30-Day All-Cause Readmission Rate After Percutaneous Coronary Intervention (PCI)

Name: 30-Day All-Cause Readmission Rate After Percutaneous Coronary Intervention (PCI)
Short/Other Names: PCI Readmission

Description: Risk-adjusted rate of all-cause urgent readmission occurring within 30 days following discharge for an episode of care with a percutaneous coronary intervention (PCI). For further details, please see the Cardiac Care Quality Indicators (CCQI) General Methodology Notes.

Interpretation: Lower rates are desirable.

HSP Framework Dimension: Health System Outputs: Appropriate and effective

Areas of Need: Getting Better

Geographic Coverage: All provinces/territories except Quebec

Reporting Level/Disaggregation: National, Province/Territory, Facility

Indicator Results: https://www.cihi.ca/en/cardiac-care

Identifying Information
Name: 30-Day All-Cause Readmission Rate After Percutaneous Coronary Intervention (PCI)
Short/Other Names: PCI Readmission

Indicator Description and Calculation

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Calculation: The risk-adjusted rate for a facility is calculated by dividing the observed number of readmissions for each facility by the expected number of readmissions for the facility and multiplying by the Canadian average readmission rate.

Geographic Assignment: Place of service

Type of Measurement: Rate - Rate, per 100

Adjustment: The following covariates are used in risk adjustment:
- Age, sex, cerebrovascular disease, peripheral vascular disease, coronary syndrome status, shock, cardiac dysrhythmias, multiple cardiac interventions, previous acute myocardial infarction, previous cardiac interventions, multivessel PCI, acute renal failure, Charlson Index, acute care transfer

For detailed definitions of covariates and the risk-adjustment method, please refer to the CCQI General Methodology Notes.

Method of Adjustment: Logistic regression

Denominator: Number of hospitalization episodes for patients age 18 and older who underwent a PCI
- Inclusions: Episodes that had a PCI (CCI code: 1.IJ.50.^^ or 1.IJ.57.GQ^^), where the intervention was not coded as out of hospital or abandoned (Out-of-Hospital Indicator not equal to Y and Intervention Status Attribute not equal to A)
- Exclusions: 1. In-hospital death (Discharge Disposition = 07)

Numerator: Number of hospitalization episodes within the denominator with a non-elective readmission within 30 days of discharge after the PCI index episode of care
- Inclusions: 1. Emergent or urgent (non-elective) readmission to an acute care hospital (Admission Category = U)
- Exclusions: 2. (Admission date on readmission record) - (Discharge date on the last record of the index episode of care) less than or equal to 30 days

Background, Interpretation and Benchmarks
Considering that about 2.4 million Canadians are living with heart disease and that Canada’s population is increasingly at risk,\textsuperscript{1} it’s important to examine the quality of cardiac care in order to support improvements in care and ultimately in the health of Canadians.

Percutaneous coronary intervention (PCI) is a well-established procedure to treat coronary artery stenosis. As the number of PCIs has increased in recent years, there is a high potential for variation in quality of care.\textsuperscript{2} Unplanned 30-day readmission after PCI has been identified as a key quality indicator for PCI care by the Canadian Cardiovascular Society.\textsuperscript{3}

Urgent readmissions to acute care facilities are increasingly being used to measure institutional or regional quality of care and care coordination. Readmission rates can be influenced by a variety of factors, including patient characteristics, the quality of inpatient and outpatient care (including potential complications of the intervention), the effectiveness of the care transition and coordination, and the availability and use of effective community-based disease management programs. Understanding the reasons for readmission and whether it was avoidable is an important metric by which to evaluate quality of care.

The indicator can provide direction for quality improvement and can help hospitals identify peers to facilitate knowledge sharing around best practices of care.

Interpretation

Lower rates are desirable.

Health System Outputs: Appropriate and effective Disease Areas of Need Getting Better Targets

Not applicable


This indicator belongs to a suite of Cardiac Care quality indicators (CCQI) that provide pan-Canadian comparable information on outcomes related to selected cardiac interventions. The goal is to support monitoring and quality improvement in cardiac care.

More information on the CCQI Report is available on our Cardiac Care web page.

Publicly available indicator results are based on 3 years of pooled data.

- In the Data Preview for Indicators Tool (https://www.cihi.ca/en/secure/health-system-performance/your-health-system-tools/data-preview-for-indicators)
- By request.