

Technical Notes for Analyses of Hip Fracture Admissions

Objectives:

1. To identify wait time for patients admitted to hospital with a hip fracture;
2. To identify factors which may influence time waited until hip surgery, such as:
 - Age;
 - Day of the week fracture occurs;
 - Hospital size/peer group;
 - CMA/non-CMA.

Data Source: Hospital Morbidity Database (HMDB), 2003–2004

Data Comprehensiveness: This patient-specific database contains clinical, demographic, and administrative data on patient discharge from all provinces and territories. It does not include procedures performed on a same day surgery basis.

Selection of Hip Fracture Cases: The unit of analysis is an “Episode of care”. An episode of care refers to all contiguous in-patient acute care hospitalizations. To construct an episode of care a transfer is assumed to have occurred if the following condition is met:

- Admission to an acute care institution occurs on the same day as discharge from another acute care institution
- For episodes with transfers between facilities, transactions were linked regardless of the most responsible diagnosis following the index admission.

Inclusions:

1. Most responsible diagnosis of hip fracture: ICD-10 S72.0, S72.1, S72.2, ICD-9/ICD-9CM 820
2. Principal Procedure: must start with “1” in CCI (for cases where coding class is ICD-10), “8” or “9” in CCP (for cases where coding class is ICD-9) and “7” or “8” in ICD-9CM (for cases where coding class is ICD-9CM). We did not specify what type of procedure was counted as a surgical intervention—only that it was a therapeutic intervention (in CCI) or it was an operation on the musculoskeletal system (in CCP/ICD-9CM).

Exclusions:

- Hip fracture as Most responsible diagnosis (MRDx) but no surgery was performed.
- Hip fracture as MRDx but only non-surgical intervention (e.g. x-ray) was performed.
- Invalid institutions.
- Invalid Health Card Number (HCN).
- Age less than 20 or greater than 105.

Methodology:

- Length of time it takes (measured in days) from the admit date of the first admission of hip fracture to the day surgery is received.
- “Episode of care” used to count cases where the Most Responsible Diagnosis (MRDx) on the first admission (i.e. index admission) of the episode is a hip fracture.
- Principal procedure was also used to select cases that had a surgical intervention.
- Peer Groups used: < + 199 beds, 200–399 beds, 400 + beds and teaching hospitals; Note that some institutions from Manitoba and Quebec did not have an assigned peer group, therefore, this total of 5,323 patients were excluded from this analysis by peer group.
- Age groupings used: 20–59, 60–69, 70–79, 80–89 and 90–105.
- Days of the week viewed singularly, no groupings.

Summary of Counts:

Number of episodes with hip fracture as MRDx on index admission: 25,968

Following episodes were excluded from final count:

- 301 episodes with hip fracture as MRDx on index admission but only had non-surgical intervention (e.g. x-ray)
- 1,550 episodes with no intervention at all so these episodes only had hip fracture as MRDx on index admission of episode

Total final episodes used in analysis: 24,117