Ontario
Health Quality Ontario

30-day readmission rate after leaving hospital for selected conditions

Alternate Name*

Hospital Readmission rate within 30 days of leaving hospital for selected conditions

INDICATOR DESCRIPTION

Description*

Rate of un-planned hospital readmissions within 30 days of discharge after hospitalization for any of the following conditions: pneumonia, diabetes, stroke, gastrointestinal disease, congestive heart failure, chronic obstructive pulmonary disease, heart attack and other cardiac conditions (selected HBAM Inpatient Grouper (HIG) conditions).

Indicator Status*

Active

HQO Reporting tool/product

Public reporting

Dimension*

Effective

Type*

Outcome

DEFINITION AND SOURCE INFORMATION

Unit of Measurement*

Rate per 100 discharges

Calculation Methods*

Numerator divided by the denominator times100

Numerator including inclusion/exclusion*

Number of subsequent non-elective (all-cause) readmissions to an acute care hospital within 30 days of discharge after hospitalization for any of the following conditions: pneumonia, diabetes, stroke, gastrointestinal disease, congestive heart failure, chronic obstructive pulmonary disease, heart attack and other cardiac conditions (selected HBAM Inpatient Grouper (HIG) conditions).

Inclusions:

The hospitalization readmission is counted if:

a. the re-admission date is within 30 days of the index case discharge;

b. the DAD field “admission category” is urgent/emergent;

c. the admission is not coded as an acute transfer by receiving hospital (unless the readmission was coded as a transfer from the same hospital)

Exclusions:

a. there is missing or invalid data for discharge date, admission date, health number, age and gender.

Calculation:

The numerator is the sum of all readmissions for all index cases in the reporting period.

Steps: To obtain observed readmissions: 1. Index cases (denominator) must be identified first. 2. For each index case, identify whether there is a non-elective readmission to any facility within 30 days of discharge. The hospitalization readmission is counted if: a. the readmission date is within 30 days of the index case discharge; b. the DAD field “admission category” is urgent (non-elective readmission). The hospitalization readmission is excluded if: a. the readmission case is coded as an acute transfer by the receiving hospital (unless the readmission was coded as a transfer from the same hospital). b. there is missing or invalid data for discharge date, admission date, Ontario health card number, age or gender.

Denominator including inclusion/exclusion*

Total number of hospital discharges after hospitalization for any of the following conditions: pneumonia, diabetes, stroke, gastrointestinal disease, congestive heart failure, chronic obstructive pulmonary disease, heart attack and other cardiac conditions (selected HBAM Inpatient Grouper (HIG) conditions).
Calculation:

The denominator is the sum of all index cases (discharges in the reporting period for selected HIGs). Steps: Identify index cases:
1. The index hospitalization is counted if:
a. The discharge date falls in the reporting period;
b. The HIG Group and patient age restrictions match those listed in the appendix;
c. The Inpatient HIG atypical code is '00' (typical cases), '01' (transfer in cases), '09' (short stay outlier cases), '10' (long stay outlier cases), or '11' (transfer in long stay cases).
2. The index hospitalization is excluded if:
a. The case is coded as a transfer to another acute inpatient hospital.
3. The denominator is the sum of all index cases in the reporting period.
Inclusions:
1. Patient with: • Acute Myocardial Infarction (age 45+) • Cardiac conditions other than heart attack (age 40+) • Congestive heart failure (age 45+) • Chronic obstructive pulmonary disease (age 45+) • Pneumonia • Diabetes • Stroke (age 45+) • Gastrointestinal disease (See HIG conditions);
2. Cases where the Inpatient HIG atypical code is either '00' (typical cases), '01' (transfer in cases), '09' (short stay outlier cases), '10' (long stay outlier cases), or '11' (transfer in long stay cases).
Excludes:
1. Records with missing valid data on discharge/admission date, Ontario health card number, age or gender;
2. Index cases coded as transfers to another acute inpatient hospital, deaths, or sign-outs;
3. Exclude cases with Discharge disposition = '07' (death). For FY 2018 and onwards, exclude cases with discharge disposition = '72' (died in facility), '73' (medical assistance in dying (MAID)), '74' (suicide in facility).

Adjustment (risk, age/sex standardization)- detailed

Risk-adjusted rate = (Crude (observed, actual) rate / Expected rate) * Provincial reference rate.
Calculation:

Expected Readmissions: To calculate the predicted probability of non-elective readmission to any Ontario acute care hospital for patients discharged with the specified HIGs, a logistic regression model is fitted with HIG, age, gender, prior hospitalizations (within 1, 2 and 3 months), quarterly seasonality (calendar year) and the Charlson co-morbidity adjustment index score as independent variables. Coefficients derived from the logistic model are used to calculate the probability of readmission for each patient. The expected number of readmissions for a hospital/LHIN is the sum of the patient probabilities for all the index admissions in that hospital/LHIN.

Data Source

Discharge Abstract Database (DAD)

Data provided to HQO by

Ministry of Health and Long-Term Care (MOHLTC)

Reported Levels of comparability /stratifications (defined)

Time

Income

Rurality

Region

Sex

RESULT UPDATES

Indicator Results

Click here to view Health Quality Ontario results for this indicator

OTHER RELEVANT INFORMATION

Caveats and Limitations

Not all readmissions are avoidable and this indicator does not capture which readmissions were avoidable and the underlying reasons (e.g. condition aggravation, poor transition, lack of community support/care). Due to age restrictions for some conditions the results are not reported by age groups. The indicator captures hospital readmission only and does not capture return visits to the emergency department.

Comments Detailed

A similar indicator is calculated for enrolled patients and reported at the primary care practice level for the Primary Care Quality Improvement Plan. Patients are included in the numerator and denominator if CAPE (Client Agency Program Enrollment) records show they are enrolled at the time of discharge for the index case. The Urban/Rural designation is derived from the SAC type variable The income quintile is based on postal code and comes from Environics. This is imputed postal code data.

Footnotes

i Anderson G.F. & Steinberg E.P. Hospital readmissions in the Medicare population. N Engl J Med. 1984 Nov 22; 311 (21):1349-53. ii Excellent Care for All. Available from: http://www.health.gov.on.ca/en/pro/programs/ecfa/action/acute/hsp_thc.aspx. iii Jencks, S.F., Williams, M.V., Coleman, E.A. Rehospitalization among Patients in the Medicare Fee-for-Service Program. N Engl J Med. 2009; 360 (14), 1418-1428. iv Brown, R.S., Peikes, D., Peterson, G., Schore, J., Razafindrakoto, C.M. Six Features of Medicare Coordinated Care Demonstration Programs That Cut Hospital Admissions of High-Risk Patients. 2012; Health Affairs, 31(6), 1156-1166.

TAGS

TAGS*

Primary Care

Outcome

Readmission

Integration

Effective

Discharge Abstract Database (DAD)

PUBLISH

PUBLISH DATETIME*

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