# 3.9 Average length of stay for hip fracture patients aged 65 years and over, major and large public hospitals, 2012–13

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# 3.9 Average length of stay for hip fracture patients aged 65 years and over, major and large public hospitals, 2012–13

## Identifying and definitional attributes

| | |
|---|---|
| **Metadata item type:** | Indicator |
| **Indicator type:** | Indicator |
| **Short name:** | Hip fracture average length of stay in hospital by peer group, 65 years and over, 2012-13 |
| **Synonymous names:** | ALOS fractured hip |
| **METEOR identifier:** | 601268 |
| **Registration status:** | Australian Commission on Safety and Quality in Health Care, Standard 23/11/2016<br>National Health Performance Authority (retired), Retired 01/07/2016 |
| **Description:** | Average (mean) length of stay (number of days) for multi-day stay hip fracture patients aged 65 years and over, major and large public hospitals, 2012–13 |
| **Indicator set:** | Australian Atlas of Healthcare Variation<br>    Australian Commission on Safety and Quality in Health Care, Standard 23/11/2016<br>    National Health Performance Authority (retired), Retired 01/07/2016 |

## Collection and usage attributes

| | |
|---|---|
| **Population group age from:** | 65 years and over |

| **Computation description:** | Presented as the average number of days, by hospital |
|---|---|

Only hospitals in the major and large peer groups and which had at least 10 separations were included in the analysis. For more information about these peer groups see [/content/index.phtml/itemId/584666](/content/index.phtml/itemId/584666)

To calculate the average length of stay the key unit that records information about a patient's stay in hospital is called an 'episode of admitted patient care'. This records information about the patient and the care they received in hospital, including:

- Sex
- Diagnosis
- Procedure type
- Date of admission and
- Date of separation/discharge.

**Exclusions:**

The average length of stay indicator relates only to acute patients with a multi-day, or overnight, stay. The following episodes of care are excluded from all reported measures:

- Same day episodes, i.e. patients admitted and discharged on the same day
- Episodes for non-acute care
- Episodes where the patient died
- Episodes where the patient transferred to another facility within 2 days.

**Outlier removal:**

Episodes determined to be extreme long stay outliers were removed. Outlier bounds are derived for each AR-DRG. The method selected for deriving national level outlier bounds uses the inter-quartile ranges as the guide for outlier exclusion. The method of detecting extreme outliers (mEO) is as follows:

$mEO = Q_3 + k*(Q_3-Q_1)$

Where

$Q_1$ equals the 25$^{th}$ percentile value

$Q_3$ equals the 75$^{th}$ percentile value

k equals non-negative values of a constant.

Sensitivity analysis was conducted to identify k and resulted in k=10 being selected.

| **Computation:** | Numerator ÷ denominator |
|---|---|
| **Numerator:** | Number of overnight bed days at major and large public hospitals attributable to hip fracture in patients aged 65 years and over. |
| **Numerator data elements:** | |

> **Data Element / Data Set**
>
> [Episode of admitted patient care—length of stay (excluding leave days), total N[NN]](#)
>
> **Data Source**
>
> [National Hospital Morbidity Database (NHMD)](#)
>
> **NMDS / DSS**
>
> [Admitted patient care NMDS 2012-13](#)
>
> **Guide for use**
>
> Data source type: Administrative by-product data

> **Data Element / Data Set**

[Person—date of birth, DDMMYYYY](#)

**Data Source**

[National Hospital Morbidity Database (NHMD)](#)

**NMDS / DSS**

[Admitted patient care NMDS 2012-13](#)

**Guide for use**

Data source type: Administrative by-product data

Used to calculate 65 years and over age group.

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**Data Element / Data Set**

[Episode of care—additional diagnosis, code (ICD-10-AM 7th edn) ANN{.N[N]}](#)

**Data Source**

[National Hospital Morbidity Database (NHMD)](#)

**NMDS / DSS**

[Admitted patient care NMDS 2012-13](#)

**Guide for use**

**Inclusion codes for Principal and Additional diagnosis:**

| ICD-10-AM (7th edn) code | Description |
|---|---|
| S72.00 | Fracture of neck of femur, part unspecified |
| S72.01 | Fracture of intracapsular section of femur. |
| S72.02 | Fracture of upper epiphysis (separation) of femur |
| S72.03 | Fracture of subcapital section of femur |
| S72.04 | Fracture of midcervical section of femur |
| S72.05 | Fracture of base of neck of femur |
| S72.08 | Fracture of other parts of neck of femur |
| S72.10 | Fracture of trochanteric section of femur, unspecified |
| S72.11 | Fracture of intertrochanteric section of femur |
| S72.2 | Subtrochanteric fracture |

Data source type: Administrative by-product data

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**Data Element / Data Set**

[Episode of care—principal diagnosis, code (ICD-10-AM 7th edn) ANN{.N[N]}](#)

**Data Source**

[National Hospital Morbidity Database (NHMD)](#)

**NMDS / DSS**

[Admitted patient care NMDS 2012-13](#)

**Denominator:**    Number of multi-day stays in hospital for people aged 65 years and over attributable to a fractured hip for a major or large public hospital.

| | |
|---|---|
| **Denominator data elements:** | **Data Element / Data Set**<br><br>[Episode of care—additional diagnosis, code (ICD-10-AM 7th edn) ANN{.N[N]}](#)<br><br>**Guide for use**<br><br>**Inclusion codes for Principal and Additional diagnosis:** |

| ICD-10-AM (7th edn) code | Description |
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| S72.05 | Fracture of base of neck of femur |
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| S72.11 | Fracture of intertrochanteric section of femur |
| S72.2 | Subtrochanteric fracture |

Data source type: Administrative by-product data

**Data Element / Data Set**

[Episode of care—principal diagnosis, code (ICD-10-AM 7th edn) ANN{.N[N]}](#)

**NMDS / DSS**

[Admitted patient care NMDS 2012-13](#)

| | |
|---|---|
| **Disaggregation:** | Disaggregation is by:<br><br>- Australian public hospital<br>- Hospital peer group (major and large only). For more information about the hospital peer groups used see [/content/index.phtml/itemId/584666](#) |

| | |
|---|---|
| **Disaggregation data elements:** | **Data Element / Data Set**<br><br>[Establishment—organisation identifier (state/territory), NNNNN](#)<br><br>**Data Source**<br><br>[National Hospital Morbidity Database (NHMD)](#)<br><br>**NMDS / DSS**<br><br>[Admitted patient care NMDS 2012-13](#)<br><br>**Guide for use**<br><br>Data source type: Administrative by-product data<br><br>Used for disaggregation by public hospital |

**Data Element / Data Set**

[Hospital—hospital peer group, modified code N](#)

## Representational attributes

| | |
|---|---|
| **Representation class:** | Mean (average) |
| **Data type:** | Time period |
| **Unit of measure:** | Time (e.g. days, hours) |
| **Format:** | Days, rounded to 1dp |

## Data source attributes

**Data sources:**

┌─ **Data Source** ─────────────────────────────────────────┐

National Hospital Morbidity Database (NHMD)

**Frequency**

Annual

**Data custodian**

Australian Institute of Health and Welfare

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## Accountability attributes

| | |
|---|---|
| **Reporting requirements:** | Australian Commission of Safety and Quality in Health Care's Atlas of Healthcare Variation, released November 2015 |
| **Organisation responsible for providing data:** | Australian Institute of Health and Welfare |
| **Accountability:** | Australian Commission of Safety and Quality in Health Care |

## Source and reference attributes

| | |
|---|---|
| **Submitting organisation:** | National Health Performance Authority |