 Day Readmission Rate - Heart Failure Cohort
  » CMS 30 Day Readmission Rate - Pneumonia Cohort
  » CMS 30 Day Readmission Rate - Stroke Cohort

For more information about Readmission Benchmarks, see National Readmission Database (NRD).

Axiom Clinical Analytics Calculations

Exclusions & Patient Class

For clients providing Patient Class identification for encounters, only Acute patient encounters can be counted as an initial (index) encounter or readmission encounter. Patient Classes include: Acute, Psychiatric, Hospice, Organ/Tissue Donor, Rehabilitation, Obstetrics, Bed, Observation, and Surgery. None of the non-Acute encounters will be included in Readmissions calculations.

If your facility does not provide Patient Class, only patient encounters discharged to a short-term inpatient facility are not included as an index admission for later further readmission calculations.

Contact Support for more information about Patient Class.

Polarity

All readmission measures have low polarity, meaning lower rates are preferred.

Forward vs Backward

Download this information as a PDF: Readmission Measures - forward & backward

In Axiom Clinical Analytics, you will see two versions of each readmission measure: forward-looking and backward-looking. We typically recommend using forward-looking readmission measures unless you have a reason to need the backward-looking measures. The days to readmission are calculated the same for both versions (admission date of the readmit/return/outcome encounter minus the discharge date of the index/initial/cohort encounter).

Forward-looking Measures

Forward-looking readmission measures are sorted by the index visit and show flags for subsequent encounters within the specified date range. For example, the patient left the facility on January 4 and returned on January 11, so we will see a 7-day forward readmission flagged on the January 4th encounter. These measures are helpful when identifying characteristics of initial encounters that tend to lead to a readmission visit later; essentially, you are looking at all discharges and seeing which patients returned.

Backward-looking Measures

Backward-looking measures are sorted by the readmission visit and show flags for previous encounters within the specified date range. For example, consider again the patient encounters above. The patient was not at our facility prior to the encounter discharged on January 4, so there is no backward readmission, but the January 10 encounter will show a 7-day backward readmission because of the January 4 discharge.

These measures are helpful when analyzing why patients are returning; essentially, you are looking back in time to see if the patient was seen at the facility previously.

Same Hospital Measures

Each readmission measure has a Same Hospital version to identify cases where a patient was discharged from and returned to the same facility; the other readmission measures will identify readmissions from and returning to any facility in the health system.