

## 3.9 Hip fracture average length of stay in hospital by peer group – 65 years and over

### Context

This data item examines the average length of acute stay in hospital for people aged 65 years and over with a hip fracture. These data are from the Admitted Patient Care National Minimum Data Set. Data from major and large public hospitals only are included in this item. Average length of stay in hospital is reported by hospital, not by geographic residence of the patient.

Length of stay in hospital is one marker of the quality of care in hip fracture admissions. It is challenging to measure consistently around Australia due to differences in hospital administrative admission practices. Older people with hip fractures have complex medical, social and rehabilitation needs that may affect their length of stay. Services must be organised to provide high-quality acute care and to ensure clear referral pathways for rehabilitation and returning to home or residential care.

The quality of care provided to people who have a hip fracture depends on a number of factors, including the configuration of orthopaedic and geriatric services, hospital protocols and processes, and the availability of allied health services. Quality of care may also be influenced by the availability of secondary preventive interventions, including osteoporosis assessment and treatment, and falls prevention strategies.<sup>1</sup> In the absence of these services, markers of care quality (including time to surgery, complication rates, hospital re-admission rates and length of stay) vary considerably between different hospitals.<sup>2</sup>

Factors such as patients' rehabilitation discharge destination and the presence of complications arising while in hospital contribute to the total length of stay in hospital after a hip fracture.<sup>3</sup> Managing hip fractures in accordance with evidence and guidelines helps ensure optimal care is delivered and resources are used effectively.<sup>4,5</sup> An audit of compliance has shown that compliance with guidelines improves patient outcomes, including mortality rates.<sup>6</sup> An audit of hip fracture management showed that the prosthesis selection correlates with patient outcomes, the risk of complications and varying mortality rates.<sup>7</sup>

The Commission has developed a Clinical Care Standard<sup>8</sup> for acute hip fracture care. This is an important national strategy to improve the timely assessment and management of patients with a hip fracture. The standard aims to optimise outcomes for hip fracture patients and reduce their risk of another fracture.

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Additionally, the Independent Hospital Pricing Authority (IHPA) and the Commission are collaborating to explore approaches to best-practice pricing in Australian public hospital services for hip fracture care.<sup>9</sup>

In comparing admissions and average length of stay for hip fracture items, the two datasets are different: the hospital admissions for hip fractures item includes data from all private and public hospitals, whereas the average length of stay item includes only data from major and large public hospitals. Eighty-four per cent of hospital admissions for hip fractures in Australia are to public hospitals.<sup>10</sup>

## Magnitude of variation

In 2012–13, there were 14,744 admissions for hip fracture patients aged 65 years and over in major and large public hospitals. This includes hospital admissions in 99\* of the 120 major and large public hospitals across Australia.

The average length of stay for hip fracture in major and large public hospitals for patients aged 65 years and over ranged from 5.3 to 16.9 days. This was **3.2 times higher** in the hospital with the longest average length of stay compared to the hospital with the shortest. After excluding the highest and lowest results, the average length of stay across the 85 remaining public hospitals was **2.1 times higher** in one hospital compared to another.

The average length of stay for hip fractures varied across states and territories, with the longest stays in the Northern Territory (note: only one Northern Territory hospital was included in the study – the Royal Darwin Hospital), New South Wales and South Australia, and the shortest stays in Western Australia and Victoria.

While there was variation between hospitals, the average length of stay for hip fractures tended to be slightly shorter in regional hospitals than in metropolitan hospitals.

Across all hospital peer groups (major and large metropolitan, and major and large regional), the average acute length of stay for patients with hip fracture varies more than two-fold.

## Interpretation

As described in the previous item, there are limitations in ensuring the accuracy of hip fracture data analysis in Australia. They include:

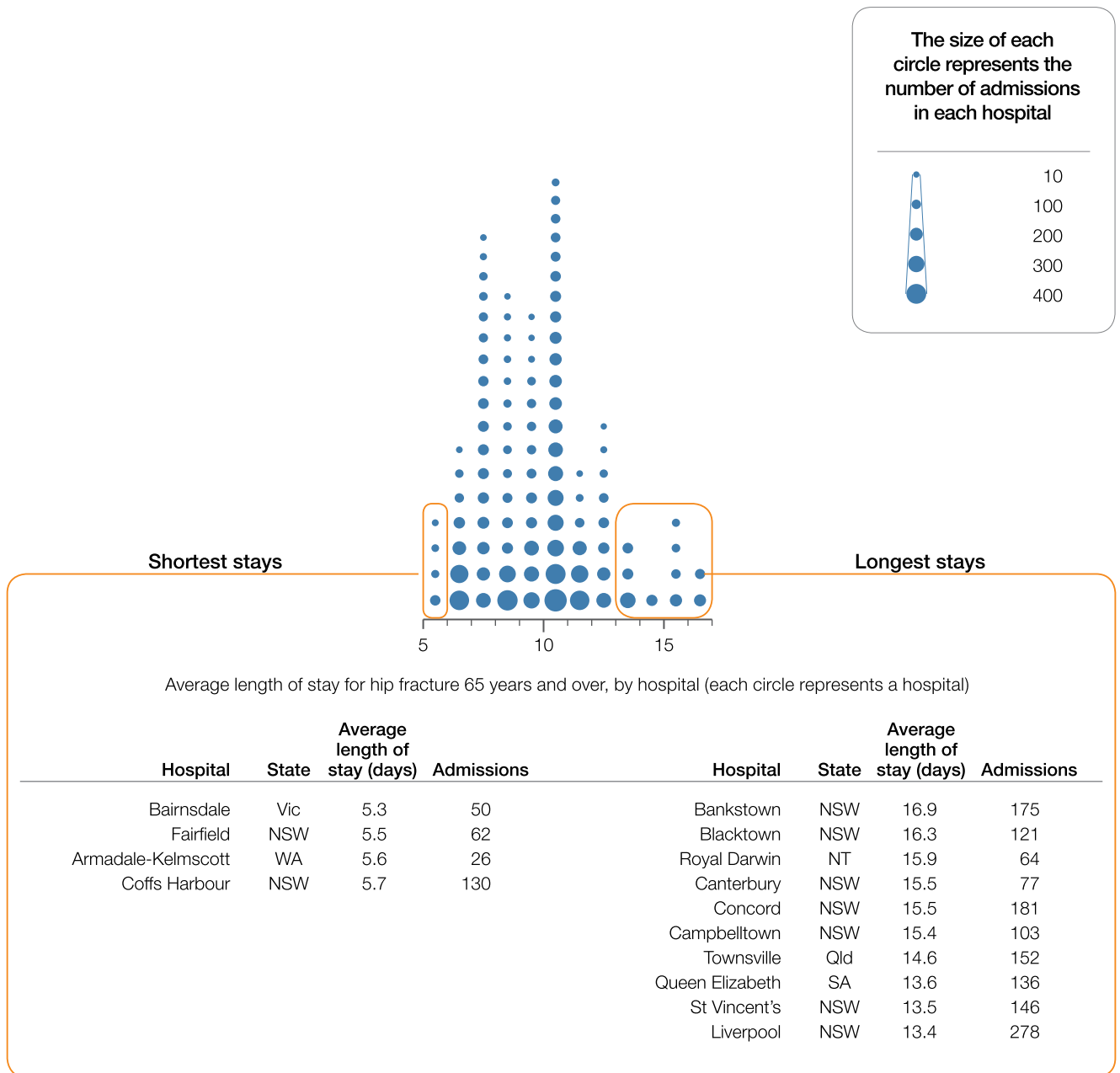
- potential over-counting of cases because some patients are transferred from one hospital to another. If the length of stay of the acute admission was less than 48 hours, the admission was removed from analysis. However, the patients who stayed in hospital for more than 48 hours and were transferred may have been counted more than once in the rate (that is, multiple admissions could have been counted for one hip fracture)
- differences in coding practice between hospitals when the episode of care is changed from acute to subacute (for example, rehabilitation). The acute length of stay reported in this chapter may vary depending on when the hospital changes from an acute to subacute episode of care
- variation in models of care, in particular, access to surgery, rehabilitation and other subacute services that affect length of stay. Collaboration between emergency, anaesthetic, orthopaedic and geriatric departments is required to deliver timely and appropriate surgical care
- some hospitals will also have clinical pathways that facilitate early transfer to subacute multidisciplinary services, while others offer onsite rehabilitation.

To explore this variation, further analysis could focus on:

- linking data so that individual patient journeys can be followed through both acute and subacute episodes (and hospital transfers, where this occurs).

\*For this item, data were suppressed for 21 hospitals. This is because of confidentiality requirements given the small numbers of admissions in these hospitals.

Figure 59: Average length of stay for hip fracture patients aged 65 years and over, major and large public hospitals, 2012–13



**Notes:**

The cohort for this item is different to the cohort used for the **Hip fracture hospital admissions** item. Analysis is restricted to hospitals with at least 10 admissions.

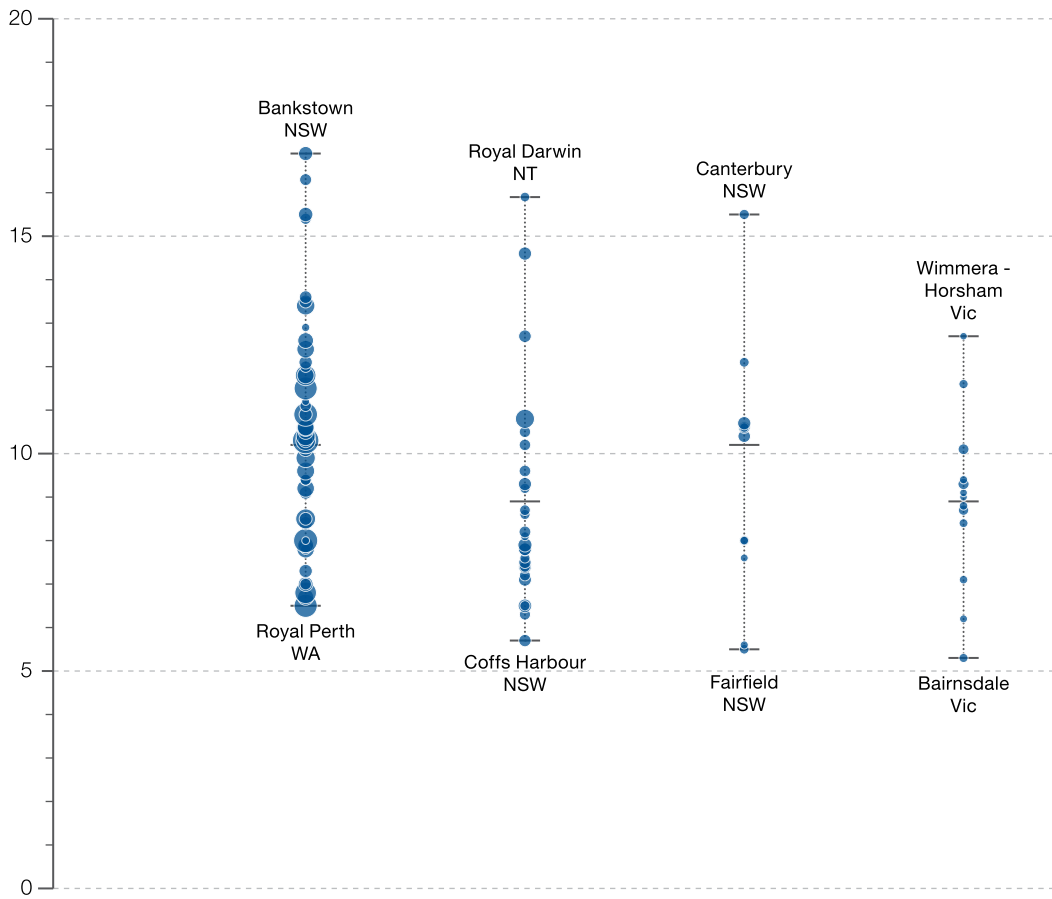
For more technical information please refer to the Technical Supplement.

**Source:** National Health Performance Authority analysis of Admitted Patient Care National Minimum Data Set 2012–13 (data supplied 09/04/2014).

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Figure 60: Average length of stay for hip fracture patients aged 65 years and over, major and large public hospitals, by peer group, 2012–13

Average length of stay (days)	Major metropolitan	Major regional	Large metropolitan	Large regional
Longest	16.9	15.9	15.5	12.7
Peer average	10.2	8.9	10.2	8.9
Shortest	6.5	5.7	5.5	5.3
No. admissions	10,240	3,118	807	579



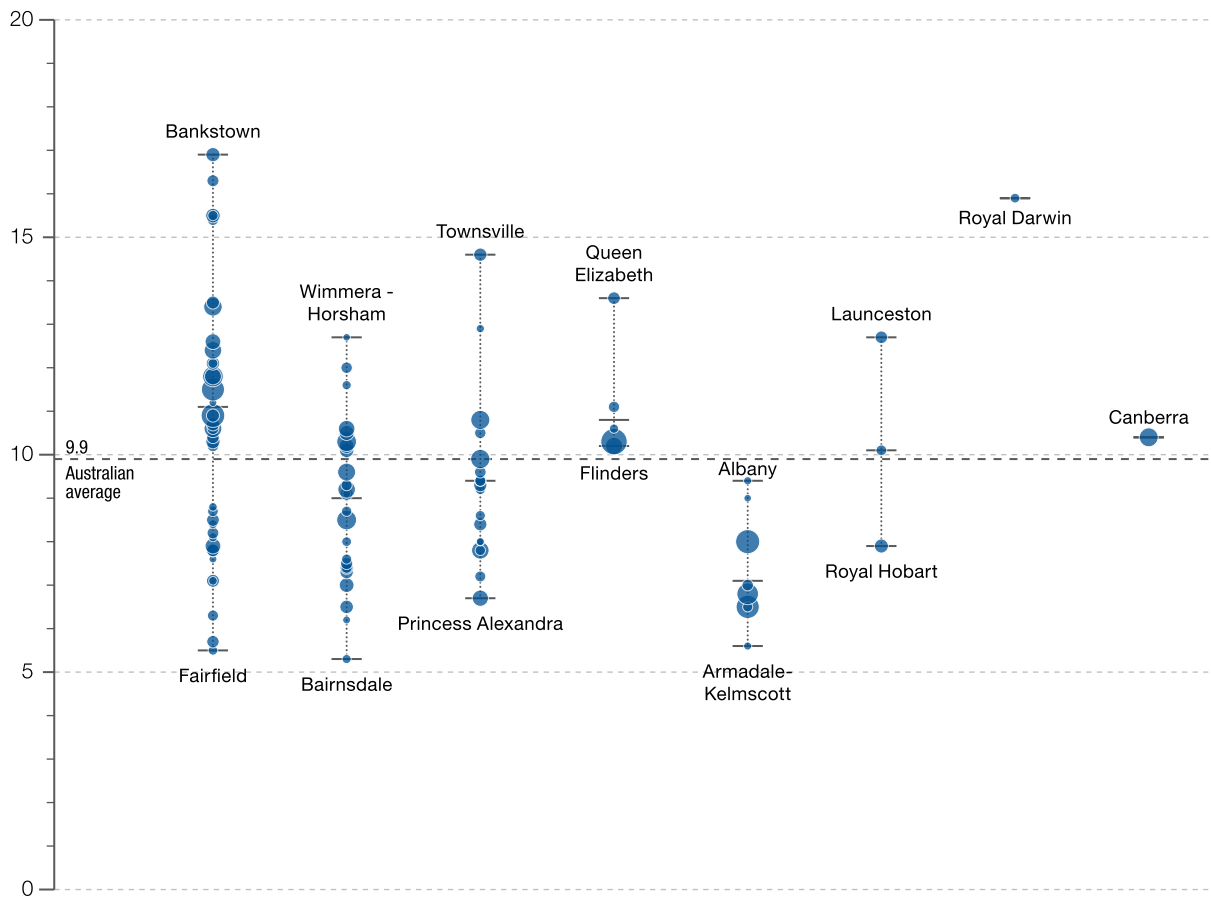
The size of each circle represents the number of admissions in each hospital

**Notes:** The peer average is based on the total number of admissions in hospitals within that peer group, restricted to public hospitals with at least 10 admissions.

**Source:** National Health Performance Authority analysis of Admitted Patient Care National Minimum Data Set 2012–13 (data supplied 09/04/2014).

Figure 61: Average length of stay for hip fracture patients aged 65 years and over, major and large public hospitals, by state and territory, 2012–13

Average length of stay (days)	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Longest	16.9	12.7	14.6	13.6	9.4	12.7	–	–
State/territory	11.1	9.0	9.4	10.8	7.1	10.1	15.9	10.4
Shortest	5.5	5.3	6.7	10.2	5.6	7.9	–	–
No. admissions	5,698	3,526	2,340	1,018	1,410	399	64	289



The size of each circle represents the number of admissions in each hospital

**Notes:** The state/territory and national results are based on the total number of admissions in major and large public hospitals located within each geographic area, restricted to hospitals with at least 10 admissions.

**Source:** National Health Performance Authority analysis of Admitted Patient Care National Minimum Data Set 2012–13 (data supplied 09/04/2014).

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## Resources

- Australian and New Zealand Hip Fracture Registry Steering Group. *Australian and New Zealand Guideline for Hip Fracture Care: Improving Outcomes in Hip Fracture Management of Adults*. 2014. Available at: [www.anzhrf.org/images/resources/Guidelines/ANZ%20Guideline%20for%20Hip%20Fracture%20Care.pdf](http://www.anzhrf.org/images/resources/Guidelines/ANZ%20Guideline%20for%20Hip%20Fracture%20Care.pdf).
- National Institute for Health and Care Excellence. *The management of hip fracture in adults*. 2011. Available at: [www.nice.org.uk/guidance/CG124/chapter/1-Guidance](http://www.nice.org.uk/guidance/CG124/chapter/1-Guidance)
- Australian Commission on Safety and Quality in Health Care. *Hip Fracture Clinical Care Standard* (in development). Available at [www.safetyandquality.gov.au/ccs](http://www.safetyandquality.gov.au/ccs).
- NSW Agency for Clinical Innovation (ACI). *Minimum standards for the management of hip fracture in the older person*. 2014. Available at: [www.aci.health.nsw.gov.au/\\_\\_data/assets/pdf\\_file/0004/222727/Minimum-Standards-for-the-Management-of-Hip-Fractures.pdf](http://www.aci.health.nsw.gov.au/__data/assets/pdf_file/0004/222727/Minimum-Standards-for-the-Management-of-Hip-Fractures.pdf).

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- 1 Khan S, Kalra S, Khanna A, Thiruvengada M, Parker M. Timing of surgery for hip fractures: a systematic review of 52 published studies involving 291,413 patients. *Injury*. 2009;40:693–7.
  - 2 British Geriatrics Society. The national hip fracture database national report 2012. London: BGS, 2012.
  - 3 Ireland AW, Kelly PJ, Cumming RG. Total hospital stay for hip fracture: measuring the variations due to pre-fracture residence, rehabilitation, complications and comorbidities. *BMC Health Services Research* 2015;15:17.
  - 4 Mak JCS, Cameron ID, March LM. Evidence-based guidelines for the management of hip fractures in older persons: an update. *MJA* 2010;vol 192,no. 1:37–41.
  - 5 Neuburger J, Currie C, Wakeman R, Tsang C, Plant F, De Stavola B, et al. The impact of a national clinician-led audit initiative on care and mortality after hip fracture in England 2015; *Medical Care* 53(8):686–91.
  - 6 Hawkes D, Baxter J, Bailey C, Holland G, Ruddlesdin J, Wall A, et al. Improving the care of patients with a hip fracture: a quality improvement report. *BMJ Quality and Safety* 2015;24:532–8.
  - 7 Australian Orthopaedic Association National Joint Replacement Registry. Annual report for hip and knee arthroplasty. Adelaide: AOA, 2013
  - 8 Australian Commission on Safety and Quality in Health Care. Hip fracture care clinical care standard. 2015. (Accessed 8 September 2015, at [www.safetyandquality.gov.au/our-work/clinical-care-standards/hip-fracture-care-clinical-care-standard](http://www.safetyandquality.gov.au/our-work/clinical-care-standards/hip-fracture-care-clinical-care-standard)).
  - 9 Australian Commission on Safety and Quality in Health Care. Joint working party of the Commission and the Independent Hospital Pricing Authority. ACSQHC 2015. (Accessed 8 September 2015, at: [www.safetyandquality.gov.au/national-priorities/jwp-acsqhc-ihpa](http://www.safetyandquality.gov.au/national-priorities/jwp-acsqhc-ihpa)).
  - 10 Australian Institute of Health and Welfare. The problem of osteoporotic hip fracture in Australia. Bulletin no. 76, Cat. no. AUS 121. Canberra: AIHW, 2010.