

Hospital Quarterly

Technical Supplement

Measures of admitted patient activity

July to September 2016

BUREAU OF HEALTH INFORMATION

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Please also note that there is the potential for minor revisions of data in this report.

Please check the online version at **bhi.nsw.gov.au** for any amendments.

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Summary

This technical supplement describes the methods and technical terms used to calculate NSW public hospital admitted patient measures reported in the Bureau of Health Information (BHI) *Hospital Quarterly* report. Recent changes to methods are also described.

Admitted patient information in *Hospital Quarterly* is based on analyses of data in the Admitted Patient Data Collection (APDC). Data are extracted from a centralised data warehouse administered by the NSW Department of Health called the Health Information Exchange (HIE). Measures of admitted patient activity reported in *Hospital Quarterly* (Table 2) are currently based on 200 public hospitals which have had an electronic records system in place and reliable data in the APDC for five or more quarters.

Hospitals are reported individually for hospitals in principal referral, major or district peer groups (A1, A2, A3, B, C1 and C2). In July to September 2016, a total of 78 hospitals met this reporting criteria.

Peer group changes

In *Hospital Quarterly, July to September 2016*, admitted patient data are no longer individually reported for five hospitals due to their reallocation, from peer group C2, to lower peer groups (smaller facilities including community and multi-purpose service peer groups) (Table 1). For the purposes of reporting in *Hospital Quarterly*, data for these hospitals are included in NSW and local health district (LHD) totals, and in 'Other' peer group totals.

Table 1 Changes to hospital peer group allocation and reporting, July to September 2016¹

Hospitals no longer individually reported	2016 peer group	2016 peer group name	Local health district	2011 peer group
Bellinger River District Hospital	D1a	Community hospitals with surgery	Mid North Coast	C2
Bulli District Hospital	F4	Sub-acute	Illawarra Shoalhaven	C2
Camden Hospital	D1b	Community hospitals without surgery	South Western Sydney	C2
Parke District Hospital	D1a	Community hospitals with surgery	Western NSW	C2
Tumut Health Service	D1a	Community hospitals with surgery	Murrumbidgee	C2

Effect of peer group changes

The exclusion of five previously C2 hospitals from individual hospital reporting has had no effect on aggregated NSW and LHD reporting, or peer group reporting for hospital peer groups A1, A2, A3, B and C1.

This change has the effect of reducing the number of hospitals for which admitted patient data are reported individually in *Hospital Quarterly* from 83 to 78. It also has the effect of reducing the number

of C2 hospitals for which admitted patient data are reported individually from 30 to 25 (Table 2).

In order to make fair comparisons with the same quarter in the previous year, data in *Hospital Quarterly, July to September 2016* are based on recalculations that exclude these hospitals from peer group C2 for 21 quarters. This means that measures reported in the current edition may differ slightly from previous editions of the report. Therefore caution is advised when interpreting any comparisons using previous editions.

The effect of reallocation of five previously C2 hospitals to the 'Other' peer group is shown in Appendix table 4.

Appendix

Admitted patient activity

Table 2 includes the definitions used for the calculations of measures of admitted patient activity reported in *Hospital Quarterly*.

SAS* (currently SAS V9.3™) is used for the statistical analysis of data for *Hospital Quarterly*.

Table 2 Admitted patient measures

Total episodes	The count of all records with an episode end date in the defined period.
Planned episodes	The count of all recorded admissions with an emergency status of 'non-emergency / planned' or 'regular same-day planned admission'.
Unplanned / other episodes	All episodes with an episode end date in the defined period minus planned episodes.
Babies born	The count of records with source of referral of 'born in hospital'; it is a subset of unplanned episodes. Unlike all other fields in the admitted patient dataset, babies born uses the Episode table of the Health Information Exchange.
Acute episodes	The count of records with episode of care type values of 1 (acute care) and 5 (newborn care) – see Glossary: Acute episode.
Acute same day episodes	The count of acute episode records with an episode start date equal to the episode end date.
Acute overnight episodes	The count of the acute episode records with an episode start date earlier (not equal) to the episode end date.
Total acute bed days	The sum of bed days for all acute episodes with an episode end date within the defined period. Total acute bed days for an overnight episode is the difference, in days, between the episode start date and the episode end date, minus the number of episode leave days recorded. Same day episodes count as one bed day.
Average length of stay	The mean of total bed days for all acute episodes with an episode end date in the defined period.

Table 3 Peer group C2 hospitals and changes, July to September 2016

C2 cohort	Hospital	Local health district	Peer group
Up to April to June 2016	Ballina	Northern NSW	C2
	Batemans Bay	Southern NSW	C2
	Bellinger River	Mid North Coast	C2
	Blue Mountains	Nepean Blue Mountains	C2
	Bulli	Illawarra Shoalhaven	C2
	Camden	South Western Sydney	C2
	Casino	Northern NSW	C2
	Cessnock	Hunter New England	C2
	Cooma	Southern NSW	C2
	Cowra	Western NSW	C2
	Deniliquin	Murrumbidgee	C2
	Forbes	Western NSW	C2
	Gunnedah	Hunter New England	C2
	Inverell	Hunter New England	C2
	Kempsey	Mid North Coast	C2
	Kurri Kurri	Hunter New England	C2
	Lithgow	Nepean Blue Mountains	C2
	Macksville	Mid North Coast	C2
	Macleay	Northern NSW	C2
	Milton	Illawarra Shoalhaven	C2
	Moree	Hunter New England	C2
	Moruya	Southern NSW	C2
	Mudgee	Western NSW	C2
	Muswellbrook	Hunter New England	C2
	Narrabri	Hunter New England	C2
	Parkes	Western NSW	C2
	Queanbeyan	Southern NSW	C2
	Singleton	Hunter New England	C2
	Tumut	Murrumbidgee	C2
	Young	Murrumbidgee	C2
July to September 2016	Ballina	Northern NSW	C2
	Batemans Bay	Southern NSW	C2
	Bellinger River	Other Mid North Coast	D1a
	Blue Mountains	Nepean Blue Mountains	C2
	Bulli	Illawarra Shoalhaven	F4
	Camden	Other South Western Sydney	D1b
	Casino	Northern NSW	C2
	Cessnock	Hunter New England	C2
	Cooma	Southern NSW	C2
	Cowra	Western NSW	C2
	Deniliquin	Murrumbidgee	C2
	Forbes	Western NSW	C2
	Gunnedah	Hunter New England	C2
Inverell	Hunter New England	C2	

C2 cohort	Hospital	Local health district	Peer group
	Kempsey	Mid North Coast	C2
	Kurri Kurri	Hunter New England	C2
	Lithgow	Nepean Blue Mountains	C2
	Macksville	Mid North Coast	C2
	Macleay	Northern NSW	C2
	Milton	Illawarra Shoalhaven	C2
	Moree	Hunter New England	C2
	Moruya	Southern NSW	C2
	Mudgee	Western NSW	C2
	Muswellbrook	Hunter New England	C2
	Narrabri	Hunter New England	C2
	Parkes	Other Western NSW	D1a
	Queanbeyan	Southern NSW	C2
	Singleton	Hunter New England	C2
	Tumut	Other Murrumbidgee	D1a
	Young	Murrumbidgee	C2

Table 4 Effect of peer group change for five C2 hospitals, July–September 2016

Total C2 peer group, July to September 2016¹

	All admitted patient episodes			Acute episodes			
	Total admitted patient episodes	Planned	Unplanned	Acute same-day episodes	Acute overnight episodes	Total acute bed days	Average length of stay (days)
Measure after change	30,470	13,914	16,556	16,157	13,123	68,818	2.4
Measure before change	33,338	14,894	18,444	17,376	14,147	75,440	2.4
Difference	-2,868	-980	-1,888	-1,219	-1,024	-6,622	0

1. Bulli District Hospital, Bellinger River District Hospital, Camden Hospital, Parkes District Hospital and Tumut Health Service move from C2 to 'Other' peer group.
2. Totals include other small groups (smaller facilities including community and multi-purpose service peer groups) (data not shown).

References

1. Health System Information & Performance Reporting, NSW Ministry of Health, NSW Hospital peer groups 2016, 06 April 2016 [online] [cited 04 November 2016]. Available from http://www0.health.nsw.gov.au/policies/ib/2016/IB2016_013.html

About the Bureau of Health Information

The Bureau of Health Information (BHI) is a board-governed organisation that provides independent information about the performance of the NSW public healthcare system.

BHI was established in 2009 to provide system-wide support through transparent reporting.

BHI supports the accountability of the healthcare system by providing regular and detailed information to the community, government and healthcare professionals. This in turn supports quality improvement by highlighting how well the healthcare system is functioning and where there are opportunities to improve.

BHI manages the NSW Patient Survey Program, gathering information from patients about their experiences in public hospitals and other healthcare facilities.

BHI publishes a range of reports and tools that provide relevant, accurate and impartial information about how the health system is measuring up in terms of:

- Accessibility – healthcare when and where needed
- Appropriateness – the right healthcare, the right way
- Effectiveness – making a difference for patients
- Efficiency – value for money
- Equity – health for all, healthcare that's fair
- Sustainability – caring for the future.

BHI's work relies on the efforts of a wide range of healthcare, data and policy experts. All of our assessment efforts leverage the work of hospital coders, analysts, technicians and healthcare providers who gather, codify and report data. Our public reporting of performance information is enabled and enhanced by the infrastructure, expertise and stewardship provided by colleagues from NSW Health and its pillar organisations.

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