Hip Fracture Surgery Within 48 Hours

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**Identification Information**

Name | Hip Fracture Surgery Within 48 Hours
Short/Other Names | Wait Times for Hip Fracture Repair: From Inpatient Admission (Percentage Meeting Benchmark)
Indicator Description and Calculation

**Description**

Proportion having surgery within 48 hours:
The risk-adjusted proportion of hip fractures that were surgically treated within 48 hours of a patient's initial admission to an acute care hospital, among patients age 18 and older.
For further details, please see the General Methodology Notes.

Risk-adjusted rate = Observed number of procedures performed within 48 hours ÷ Expected number of procedures performed within 48 hours × Canadian proportion of surgeries performed within 48 hours

**Unit of Analysis:** Episode of care

An episode of care refers to all contiguous inpatient hospitalizations and same-day surgery visits. For episodes with transfers within or between facilities, transactions were linked regardless of diagnoses. To construct an episode of care, a transfer is assumed to have occurred if either of the following conditions is met:

a) An acute care hospitalization or a same-day surgery visit occurs less than 7 hours after discharge from the previous acute care hospitalization or same-day surgery visit, regardless of whether the transfer is coded;

b) An acute care hospitalization or same-day surgery visit occurs between 7 and 12 hours after discharge from the previous acute care hospitalization or same-day surgery visit, and at least one of the hospitalizations or visits has coded the transfer.

Wait time is calculated from the episode start date/time (admission date/time of first acute hospitalization of the episode of care) to the procedure date/time of the hip fracture surgery.

**Notes**

- For public reporting: Regional and provincial/territorial results are calculated by place of residence; facility results are calculated by place of service.
- For facility-level reporting: For episodes of care that involved transfers, the total wait time is attributed to the hospital where the surgery was performed.

**Calculation:**

**Geographic Assignment:** Place of residence or service

**Type of Measurement:** Percentage or proportion

The following covariates are used in risk adjustment:
For a detailed list of covariates used in the model, please refer to the Model Specification document.
Method of Adjustment

Logistic regression

Description:
The number of hip fracture episodes among patients age 18 and older that were surgically treated in an acute care hospital

Inclusions:
1. a. Hip fracture ICD-10-CA codes S72.0, S72.1 or S72.2 as most responsible diagnosis (MRDx), but not also as a diagnosis type (2); or

b. Where another diagnosis is coded as MRDx and also a type (2), and a diagnosis of hip fracture is coded as a diagnosis type (1) or (W), (X), (Y) but not also as a diagnosis type (2); or

c. Where convalescence or rehabilitation ICD-10-CA codes Z50.1, Z50.8, Z50.9, Z54.0, Z54.4, Z54.7, Z54.8 or Z54.9 are coded as MRDx and hip fracture is coded as diagnosis type (1) or (W), (X), (Y) but not also as a diagnosis type (2).

Note: If hip fracture surgery is not performed during the first (initial) hospitalization of the episode of care, criterion 1 (a, b or c above) must be met on both the initial and surgical record if transfer occurred.

2. Criterion 1 (a, b, c) along with a relevant CCI procedure code*:
   a. 1.VA.74.^^–Fixation, hip joint
   b. 1.VA 53.^^–Implantation of internal device, hip joint
   c. 1.VC.74.^^–Fixation, femur
   d. 1.SQ.53.^^–Implantation of internal device, pelvis

Denominator

3. Age at admission: 18 years and older
4. Sex recorded as male or female
5. Admission to an acute care institution (Facility Type Code = 1)
6. Admission category recorded as emergent/urgent (Admission Category Code = U)

Notes
*Code may be recorded in any position.
Procedures coded as out of hospital and abandoned after onset (status attribute = A or OOH indicator flag = Y) are excluded.

Exclusions:
1. Records with an invalid health card number
2. Records with an invalid code for province issuing health card number
3. Cadaveric donor or stillbirth records (Admission Category Code = R or S)
4. Records with an invalid admission date or time
5. Records with an invalid discharge date or time
6. Records with an invalid procedure date or time
7. 2018–2019 data onward: Medical assistance in dying (MAID) (Discharge Disposition Code = 73)

Description:
A subset of the denominator and represents the number of hip fracture episodes that were surgically treated within 48 hours of initial admission to an acute care hospital

Background, Interpretation and Benchmarks

Rationale
Operative delay in older patients with hip fracture is associated with a higher risk of post-operative complications and mortality.

Wait time for surgery following hip fracture provides a measure of access to care. The wait time may be influenced by comorbid conditions, hospital transfers and practice differences related to certain types of medications, like blood thinners. However, longer waits may indicate lack of resources, physician unavailability and/or other issues related to access to care.

Interpretation
Higher proportions are desirable.

HSP Framework Dimension
Health System Outputs: Access to comprehensive, high-quality health services

Areas of Need
Getting Better

Targets/Benchmarks
A benchmark of hip fracture fixation within 48 hours was set by federal, provincial and territorial governments in December 2005.


Canadian Institute for Health Information. Health Indicators 2007. Ottawa, ON: CIHI; 2007

Canadian Institute for Health Information. Waiting for Health Care in Canada: What We Know and What We Don't Know. Ottawa CIHI; 2006.


References
Ministry of Health and Long-Term Care. First Common Benchmarks Will Allow Canadians to Measure Progress in Reducing 1


### Availability of Data Sources and Results

<table>
<thead>
<tr>
<th>Data Sources</th>
<th>DAD, NACRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Year:</td>
<td>Fiscal</td>
</tr>
<tr>
<td>First Available Year:</td>
<td>2013</td>
</tr>
<tr>
<td>Last Available Year:</td>
<td>2017</td>
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### Result Updates

- **Update Frequency**: Every year
- **Web Tool**: Your Health System: In Depth
- **URL**: Accessing Indicator Results on Your Health System: In Depth
- **Updates**: Not applicable

### Quality Statement

A person can have more than one hip fracture and repair in the reference period; therefore, a person can be included in the indicator more than once.

Due to differences in methodology, this indicator may differ from similar indicators developed and reported by jurisdictions.

Rates for Quebec are not available due to differences in data collection.

### Trending Issues

- Not applicable

### Comments

Indicator results are also available in

- The Health Indicators e-Publication: (at regional, provincial/territorial and national levels, calculated by place of residence), starting from 2012–2013
- CIHI’s Wait Times web tool: Benchmarks for treatment and wait time trending across Canada (crude rates at provincial and national levels, calculated by place of service), starting from 2009 using open-year data from April to September
- Your Health System: Insight, updated monthly starting from 2013–2014 (results are available by both place of residence and place of service)