

## Healthcare Quarterly

# Activity and performance

Emergency department, ambulance,  
admitted patients and elective surgery

April to June 2017



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

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*Healthcare Quarterly* reports present data at the point in time when data become available to BHI. Changes in data coverage and analytic methods from quarter to quarter mean that figures published in this document are superseded by subsequent reports. At any time, the most up-to-date data are available on BHI's online data portal, Healthcare Observer, at **bhi.nsw.gov.au/healthcare\_observer**

The conclusions in this report are those of BHI and no official endorsement by the NSW Minister for Health, the NSW Ministry of Health or any other NSW public health organisation is intended or should be inferred.

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# 10 key findings

April to June 2017

- 1 In the April to June 2017 quarter, there were 663,942 patients who presented to a NSW public hospital emergency department.** Compared with the same quarter last year, there were 4.2% more emergency department presentations overall. Most markedly, there was a 7.5% increase in triage category 2 (emergency) presentations. In two hospitals – Lismore and Bateman's Bay – emergency department presentations increased by more than 15%.
- 2 Most emergency department patients received prompt care.** For 75.6% of patients (down 0.8 percentage points), the period between their arrival at the emergency department and starting treatment was within recommended times. Compared with the same quarter last year, time to treatment results for Goulburn and Maclean hospitals increased by more than 10 percentage points and results for Westmead, Blacktown, Fairfield and Auburn hospitals decreased by more than 10 percentage points.
- 3 Almost three quarters of patients (73.1%, down 0.8 percentage points) spent four hours or less in the emergency department.** Compared with the same quarter last year, the proportion of patients who spent four hours or less in the emergency department increased by more than 10 percentage points in Nepean Hospital. No hospital's results decreased by more than 10 percentage points.
- 4 Altogether, 146,483 emergency department patients arrived by ambulance.** For most (91.8%, up 0.6 percentage points), their care was transferred from paramedics to emergency department staff within 30 minutes. Transfer of care results for Deniliquin, Kempsey, Bathurst and Wagga Wagga improved by more than 10 percentage points compared with the same quarter last year. One hospital – Singleton – saw a marked decrease (-12.6 percentage points) in transfer of care performance.
- 5 There were 274,228 ambulance responses (defined as the dispatch of a vehicle) – up 2.3% compared with the same quarter last year.** Of these responses, 44.5% (122,162) were categorised as priority 1 (emergency) and 43.3% (118,630) were priority 2 (urgent).
- 6 Overall NSW results for call to ambulance arrival times were similar to the same quarter last year.** For priority 1 cases, 63.7% of arrival times were within 15 minutes and 95.0% were within 30 minutes. For priority 2 cases, 75.4% of arrival times were within 30 minutes and 95.3% were within 60 minutes.
- 7 There were 2,097 highest priority (P1A, life-threatening) cases during the quarter.** Response times were within 10 minutes for 72.8% of P1A cases and within 15 minutes for 90% of P1A cases. The median response time for P1A cases was 7.4 minutes.
- 8 During the quarter, 464,169 (up 0.6%) patients were admitted for acute care in a NSW public hospital and 57,881 (down 1.1%) elective surgical procedures were performed.** More than half (53.2%) of elective surgical procedures were categorised as urgent (21.1%) or semi-urgent (32.1%).
- 9 Almost all (97.0%) elective surgical procedures were performed within clinically recommended timeframes.** Median waiting times were either unchanged or shorter than the same quarter last year. Median waiting times this quarter were 11 days for urgent surgery (unchanged), 44 days for semi-urgent surgery (one day shorter) and 225 days for non-urgent surgery (seven days shorter).
- 10 Across hospitals, measures of elective surgery timeliness were relatively stable.** In terms of the proportion of procedures performed within clinically recommended timeframes, results for the Children's Hospital at Westmead increased by 5.8 percentage points, while those for Prince of Wales, Royal North Shore and Shoalhaven hospitals all decreased by more than five percentage points.

# Healthcare Quarterly – Activity

Emergency department activity		April to June 2017	April to June 2016	Difference	% change
All arrivals at NSW EDs by ambulance		146,483	140,338	6,145	4.4%
All ED presentations		663,942	637,207	26,735	4.2%
Emergency presentations		641,423	613,188	28,235	4.6%
Emergency presentations by triage category					
Triage category	T1: Resuscitation	4,329	4,472	-143	-3.2%
	T2: Emergency	82,220	76,454	5,766	7.5%
	T3: Urgent	223,431	212,449	10,982	5.2%
	T4: Semi-urgent	265,688	257,261	8,427	3.3%
	T5: Non-urgent	65,755	62,552	3,203	5.1%
Admissions to hospital from NSW EDs		192,903	184,596	8,307	4.5%

Ambulance activity		April to June 2017	April to June 2016	Difference	% change
Calls		276,354	270,792	5,562	2.1%
Responses		274,228	268,157	6,071	2.3%
Priority category	P1: Emergency	122,162	122,046	116	0.1%
	P1A: Highest priority	5,523	5,323	200	3.8%
	P2: Urgent	118,630	111,679	6,951	6.2%
	P3: Time-critical	24,186	24,246	-60	-0.2%
	P4-9: Non-emergency	9,250	10,186	-936	-9.2%
Incidents		218,358	214,609	3,749	1.7%
Patient transports		164,323	159,283	5,040	3.2%

Note: Ambulance activity data do not include outage estimates

Admitted patient activity		April to June 2017	April to June 2016	Difference	% change
All admitted patient episodes		492,368	480,166	12,202	2.5%
All acute episodes		464,169	461,297	2,872	0.6%
Overnight episodes		246,626	247,448	-822	-0.3%
Same-day episodes		217,543	213,849	3,694	1.7%
Non-acute episodes		28,199	18,869	9,330	49.4%
Average length of stay (days)	All acute episodes	3.0	3.0	0	0.0%
	Acute overnight episodes	4.7	4.8	-0.1	-2.1%
	Non-acute episodes	30.1	15.7	14.4	91.7%
Hospital bed days	All bed days	2,228,217	1,692,918	535,299	31.6%
	Acute bed days	1,380,745	1,397,404	-16,659	-1.2%
	Non-acute bed days	847,472	295,514	551,958	186.8%
Babies born in NSW public hospitals		18,000	18,630	-630	-3.4%

Elective surgery activity		April to June 2017	April to June 2016	Difference	% change
Elective surgical procedures performed		57,881	58,537	-656	-1.1%
Urgency category	Urgent surgery	12,202	12,265	-63	-0.5%
	Semi-urgent surgery	18,560	18,526	34	0.2%
	Non-urgent surgery	24,296	25,042	-746	-3.0%
Patients on waiting list ready for elective surgery at end of quarter		74,500	73,165	1,335	1.8%
Urgency category	Urgent surgery	1,758	1,734	24	1.4%
	Semi-urgent surgery	12,274	11,441	833	7.3%
	Non-urgent surgery	60,468	59,990	478	0.8%

Note: The 186.8% increase in the number of bed days for non-acute care this quarter may reflect changes in the designation of mental health care stay types, creating an artefactual spike in results.

# Healthcare Quarterly – Performance

Emergency department performance			April to June 2017	April to June 2016	Difference
Percentage of patients whose care was transferred within 30 minutes			91.8%	91.2%	+0.6 percentage points
Time to treatment by triage category	T2: Emergency	Median	8 mins	8 mins	0 mins
		90th percentile	26 mins	24 mins	2 mins
	T3: Urgent	Median	20 mins	20 mins	0 mins
		90th percentile	67 mins	64 mins	3 mins
	T4: Semi-urgent	Median	25 mins	25 mins	0 mins
		90th percentile	99 mins	94 mins	5 mins
	T5: Non-urgent	Median	23 mins	23 mins	0 mins
		90th percentile	101 mins	98 mins	3 mins
Percentage of patients whose treatment started on time	All patients		75.6%	76.4%	-0.8 percentage points
	T2: Emergency		66.5%	67.3%	-0.8 percentage points
	T3: Urgent		70.8%	71.3%	-0.5 percentage points
	T4: Semi-urgent		78.7%	79.7%	-0.1 percentage points
	T5: Non-urgent		93.6%	93.7%	-0.1 percentage points
Median time spent in the ED			2h 46m	2h 42m	4 mins
90th percentile time spent in the ED			7h 5m	7h 2m	3 mins
Patients who spent four hours or less in the ED			73.1%	73.9%	-0.8 percentage points

NSW Ambulance performance		April to June 2017	April to June 2016	Difference
Call to ambulance arrival time				
Percentage of P1 call to ambulance arrival within 15 minutes		63.7%	64.4%	-0.7 percentage points
Percentage of P1 call to ambulance arrival within 30 minutes		95.0%	94.9%	0.1 percentage points
Percentage of P2 call to ambulance arrival within 30 minutes		75.4%	76.2%	-0.8 percentage points
Percentage of P2 call to ambulance arrival within 60 minutes		95.3%	95.3%	unchanged
Mobilisation time				
P1: Emergency	Median	2.4m	2.4m	unchanged
	Percentage P1 within 3 minutes	62.6%	63.2%	-0.6 percentage points
Turnaround time				
P1: Emergency	Median	36.2m	35.8m	0.4m
	90th percentile	59.2m	58.6m	0.6m
	Percentage within 45 minutes	70.7%	71.8%	-1.1 percentage points
P2: Urgent	Median	34.0m	33.5m	0.5m
	90th percentile	55.6m	55.4m	0.2m
	Percentage within 45 minutes	75.8%	76.7%	-0.9 percentage points

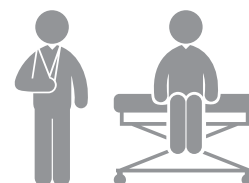
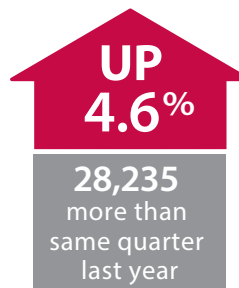
Elective surgery performance			April to June 2017	April to June 2016	Difference
Median waiting time (days)	Urgent surgery		11 days	11 days	unchanged
	Semi-urgent surgery		44 days	45 days	-1 day
	Non-urgent surgery		225 days	232 days	-7 days
Elective surgery procedures performed on time	All surgeries		97.0%	97.0%	unchanged
	Urgent surgery		99.7%	99.7%	unchanged
	Semi-urgent surgery		97.4%	97.3%	0.1 percentage points
	Non-urgent surgery		95.4%	95.5%	-0.1 percentage points

In the April to June 2017 quarter...

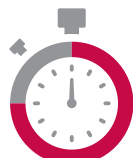
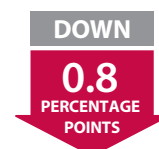
## Emergency department

There were **641,423**  
emergency presentations

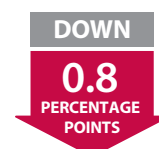
Highest ever for an April to June quarter



**75.6%** of patients' treatment  
started on time



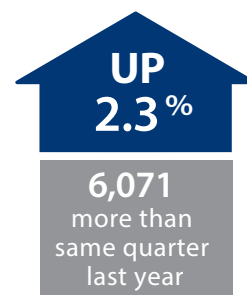
**73.1%** of patients spent  
**four hours or less** in the  
emergency department



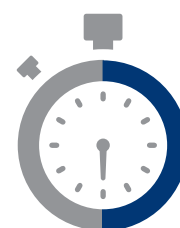
## Ambulance



There were **274,228**  
ambulance responses



**95.0%** of priority 1 cases had a  
call to ambulance arrival time  
of 30 minutes or less

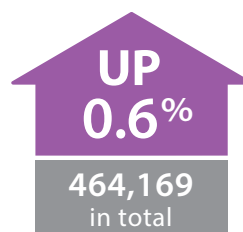


Note: All comparisons are in reference to the same quarter last year.



## Admitted patients

There were **2,872**  
more acute admissions  
to hospital compared to  
the same quarter last year



The average length of stay  
for patients admitted for  
acute overnight care was  
**4.7 days**



## Elective surgery

There were **57,881**  
elective surgical  
procedures performed



Almost all (97.0%) were performed  
within recommended time frames

Median waiting times were unchanged  
or shorter than same quarter last year

11, 44 and 225 days for urgent, semi-urgent and non-urgent, respectively



Note: All comparisons are in reference to the same quarter last year.

# About this report

## The data

*Healthcare Quarterly* draws on four main data sources:

- **Emergency Department Data Collection (EDDC)**  
– data drawn from the Health Information Exchange (HIE) on 21 July 2017
- **NSW Ambulance Computer Aided Dispatch (CAD) system** – provided on 21 July 2017
- **Admitted Patient Data Collection (APDC)**  
– data drawn from the HIE on 19 July 2017
- **Waiting List Collection Online System (WLCOS)**  
– data drawn on 18 July 2017

Hospital data are transmitted by the state's hospitals to centralised data warehouses administered by the NSW Ministry of Health and are extracted by BHI from the NSW HIE. Ambulance data are provided directly to BHI by NSW Ambulance.

## The analyses

Organisational units in hospitals and ambulance services vary in size and in the types of services they provide. For some hospital analyses, results are stratified by 'peer group' into principal referral hospitals (peer group A), major hospitals (peer group B) and district hospitals (peer group C).

Similarly, for some ambulance analyses, results are stratified by type of local response area (LRA) into 24-hour, 24-hour (with on-call), non-24-hour and community and volunteer LRAs.

For both the hospital-based and ambulance-based indicators, stratification by acuity or urgency is also used. Strata are referred to as 'triage categories' (1–5) for emergency department (ED) analyses; 'urgency categories' (A–C) for elective surgery; and 'priority categories' (1–9) for ambulance (although BHI reports on ambulance performance for categories 1 and 2 only).

Data analyses are conducted in SAS 9.3. Codes that form the basis of routine reporting are written by two data analysts independently and only accepted when matching results are achieved. The indicator development process for ambulance reporting is detailed in an edition of *Spotlight on Measurement*, and all data specifications and analytic methods are described in technical supplements – available from the BHI website [bhi.nsw.gov.au](http://bhi.nsw.gov.au)

## The measures

*Healthcare Quarterly* uses nine core measures of performance (Table 1). For timeliness indicators, two different measurement approaches are used.

The first approach is based on units of time such as minutes or days and generally reports median and 90th percentile times, where:

- the median is the middle value of all observations, once they have been ordered from the lowest to the highest value. For example, in measuring the time that patients waited for their treatment to start, the median time refers to the 'middle wait' – half of all patients waited a shorter time and the other half waited a longer time
- the 90th percentile time gives an indication of the longest waiting times experienced by patients – most patients have a shorter wait than the 90th percentile time but one in 10 patients wait longer.

The second approach is based on achievement against a recommended or defined time. Here, results are reported in proportions such as the percentage of patients who received elective surgery within clinically recommended time periods of 30, 90 and 365 days.

The large datasets used in *Healthcare Quarterly* mean that analyses have considerable statistical power to detect significant differences. However, not all of these differences are clinically or organisationally meaningful. Therefore a 5+ percentage point threshold is used to highlight hospitals with marked variation in results – either over time, or relative to the NSW result.

## Reporting

ED, admitted patient and elective surgery data are reported for principal referral (peer group A), major (peer group B) and district (peer group C) hospitals.

Hospital results based on very few patients are not reported. If there are fewer than five patients in any group for admitted patient and ED data, patient numbers are displayed as < 5. NSW and local health district (LHD) results include data from all public hospitals.

Ambulance activity and performance is reported at a NSW and zone level. NSW and zone results include data from all constituent LRAs. Non-modifiable factors such as travel time and distance make attribution of performance difficult and so LRA results are shown on a non-nominal (not named) basis only. LRAs classified as community and volunteer, with less than nine consecutive quarters of data, those with fewer than 100 responses per quarter (on average), and those classified as non-24-hour with a coefficient of variation of over 10% are not shown.

*Healthcare Quarterly* compares this quarter's results with the same quarter in previous years, to take into account seasonal effects on activity and performance.

Table 1 Description of main measures featured in *Healthcare Quarterly*\*

Emergency departments (ED)	
Transfer of care time	For patients who are transported to the emergency department (ED) by ambulance, the time from arrival at hospital to when responsibility for their care is transferred from paramedics to ED staff in an ED treatment zone.
Time to start treatment	The time from patient arrival at an ED until the start of clinical treatment.
Time spent in the ED	The time from patient arrival at the ED until their departure.
Ambulance	
Call to ambulance arrival time	The time from when a call is first answered in the ambulance control centre (phone pick-up), to the time the first ambulance arrives at the scene of an incident.
Mobilisation time	The time from placement of a triple zero call 'in queue' for ambulance dispatch until the time a vehicle is en route to the incident.
Response time	The time from when a call for an ambulance is placed 'in queue' for vehicle dispatch by the ambulance control centre to the time the first vehicle arrives at the scene.
Turnaround time	The time from an ambulance arrives at a hospital until the ambulance is 'clear' and ready to respond to a new incident.
Admitted patients	
Average length of stay	Total bed days of admitted patient episodes that had an 'end date' during the quarter divided by the number of admitted patient episodes.
Elective surgery	
Elective surgery waiting time	The number of days from a patient's placement on the elective surgery waiting list until removal from the list (generally when they undergo surgery).

\* For some measures, other agencies report similar metrics, often with slightly different data definitions, so cross publication comparisons should be made with care.

# Emergency department presentations

NSW public hospital EDs are open to everyone and provide specialised assessment and life-saving care for acutely unwell patients. EDs often act as an entry point to inpatient services.

In the April to June 2017 quarter, a total of 663,942 people presented to NSW public hospital EDs; up 4.2% compared with the same quarter last year. Most presentations (96.6%) were unplanned (or emergency) (Figure 1). Over the past five years, the number of emergency presentations in the April to June quarter has increased by 18.0% (Figure 2).

Compared with the same quarter last year, the number of patients assigned to triage categories 2 to 5 increased. The largest absolute increase was in triage category 3 (10,982 more presentations; up 5.2%). There was a decrease in the number of patients assigned to triage category 1 (143 fewer patients; down 3.2%) (Figure 1).

The number of ED presentations increased this quarter in 63 out of 75 NSW hospital EDs. Of these, eight had an increase of more than 10%.

Hospitals identified in Figure 3 had more than 5,000 presentations this quarter and more than a 5% change in the number of presentations compared with the same quarter last year.

## Hospitals with >10% change in ED presentations, compared with same quarter last year

Hospital	Peer group	Presentations	Change
Bateman's Bay	C2	3,925	26.1
Lismore	B	8,619	15.3
Moree	C2	2,188	14.9
Tamworth	B	11,475	11.7
Fairfield	B	8,904	11.0
Blacktown	B	12,002	11.0
Hawkesbury	C1	5,965	10.9
Queanbeyan	C2	4,691	10.3
Kurri Kurri	C2	944	-10.7
Forbes	C2	1,950	-18.0
Sydney/Sydney Eye	A3	7,188	-24.9

Figure 1 Patient presentations and ambulance arrivals at NSW emergency departments, April to June 2017

	This quarter	Same quarter last year	Change since one year ago
All ED presentations	663,942	637,207	4.2%
Emergency presentations by triage category	641,423	613,188	4.6%
Triage 1: Resuscitation	4,329	4,472	-3.2%
Triage 2: Emergency	82,220	76,454	7.5%
Triage 3: Urgent	223,431	212,449	5.2%
Triage 4: Semi-urgent	265,688	257,261	3.3%
Triage 5: Non-urgent	65,755	62,552	5.1%
Ambulance arrivals	146,483	140,338	4.4%

Figure 2

## Number of emergency presentations to an ED, April to June quarters, 2012 to 2017

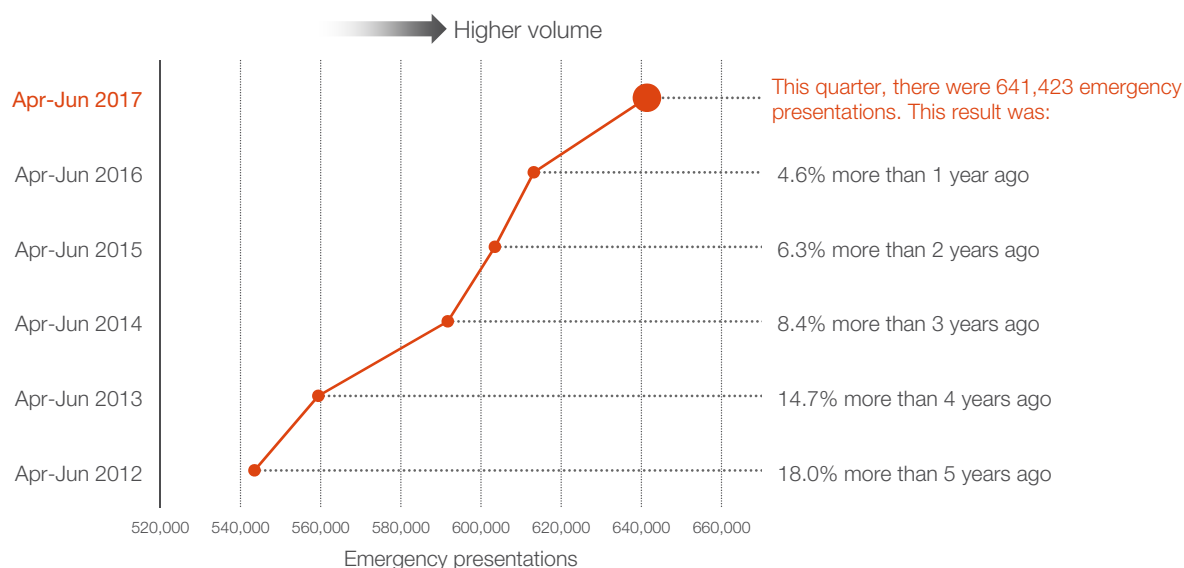
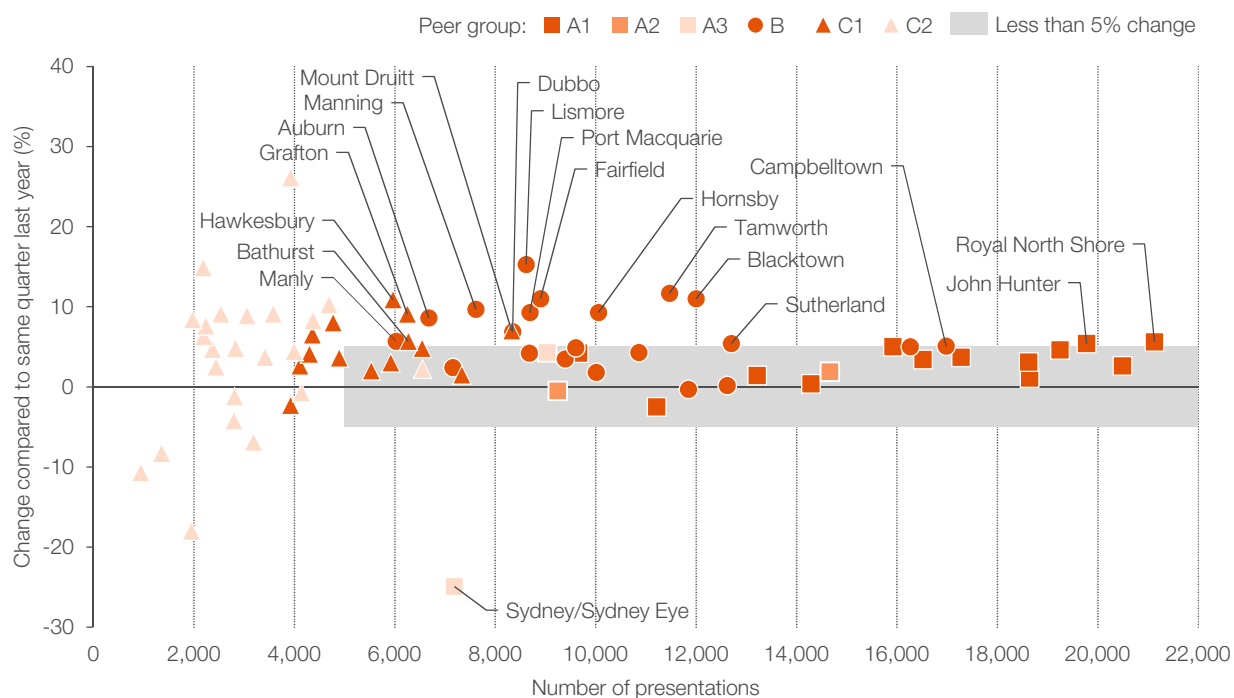


Figure 3

## Change in number of emergency department presentations compared with the same quarter last year, hospitals by peer group, April to June 2017



Note: In November 2015, Sydney and Sydney Eye Hospitals merged. This affected the number of ED presentations due to change in admission pathway.

# Time to treatment in the emergency department

On arrival at the ED, patients are allocated to one of five triage categories, based on urgency. Each category has a maximum waiting time within which treatment should start, ranging from within two minutes for triage 1 to within 120 minutes for triage 5.

In the April to June 2017 quarter, 75.6% of ED patients' treatment started within clinically recommended timeframes; down 0.8 percentage points compared with the same quarter last year (Figure 4). This result is 5.4 percentage points higher than in the same quarter in 2012 (Figure 5).

Figure 6 maps hospital results this quarter compared with the same quarter last year. Hospitals labelled are those that had an increase or a decrease of more than five percentage points in the proportion of

patients whose treatment started on time, compared with the same quarter last year.

**Hospitals with >10 percentage point change in the percentage of patients whose treatment started on time in ED, compared with same quarter last year**

Hospital	Peer group	% on time	Percentage point change
Goulburn Base	C1	76.1	15.2
Maclean District	C2	77.6	11.1
Auburn	B	66.8	-10.2
Fairfield	B	68.7	-13.1
Blacktown	B	46.2	-13.6
Westmead	A1	39.9	-14.2

Figure 4 Percentage of patients whose treatment started on time, by triage category, April to June 2017

	This quarter	Same quarter last year	Percentage point change since one year ago
All emergency presentations	75.6%	76.4%	-0.8
Triage category 2	Recommended: 80% in 10 minutes 66.5%	67.3%	-0.8
Triage category 3	Recommended: 75% in 30 minutes 70.8%	71.3%	-0.5
Triage category 4	Recommended: 70% in 60 minutes 78.7%	79.7%	-1.0
Triage category 5	Recommended: 70% in 120 minutes 93.6%	93.7%	-0.1

	This quarter	Same quarter last year	Change since one year ago
Triage 2 Emergency (e.g. chest pain, severe burns): 81,230 patients			
Median time to start treatment	8m	8m	0m
90th percentile time to start treatment	26m	24m	2m
Triage 3 Urgent (e.g. moderate blood loss, dehydration): 218,197 patients			
Median time to start treatment	20m	20m	0m
90th percentile time to start treatment	1h 7m	1h 4m	3m
Triage 4 Semi-urgent (e.g. sprained ankle, earache): 247,682 patients			
Median time to start treatment	25m	25m	0m
90th percentile time to start treatment	1h 39m	1h 34m	5m
Triage 5 Non-urgent (e.g. small cuts or abrasions): 56,731 patients			
Median time to start treatment	23m	23m	0m
90th percentile time to start treatment	1h 41m	1h 38m	3m

Note: Triage 1 patients are the most urgent and are almost all treated within two minutes. Clinicians are focused on providing immediate and essential care, rather than recording times, therefore times to start treatment are generally not reported. Timeframes to treat other triage categories are recommended by the Australasian College for Emergency Medicine.

Figure 5 Percentage of patients whose treatment started within clinically recommended timeframes, April to June quarters, 2012 to 2017

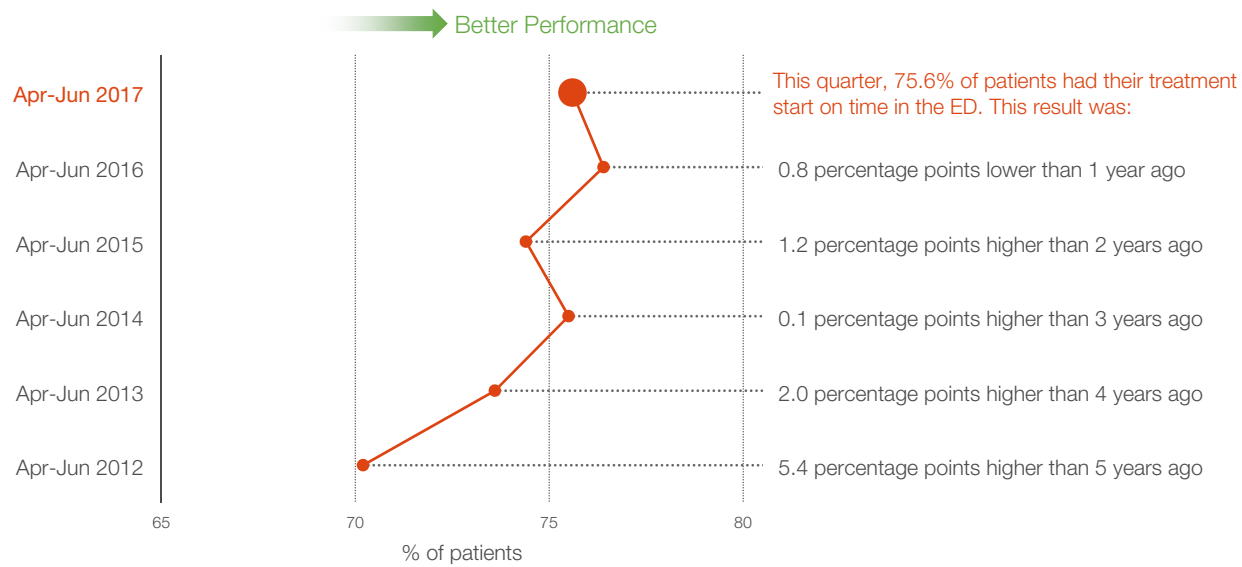
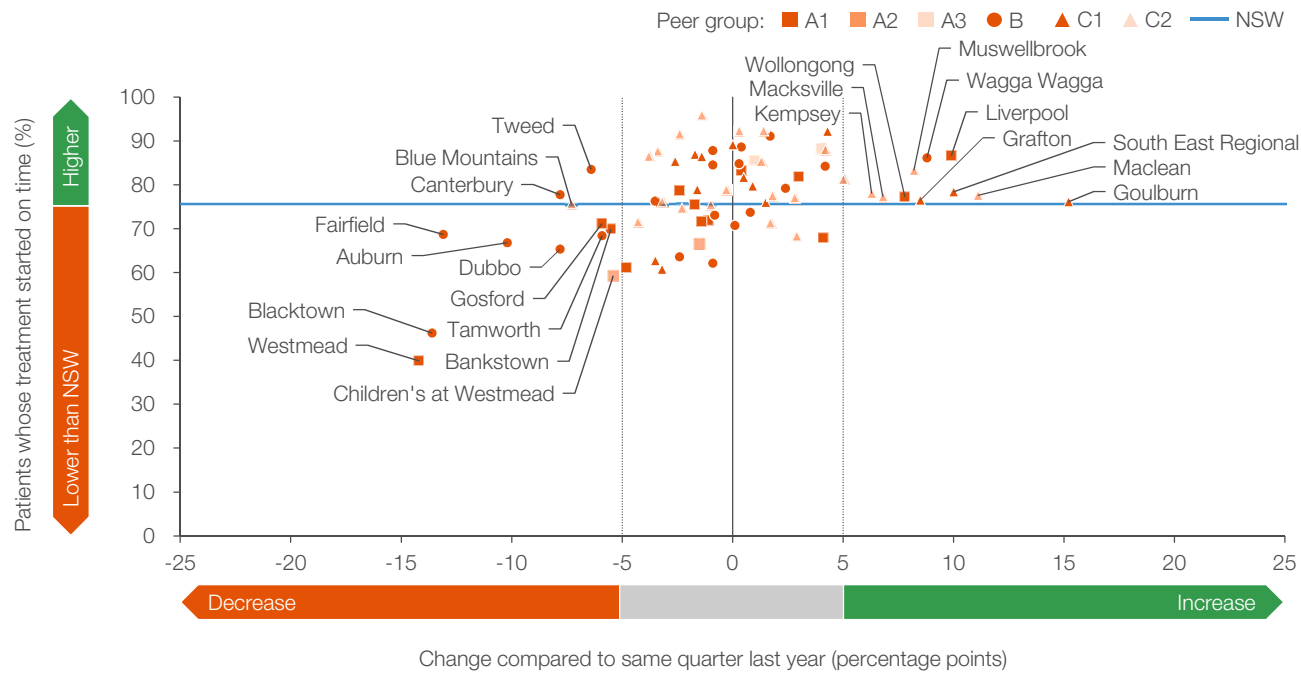


Figure 6 Percentage of patients whose treatment started on time, and percentage point change compared with same quarter last year, hospitals by peer group, April to June 2017



# Time spent in the emergency department

Following assessment, stabilisation and treatment in the ED, patients are either discharged home, admitted to a short stay unit (SSU), admitted to a hospital ward, or transferred to another facility. A small percentage of patients choose not to wait for treatment.

Patients who require admission to hospital from the ED usually have more complex health needs than those who are treated in the ED and discharged. Patients whose ED visit ends in admission to hospital therefore often spend longer periods in the ED. Among patients who were treated and subsequently admitted to hospital this quarter, less than half (42.3%) spent four hours or less in the ED. Among patients who were treated and discharged this quarter, 86.3% spent four hours or less in the ED (Figure 7).

In the April to June 2017 quarter, 73.1% of patients spent four hours or less in the ED. This was 0.8 percentage points lower than in the same quarter last year and 13.1 percentage points higher than in the same quarter in 2012 (Figure 8).

Compared with the same quarter last year:

- In 26 hospitals, there was an increase in the proportion of patients who spent four hours or less in the ED. Of these, four hospitals had an increase of more than five percentage points, including one (Nepean) that had an increase of more than 10 percentage points.
- In 47 hospitals, there was a decrease in the proportion of patients who spent four hours or less in the ED. Of these, 10 hospitals had a decrease of more than five percentage points and none had a decrease of more than 10 percentage points (Figure 9).

Figure 7 Percentage of patients who spent four hours or less in the emergency department, by mode of separation, April to June 2017






	Number		This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	485,226		73.1%	73.9%	-0.8
Treated and discharged	356,097		86.3%	86.9%	-0.6
Treated and admitted	81,627		42.3%	43.6%	-1.3
Left without, or before completing, treatment	28,134		90.8%	91.5%	-0.7
Transferred to another hospital	6,263		44.7%	45.5%	-0.8



Figure 8 Percentage of patients who spent four hours or less in the ED, April to June quarters, 2012 to 2017

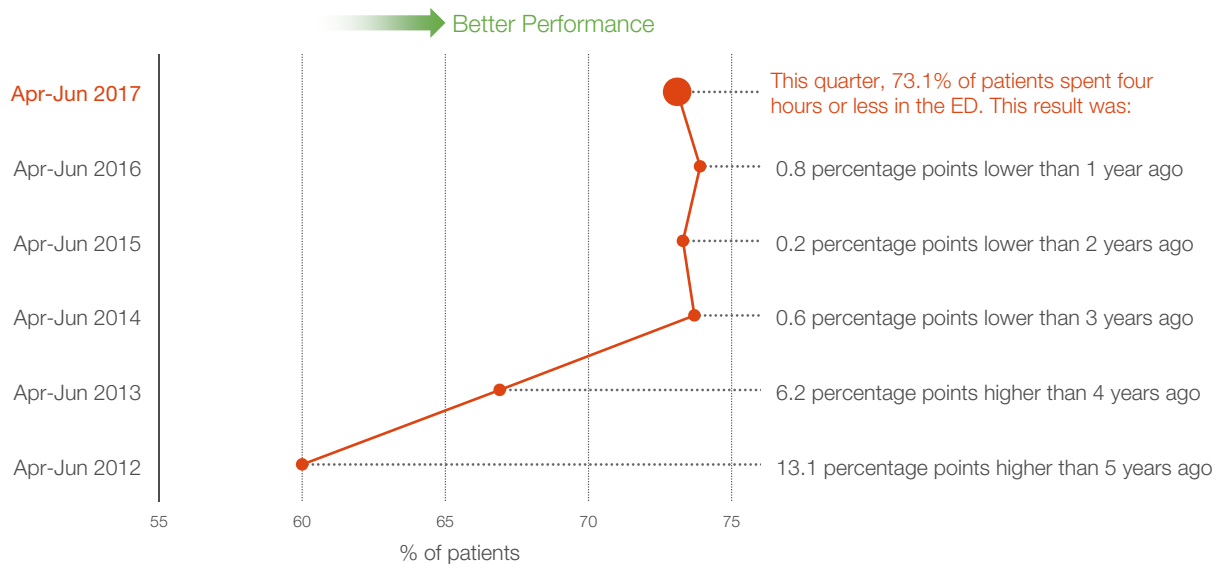
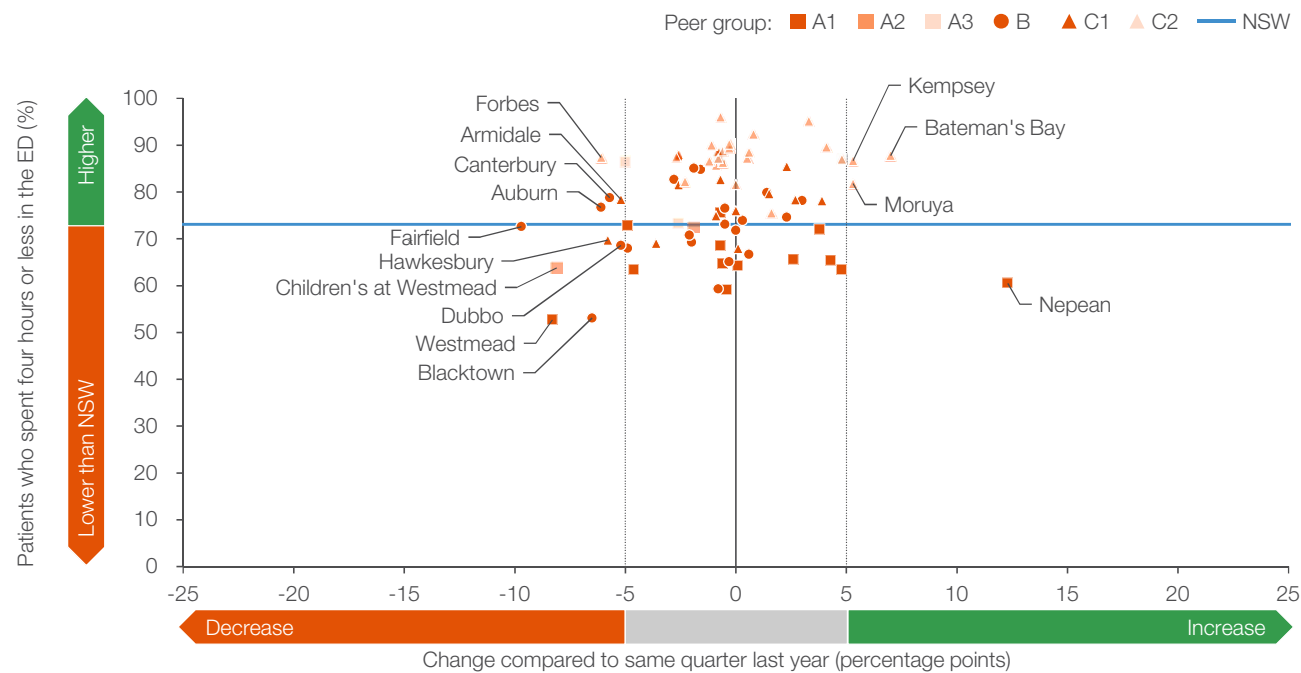


Figure 9 Percentage of patients who spent four hours or less in the emergency department, and percentage point change since same quarter last year, hospitals by peer group, April to June 2017



# Transfer of care

Of 663,942 emergency department presentations this quarter, 22.1% arrived by ambulance. The timeliness with which their care is transferred from the ambulance crew to the emergency department staff is measured by the transfer of care time.

The median transfer of care time was unchanged compared to the same quarter last year (11 minutes), and the 90th percentile transfer of care time was one minute shorter this quarter compared with the same quarter last year (26 minutes) (Figure 10).

In NSW, transfer of patient care from ambulance to ED staff, should have occurred within 30 minutes for 90% of patients. This quarter, 91.8% of patients who arrived by ambulance had their care transferred within 30 minutes; 0.6 percentage points higher than in the same quarter last year and 9.3 percentage points higher than the same quarter in 2013 (Figure 11).

Figure 12 shows variation between and within hospital peer groups in the percentage of patients who had their care transferred within 30 minutes this quarter. Widest variation was among major hospitals (peer group B), with results ranging from 79.9% to 98.4%.

Compared with the same quarter last year, in 11 hospitals, ambulance arrivals increased by more than 10% and in three hospitals they decreased by more than 10%.

The percentage of patients who had their care transferred within 30 minutes increased by more than 10 percentage points in four hospitals. There was one hospital with a decrease of more than 10 percentage points.

## Hospitals with >10% change in ambulance arrivals, compared with same quarter last year

Hospital	Peer group	Ambulance arrivals	Change
Fairfield	B	1,752	38.9
South East Regional*	C1	989	23.2
Casino	C2	404	18.5
Blacktown	B	3,988	16.8
Auburn	B	1,085	16.2
Concord	A1	2,528	14.4
Port Macquarie	B	2,306	13.9
Children's at Westmead	A2	1,356	12.5
Lithgow	C2	615	12.4
Dubbo	B	1,851	12.0
Coffs Harbour	B	2,345	10.1
Macksville	C2	490	-12.7
Grafton	C1	763	-12.8
Narrabri District Hospital	C2	124	-27.5

## Hospitals with >10 percentage point change in transfer of care on time, compared with same quarter last year

Hospital	Peer group	% within 30 mins	Percentage point change
Deniliquin**	C2	93.1	19.2
Kempsey	C2	96.8	14.4
Bathurst	C1	92.3	11.5
Wagga Wagga	B	94.6	11.2
Singleton	C2	82.8	-12.6

\*\* Caution – transfer of care could not be calculated for more than 30% of records

Figure 10 Emergency presentations, ambulance arrivals and transfer of care time, April to June 2017

	This quarter	Same quarter last year	Change since one year ago
Emergency presentations	641,423	613,188	4.6%
Ambulance arrivals	133,345	125,656	6.1%
ED transfer of care time			
Median time	11m	11m	0m
90th percentile time	26m	27m	-1m

\* Comparisons should be made with caution – South East Regional Hospital replaced Bega District Hospital, which provided different services.

Figure 11 Percentage of patients transported to the ED by ambulance whose care was transferred within 30 minutes, April to June quarters, 2013 to 2017

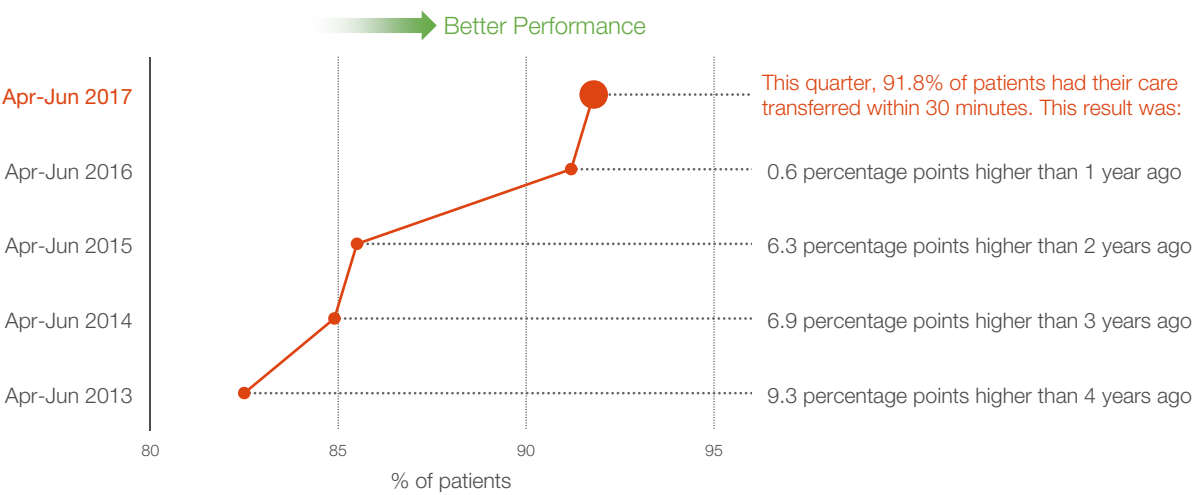
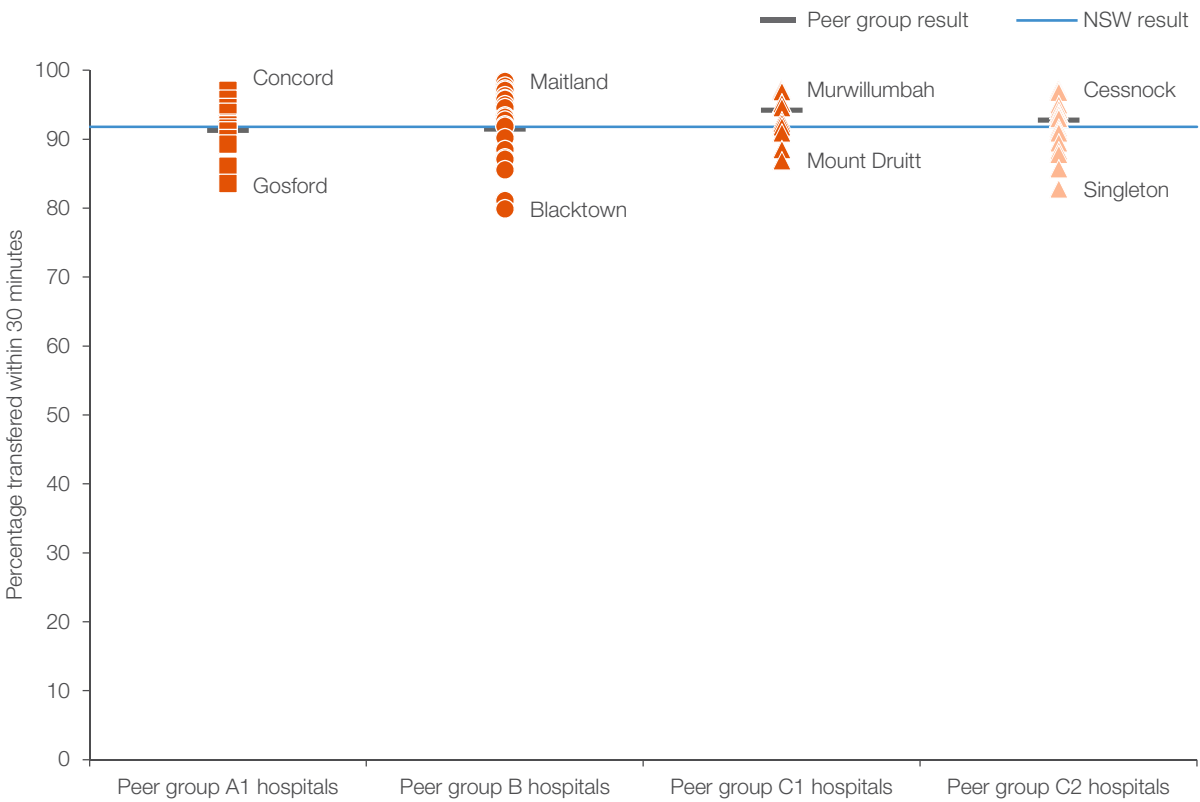


Figure 12 Percentage of patients transported to the ED by ambulance whose care was transferred within 30 minutes, by peer group, April to June 2017



# Ambulance activity

Ambulance activity can be quantified in terms of calls, incidents, responses and patient transports (Table 2).

In the April to June 2017 quarter, there were 276,354 calls and 274,228 ambulance responses; increases of 2.1% and 2.3% respectively compared with the same quarter last year (Figure 13).

This quarter, the majority of responses were categorised as either priority 1 (44.5% of the total responses) or priority 2 (43.3% of the total responses).

The total number of priority 1–3 responses this quarter was 2.7% higher than in the same quarter last year and 5.9% higher than in the same quarter in 2012 (Figure 14).

Figure 15 shows the daily number of priority category 1, 2 and 3 responses this quarter. Daily activity fluctuated slightly throughout the quarter.

**Table 2** Description of ambulance activity counts

<b>Calls</b>	Calls received at the ambulance communication (control) centre, requesting an ambulance vehicle.
<b>Incidents</b>	A call that results in the dispatch of one or more ambulance vehicles.
<b>Responses</b>	The dispatch of an ambulance vehicle from a local response area. There may be multiple responses to a single incident. Responses include vehicles which are cancelled prior to arrival at the incident scene.  Responses are prioritised as priority category 1 (emergency response under lights and sirens; with category 1A as highest acuity); priority category 2 (urgent – undelayed response required without lights and sirens); priority category 3 (time-critical – undelayed response required); and priority categories 4-9 (non-emergency).
<b>Patient transports</b>	Number of patients transported by the ambulance service.

**Figure 13** Ambulance calls, incidents, responses and transports, April to June 2017

		This quarter	Same quarter last year	Change since one year ago
Calls		276,354	270,792	2.1%
Incidents		218,358	214,609	1.7%
All responses		274,228	268,157	2.3%
P1: Emergency	44.5%	122,162	122,046	0.1%
P1A: Highest priority	4.5%	5,523	5,323	3.8%
P2: Urgent	43.3%	118,630	111,679	6.2%
P3: Time-critical	8.8%	24,186	24,246	-0.2%
P4–9: Non-emergency	3.4%	9,250	10,186	-9.2%
Patient transports		164,323	159,283	3.2%

Note: Ambulance activity data do not include CAD outages and activity estimates

Figure 14 Number of priority category 1, 2 and 3 responses, April to June quarters, 2012 to 2017

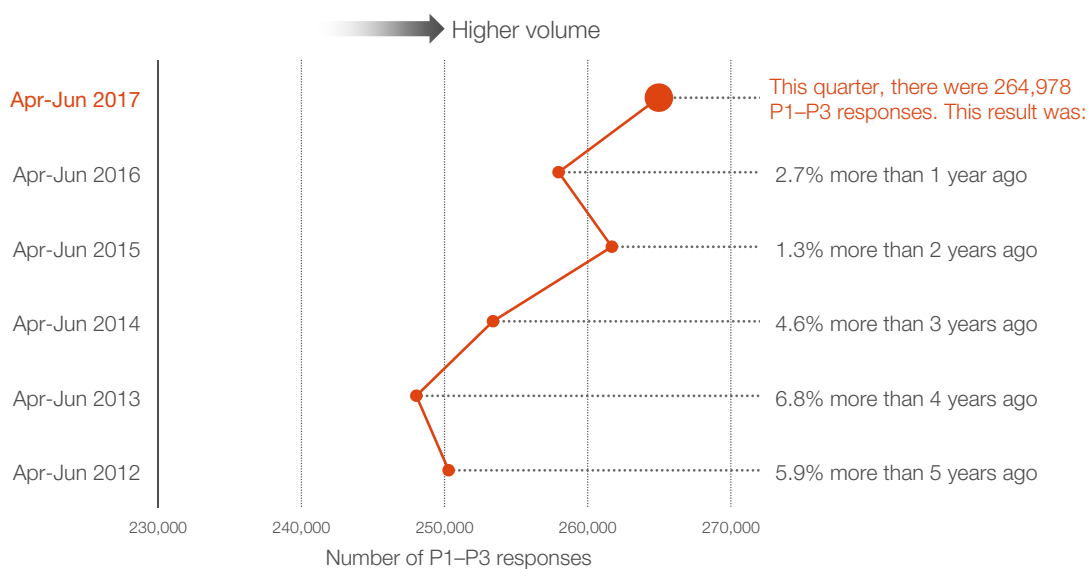
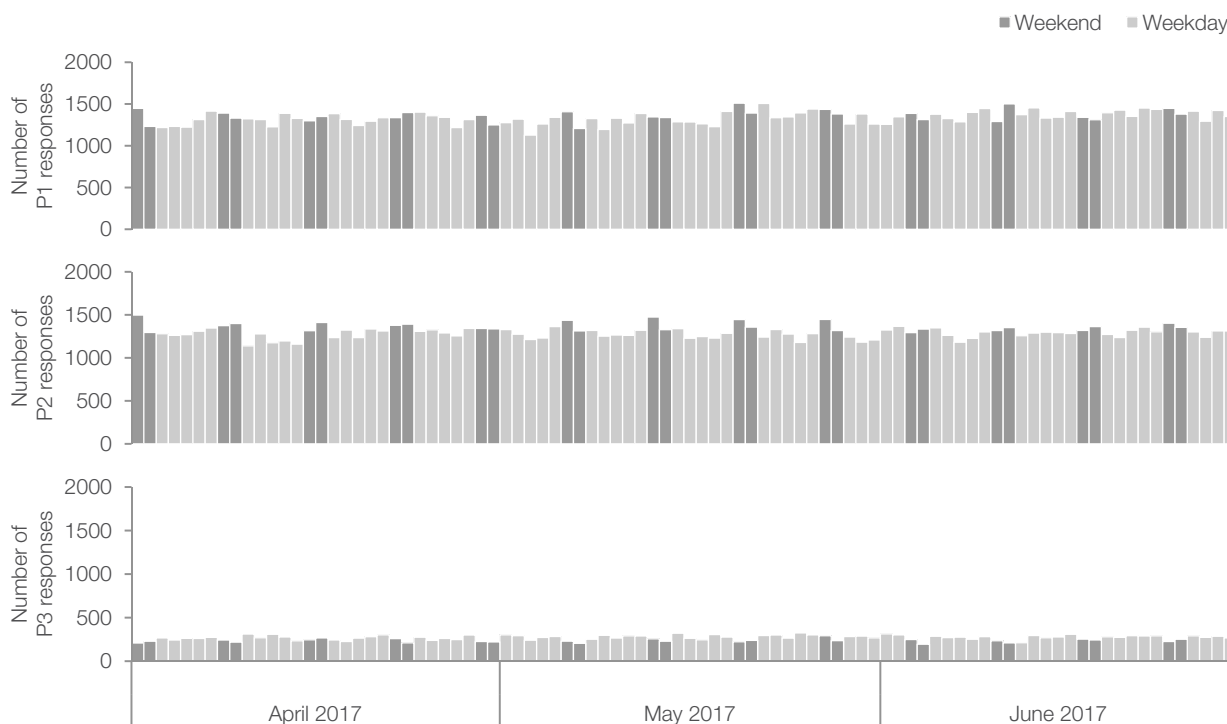


Figure 15 Daily number of priority category 1, 2 and 3 responses, April to June 2017



# Call to ambulance arrival time

Call to ambulance arrival time covers the period from when a triple zero call is first answered in the ambulance control centre (phone pick-up), to the time the first ambulance arrives at the scene. This quarter, most priority category 1 call to ambulance arrival times were within 30 minutes (95.0%). A similar proportion of priority category 2 responses had a call to ambulance arrival time within 60 minutes (95.3%) (Figure 16).

The percentage of call to ambulance arrival times within 30 minutes for priority 1 and within 60 minutes for priority 2 were almost unchanged this quarter compared to the same quarter one year ago (Figure 16). Compared with the same quarter in 2012, the percentage of priority 1 call to ambulance arrival times within 30 minutes has increased by 0.3 percentage points (Figure 17).

Among local response areas (LRAs), just over three quarters (113 out of 147 or 76.8%) met a 90% threshold for the percentage of priority 1 call to ambulance arrival time within 30 minutes. This is a slightly lower proportion than in the same quarter last year (116 out of 147, or 78.9%) (Figure 18).

For priority 2, 98.6% of LRAs met the 90% threshold for the percentage of call to ambulance arrival time within 60 minutes [data not shown].

Figure 16 Call to ambulance arrival time, by priority category, April to June 2017





Priority category		This quarter	Same quarter last year	Change since one year ago
P1 responses	91,060			
Within 15 minutes		63.7%	64.4%	-0.7 percentage points
Within 30 minutes		95.0%	94.9%	0.1 percentage points
Local response areas meeting 90% threshold (arrival within 30 minutes)		113 (of 147)	116 (of 147)	
P2 responses	91,742			
Within 30 minutes		75.4%	76.2%	-0.8 percentage points
Within 60 minutes		95.3%	95.3%	unchanged
Local response areas meeting 90% threshold (arrival within 60 minutes)		145 (of 147)	144 (of 147)	

Figure 17 Percentage of priority category 1 responses with call to ambulance arrival time within 30 minutes, April to June quarters, 2012 to 2017

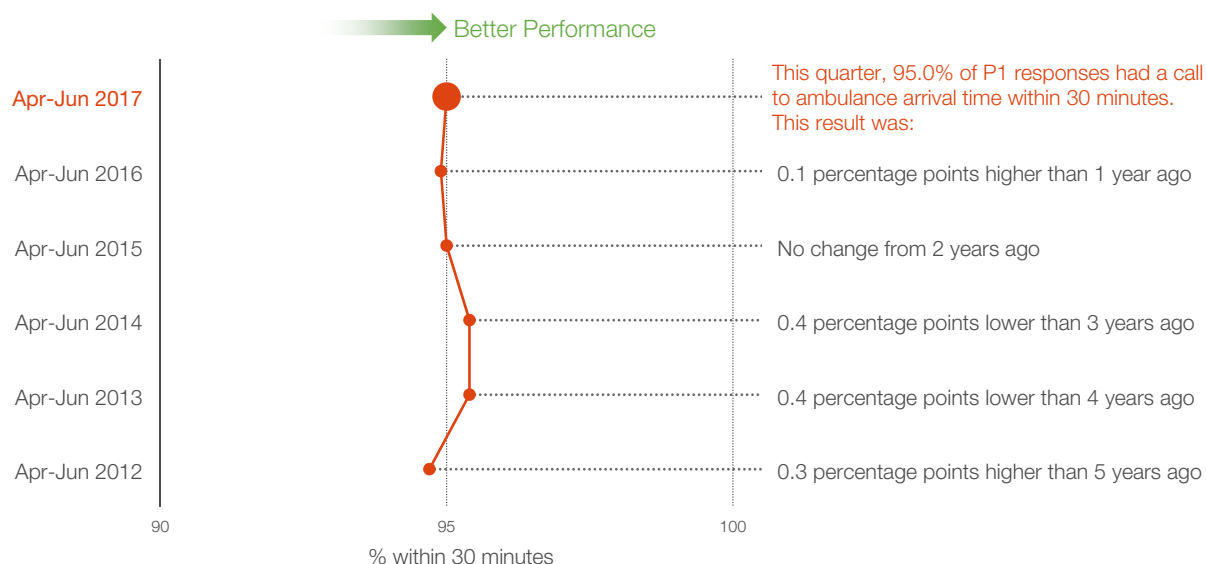
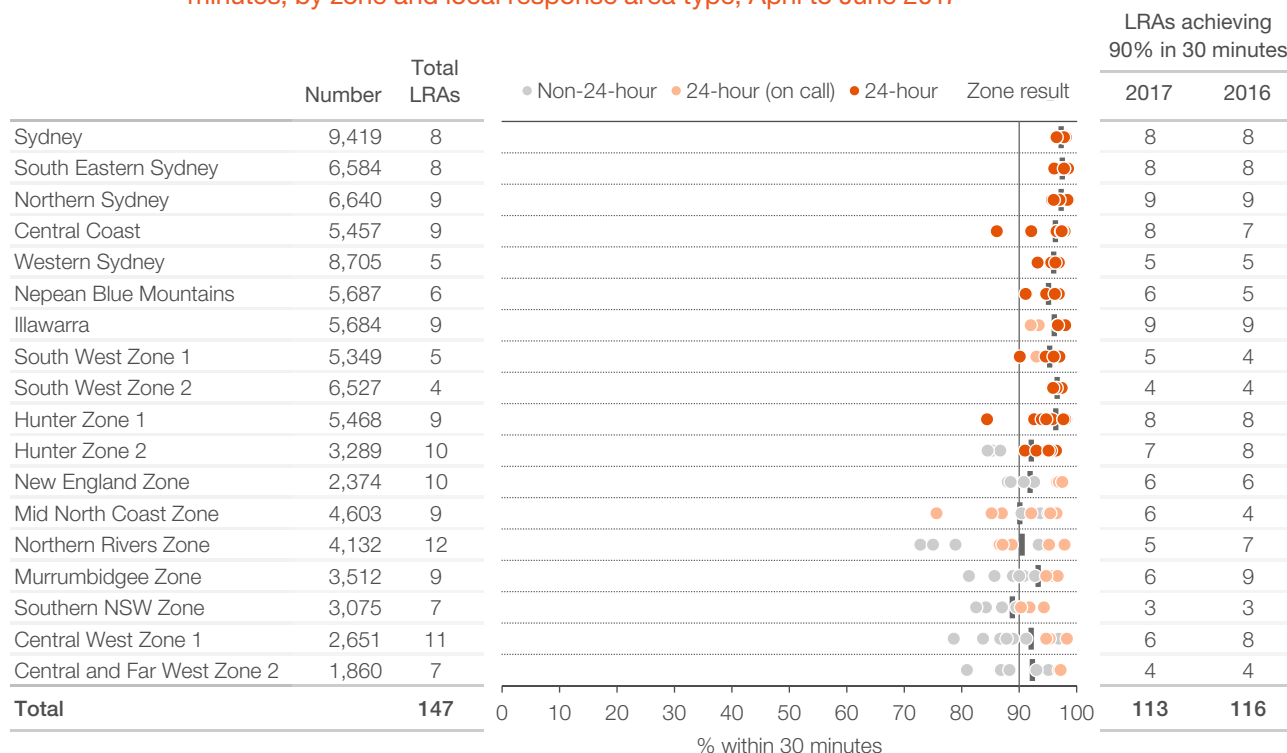


Figure 18 Percentage of priority category 1 responses with a call to ambulance arrival time within 30 minutes, by zone and local response area type, April to June 2017



# Ambulance response time

In NSW, ambulance response time refers to the period from the placement of a triple zero call 'in queue' for ambulance dispatch, until the first vehicle arrives at the scene.

In the April to June 2017 quarter, the median response time was 7.4 minutes for priority 1A responses, 11.1 minutes for priority 1 responses, and 17.4 minutes for priority 2 responses (Figure 19).

In NSW, the benchmark for the median priority 1A response time is 10 minutes. There was one day in the quarter when the median response time exceeded 10 minutes, compared to three days in the same quarter last year [data not shown].

Over the past five years, median priority 1 response times have remained relatively steady (Figure 19 and 20) but the median priority 2 response time has decreased. Part of this decrease reflects reclassification of priority categories (priority 1 to priority 2) in 2013, 2015 and 2016.

Figure 21 shows this quarter's priority 1A, 1 and 2 median response times for zones relative to the NSW result. For priority category 2, non-metropolitan zones generally had shorter response times than metropolitan zones.

Figure 19 Ambulance response time (minutes), by priority category, April to June 2017

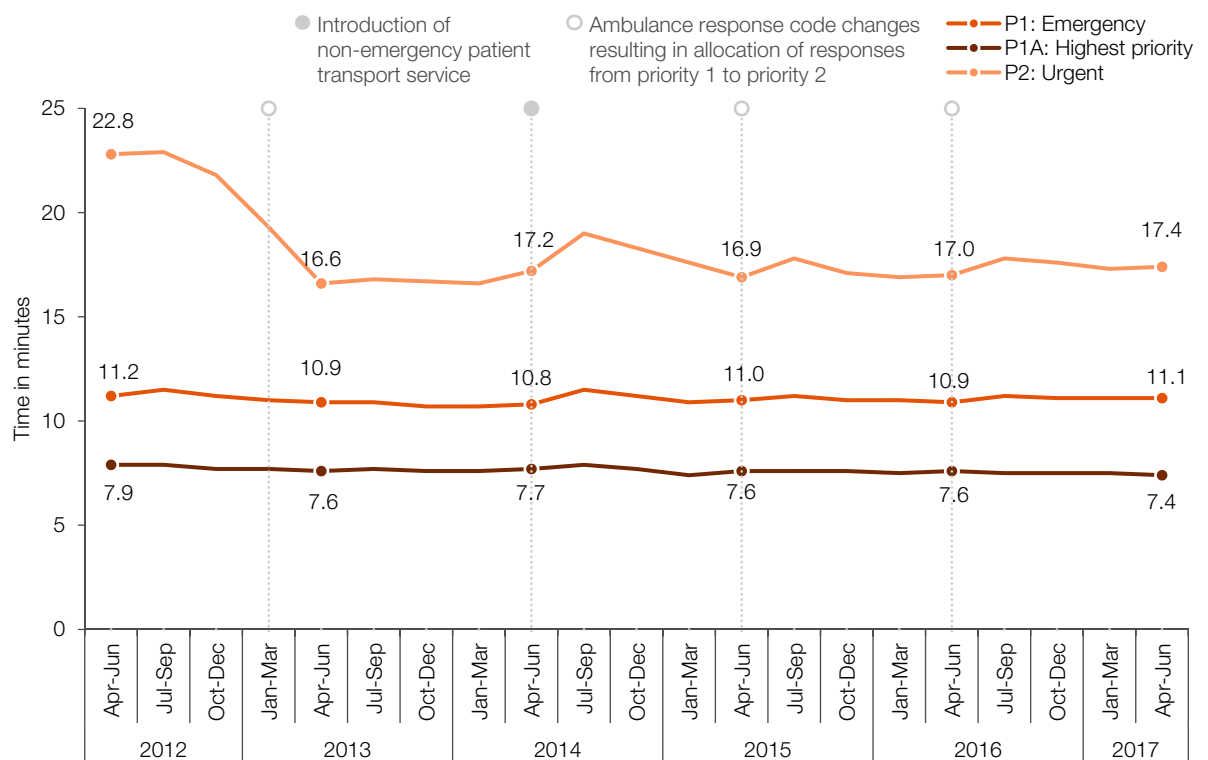




Figure 20 Median priority category 1 response time, April to June quarters, 2012 to 2017

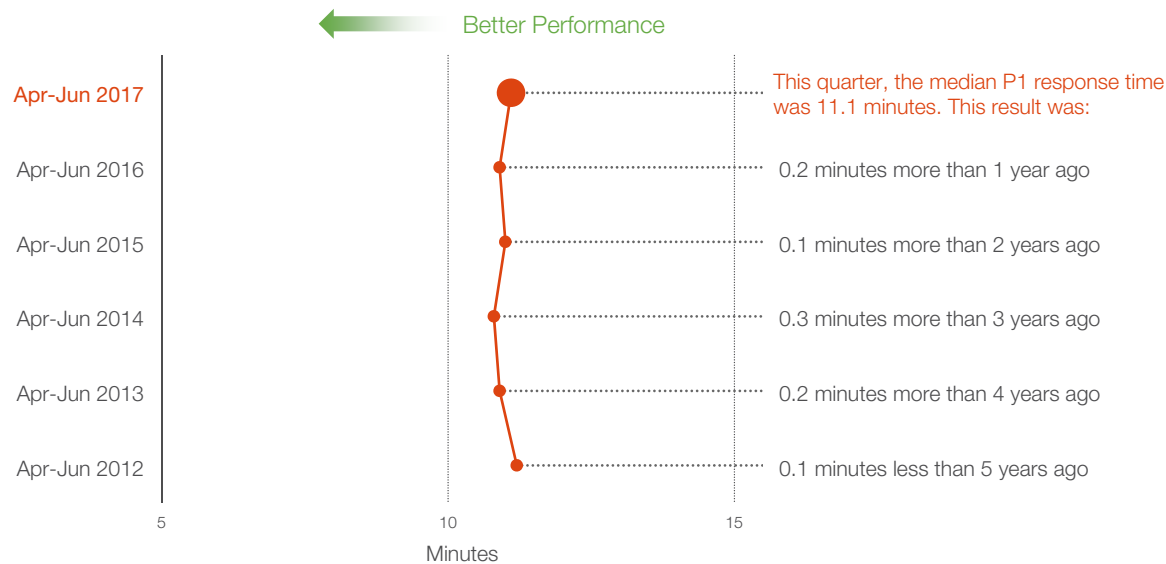
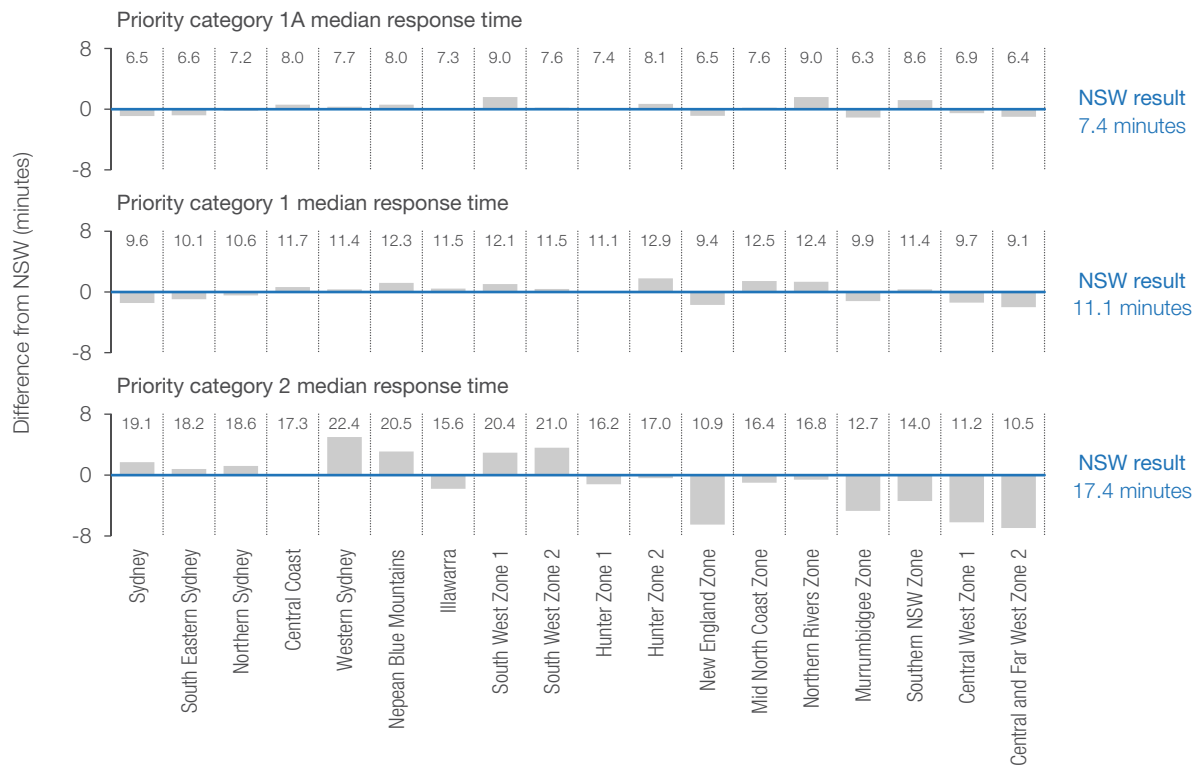


Figure 21 Median ambulance response time, by priority category, April 2012 to June 2017



# Admitted patients

In the April to June 2017 quarter, there were 492,368 admitted patient episodes (up 12,202; 2.5%) and 2.2 million bed days (up 535,299; 31.6%) compared with the same quarter last year. The majority of admitted patient episodes (94.3%) and bed days (61.9%) were for acute care (Figure 22).

Bed days are calculated for all admitted patient episodes completed during the period. Total bed days for an overnight episode refers to 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.

The 1,380,745 acute bed days in the April to June 2017 quarter represent a 1.2% decrease from the number of bed days in the same quarter in 2016 and a 0.6% decrease from the April to June quarter in 2012 (Figure 23).

The average length of stay for all acute episodes was 3.0 days this quarter and 4.7 days for all acute overnight episodes (compared with the same quarter last year, unchanged and down 0.1 days, respectively). The average length of stay for all acute episodes in the April to June 2017 quarter has remained stable since 2012.

There were hospital-level differences in the average length of stay for acute overnight episodes between and within hospital peer groups. Greatest variation was among smaller district hospitals (C2) where

there was an 6.8 day difference between the highest and lowest average length of stay (Figure 24).

Length of stay measures are not adjusted for differences in case mix and variation across hospitals should be interpreted with care.

## Hospitals with >10% change in admitted patient episodes, compared with same quarter last year

Hospital	Peer group	Admitted patient episodes	Change
Milton and Ulladulla	C2	856	49.1
Cowra	C2	956	23.2
Deniliquin	C2	873	15.8
Macksville	C2	1,029	14.2
Bateman's Bay	C2	1,487	13.8
Moree	C2	1,110	12.1
Dubbo	B	6,245	10.9
Broken Hill	C1	2,151	10.1
RPAH Institute of Rheumatology & Orthopaedics	A1	446	-15.4
Narrabri	C2	452	-16.0
Casino	C2	646	-16.2
Inverell	C2	1,240	-18.3
Ballina	C2	2,092	-19.4
Gunnedah	C2	400	-19.5

Figure 22 Total number of admitted patient episodes and hospital bed days, by episode type, April to June 2017

		This quarter	Same quarter last year	Change since one year ago
Total bed days		2,228,217	1,692,918	31.6%
Acute	62.0%	1,380,745	1,397,404	-1.2%
Non-acute	38.0%	847,472	295,514	186.8%

Note: The 186.8% increase in the number of bed days for non-acute care this quarter may reflect changes in the designation of mental health care stay types, creating an artefactual spike in results.

Figure 23 Number of acute care bed days, April to June quarters, 2012 to 2017

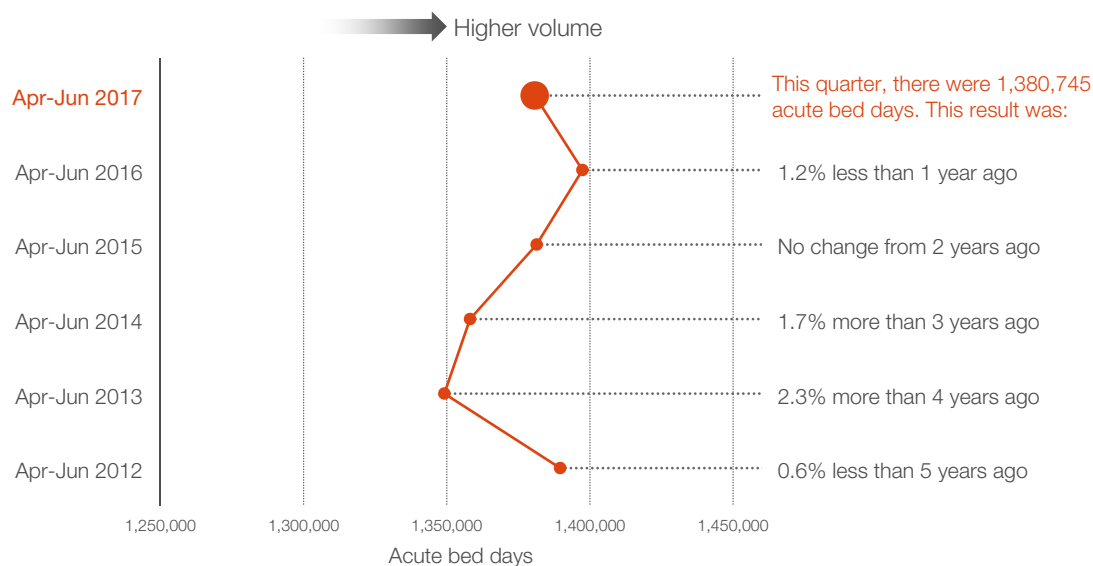
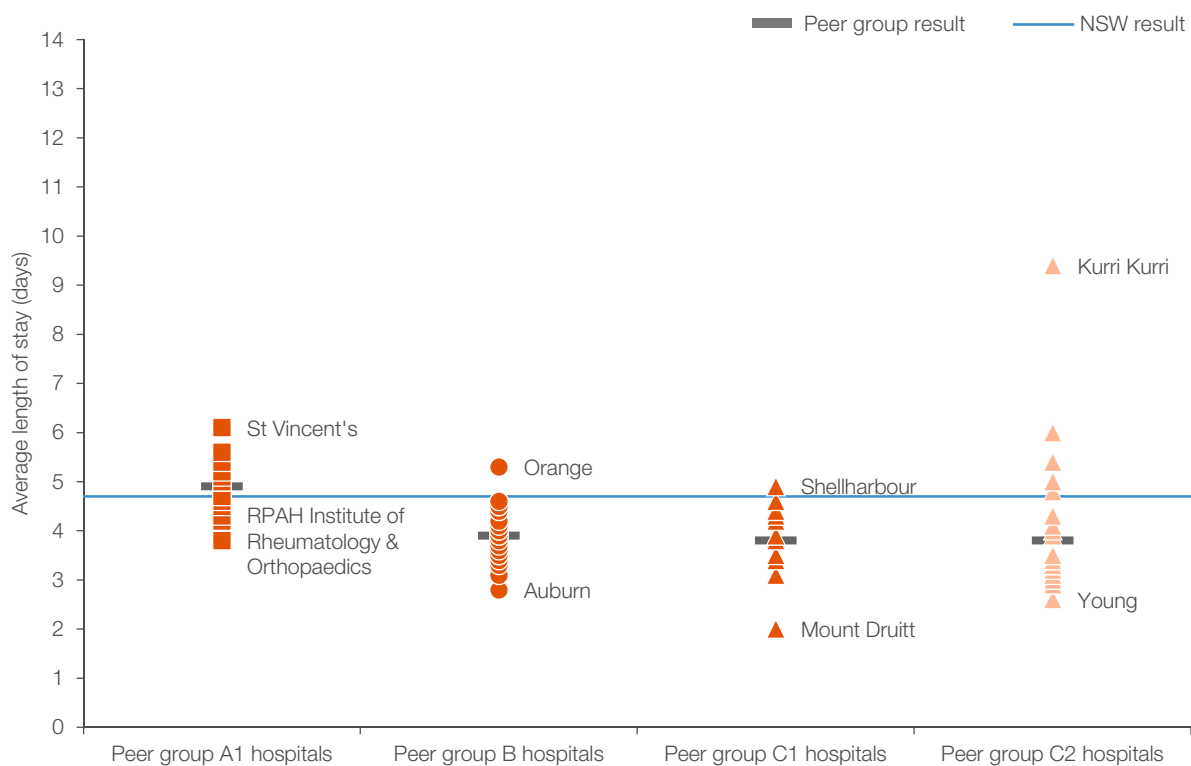


Figure 24 Average length of stay for acute overnight admitted patient episodes, by peer group, April to June 2017



# Elective surgery

In the April to June 2017 quarter, a total of 57,881 elective surgical procedures were performed; 1.1% fewer than the same quarter last year and 10.2% more than in 2012 (Figures 25 and 26).





There are three main categories for elective surgery: urgent, semi-urgent and non-urgent. The urgency category is determined by the surgeon and is based on clinical criteria. Just over half (53.2%) of all procedures performed this quarter were either urgent or semi-urgent.

There are clear seasonal fluctuations in the number of elective surgical procedures performed. The number of semi-urgent and non-urgent procedures has increased over the past five years while the number of urgent and staged procedures has decreased (Figure 27).

## Hospitals with 10% change in elective surgical procedures, compared with same quarter last year

Hospital	Peer group	Procedures	Percentage point change
Macksville	C2	284	86.8
Armidale	C1	314	27.1
Deniliquin	C2	62	19.2
Wyong	B	1,074	16.4
Broken Hill	C1	313	16.4
Manning	B	627	-10.4
Queanbeyan	C2	259	-11.6
Shellharbour	C1	731	-12.9
Lithgow	C2	159	-13.1
Fairfield	B	812	-13.2

Figure 25 Elective surgical procedures performed, by urgency category, April to June 2017

		This quarter	Same quarter last year	Change since one year ago
Total number of elective surgical procedures		57,881	58,537	-1.1%
Urgent	 21.1%	12,202	12,265	-0.5%
Semi-urgent	 32.1%	18,560	18,526	0.2%
Non-urgent	 42.0%	24,296	25,042	-3.0%
Staged*	 4.9%	2,823	2,704	4.4%

\* Staged surgery is surgery that, for medical reasons, cannot take place before a certain amount of time has elapsed (includes all non-urgent cystoscopy patients).

Figure 26 Elective surgical procedures performed, April to June quarters, 2012 to 2017

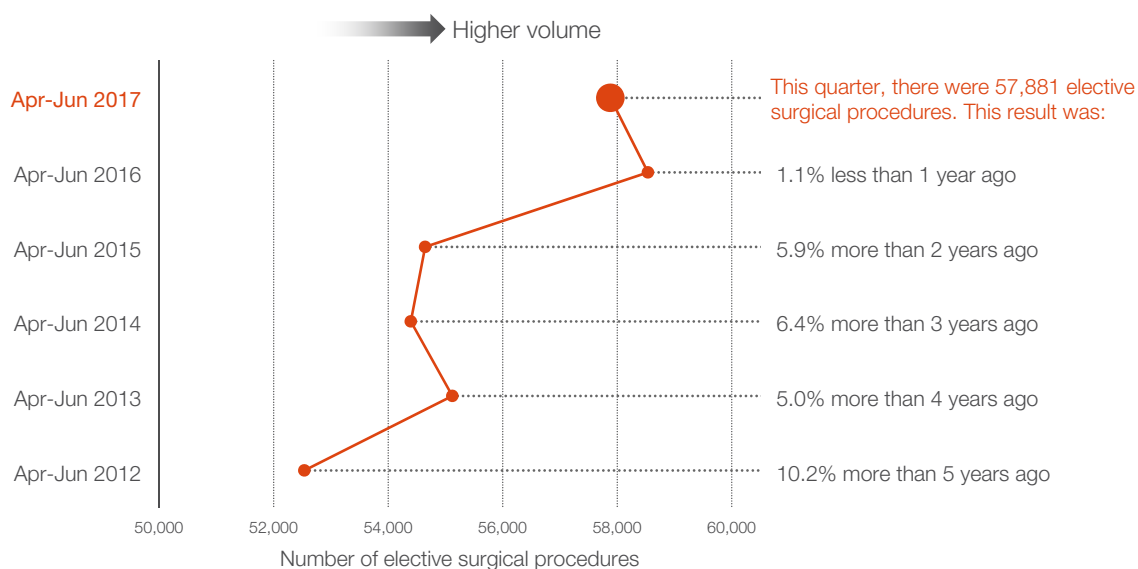
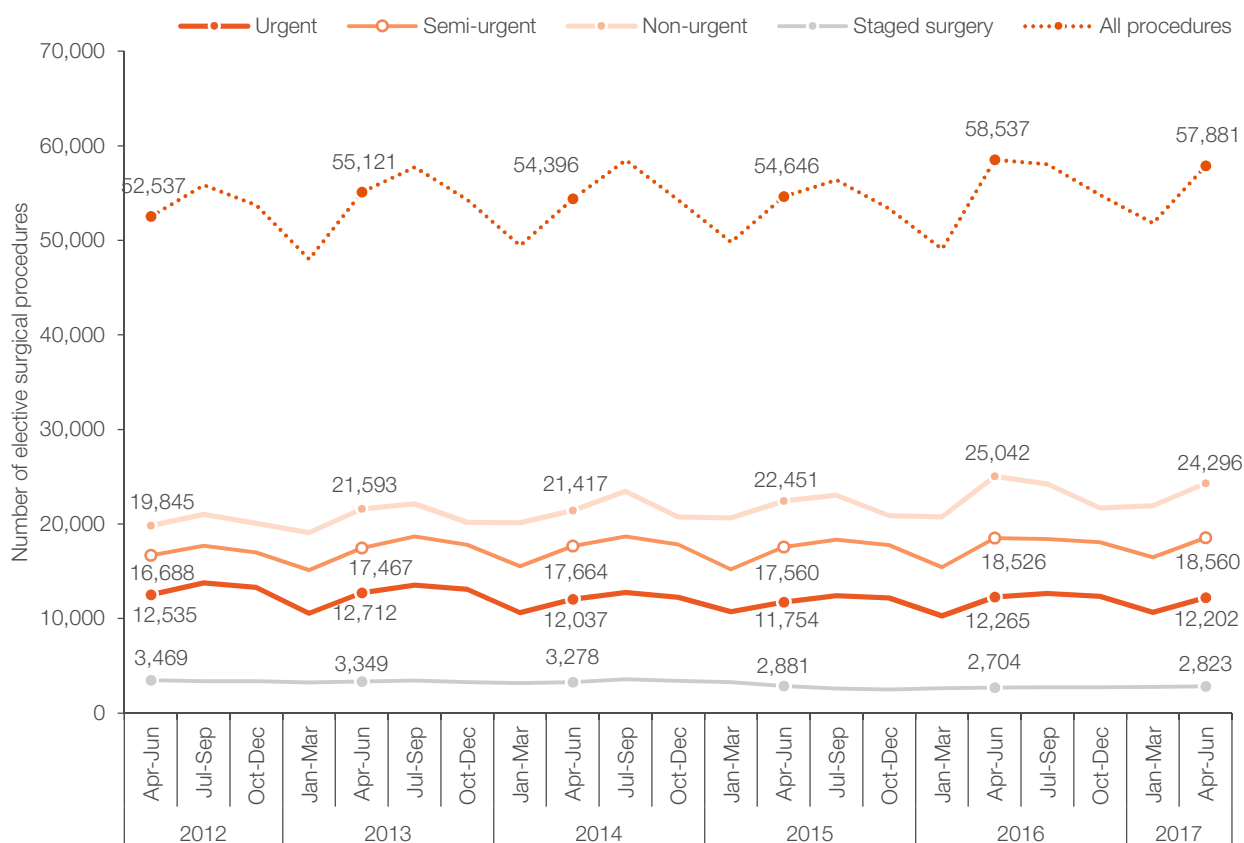


Figure 27 Elective surgical procedures performed, by urgency category, April 2012 to June 2017



# Waiting time for elective surgery

Timeliness of elective surgery is measured by median and 90th percentile waiting times, and the percentage of procedures performed within clinically recommended timeframes.

Results for the April to June 2017 quarter show that in comparison to the same quarter last year, median waiting times were unchanged for urgent surgery, increased by one day for semi-urgent surgery, and decreased by 7 days for non-urgent surgery. (Figure 28).

The maximum times by which surgery should be performed are: 30 days for urgent, 90 days for semi-urgent, and 365 days for non-urgent procedures. Most procedures (97.0%) were performed within recommended timeframes this quarter (Figure 29).

The percentage of elective surgical procedures performed on time in the April to June quarter was 5.1 percentage points higher in 2017 than in 2012 (Figure 29). Median waiting times decreased between 2012 and 2017 for semi-urgent and non-urgent surgeries (Figure 30).

Figure 28 Percentage of elective surgical procedures performed on time and waiting times, by urgency category, April to June 2017











		This quarter	Same quarter last year	Percentage point change since one year ago
All procedures		97.0%	97.0%	unchanged
Urgent	<b>Recommended: 30 days</b> 	99.7%	99.7%	unchanged
Semi-urgent	<b>Recommended: 90 days</b> 	97.4%	97.3%	0.1
Non-urgent	<b>Recommended: 365 days</b> 	95.4%	95.5%	-0.1
		This quarter	Same quarter last year	Change since one year ago
Urgent: 12,202 patients				
Median time to receive surgery		11 days	11 days	0 days
90th percentile time to receive surgery		26 days	27 days	-1 day
Semi-urgent: 18,560 patients				
Median time to receive surgery		44 days	45 days	-1 day
90th percentile time to receive surgery		83 days	83 days	0 days
Non-urgent: 24,296 patients				
Median time to receive surgery		225 days	232 days	-7 days
90th percentile time to receive surgery		357 days	356 days	1 day

Figure 29      Percentage of elective surgical procedures performed on time, April to June quarters, 2012 to 2017

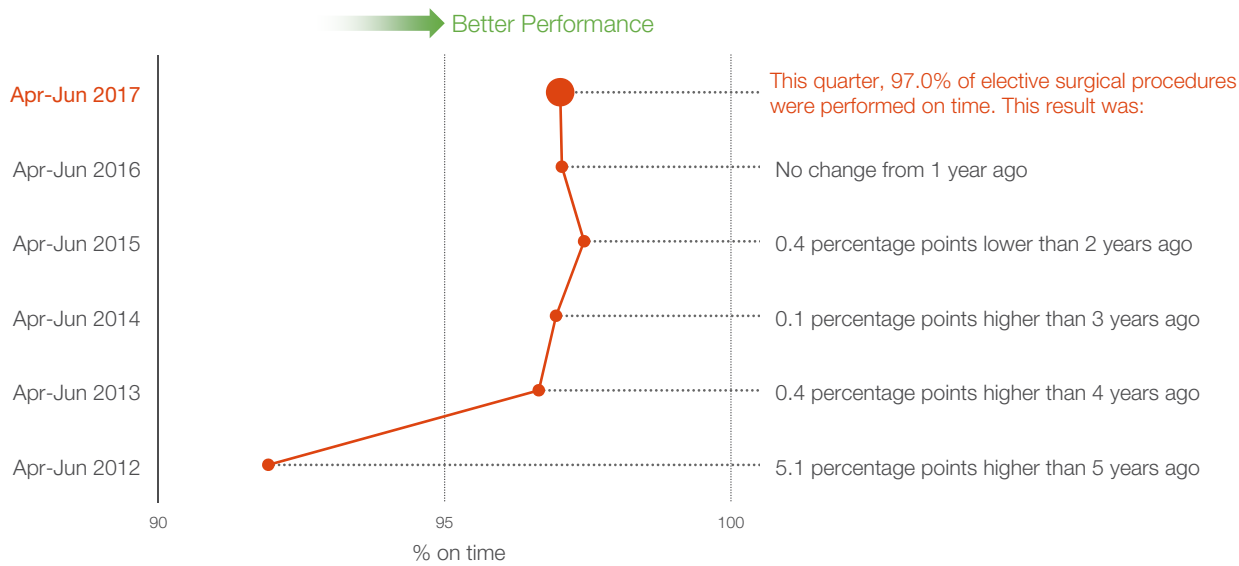
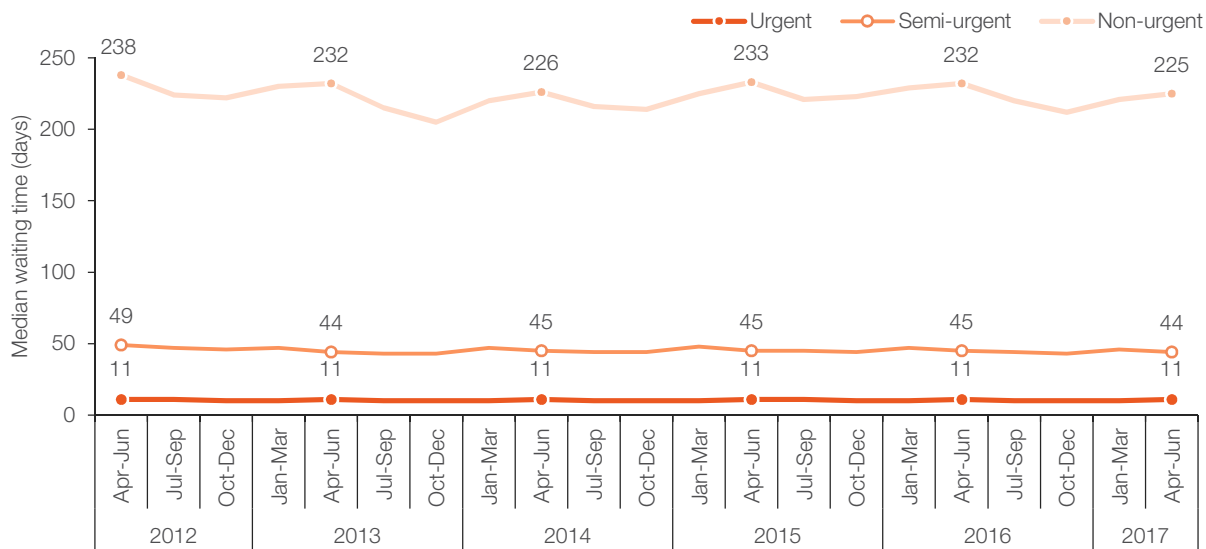


Figure 30      Median waiting times for elective surgery, by urgency category, April to June 2017



# Acknowledgements

The Bureau of Health Information (BHI) is the main source of information for the people of NSW about the performance of their public healthcare system. A board-governed organisation, BHI is led by Chairperson Professor Carol Pollock and Acting Chief Executive Dr Kim Sutherland.

We would like to thank our expert advisors, colleagues at the Ministry of Health, NSW Ambulance and reviewers who contributed to the report.

We also acknowledge BHI's dedicated teams of analytics, research, corporate, design and communications professionals whose expertise made this report possible.

## External Advisors and Reviewers

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Australasian College for Emergency Medicine

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# Healthcare Quarterly

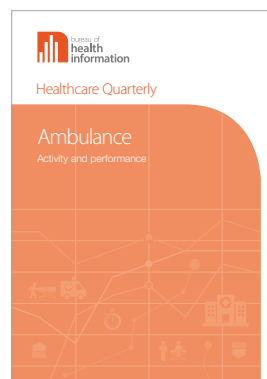
*Healthcare Quarterly* is a series of regular reports that describes the number and types of services provided to the people of NSW and the timeliness with which they are provided.

The reports feature key indicators of activity and performance across ambulance and public hospital services in NSW.

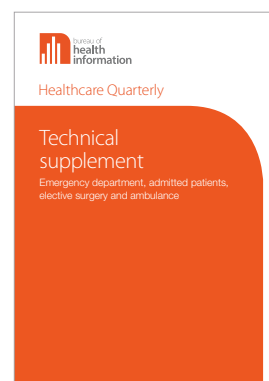
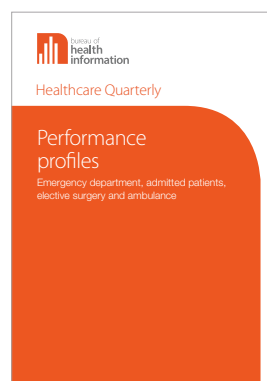


**Every day around 25,000 people receive care in the NSW public hospital system and around 1,800 are transported to hospital by ambulance.**

*Healthcare Quarterly* is published alongside three standalone modules that provide more detailed information about emergency department care, admitted patients and elective surgery, and ambulance services.



Additional information on local performance is available in our hospital profiles or from BHI's interactive portal Healthcare Observer, at [bhi.nsw.gov.au/healthcare\\_observer](http://bhi.nsw.gov.au/healthcare_observer)



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## 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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