bureau of
**health
information**

Healthcare Quarterly

Activity and performance

Emergency department, ambulance, admitted patients and elective surgery

January to March 2018

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.

Table of contents

10 key findings

1   **The number of emergency department attendances was 714,101 in the January to March 2018 quarter, up 1.6% compared with the same quarter last year.** The number of attendances was higher in 51 out of 78 emergency departments in NSW public hospitals.

2   **The percentage of patients whose treatment started within clinically recommend timeframes in the emergency department was 76.2%, up 0.5 percentage points compared with the same quarter last year.** The percentage of patients starting treatment on time was higher across all triage categories, with the largest change seen for emergency (triage category 2) patients – up 2.2 percentage points to 68.5%.

3   **Three-quarters of patients (74.4%) spent four hours or less in the emergency department, up 0.6 percentage points compared with the same quarter last year.** The median time spent in the emergency department in NSW public hospitals was up by two minutes to two hours and 42 minutes.

4   **There were 154,876 arrivals by ambulance to emergency departments, up 3.4% compared with the same quarter last year.** A higher percentage of patients had their care transferred from the ambulance to the emergency department within 30 minutes – up by 0.6 percentage points to 92.1%.

5   **The number of ambulance responses, where a vehicle was dispatched, was relatively stable compared with the same quarter last year at 279,390 responses, up 0.8%.** Cases classified as emergencies (priority 1) were up 1.6% to 123,150 responses.

6   **The percentage of emergency (priority 1) cases reached by paramedics within 15 minutes was 62.6% – down 0.6 percentage points compared with the same quarter last year.** Of the urgent (priority 2) cases, 73.2% were reached within 30 minutes, down 2.4 percentage points compared with the same quarter last year.

7   **There were 5,374 life-threatening (priority 1A) cases in the January to March 2018 quarter, 233 more cases than the same quarter last year.** The percentage of life-threatening cases reached within 10 minutes was 73.1% – 1.2 percentage points higher than the same quarter last year.

8   **There were 458,797 admitted patient episodes in the January to March 2018 quarter.** Of these episodes, 94.0% were acute, 3.5% were non-acute and 2.5% involved treatment for mental health.

9   **The number of elective surgical procedures was higher in the January to March 2018 quarter, with 52,717 procedures performed – up 1.7% compared with the same quarter last year.** The number of semi-urgent procedures saw the largest change, up 4.0% to 17,156 surgeries.

10   **The percentage of elective surgical procedures performed within recommended timeframes was down 0.6 percentage points to 96.5%.** The median wait time was unchanged for urgent procedures (10 days) but longer for semi-urgent surgeries (47 days; up one day) and non-urgent surgeries (226 days; up five days).

Healthcare Quarterly – Activity

Emergency department activity	January to March 2018	January to March 2017	Difference	% change
All arrivals at NSW EDs by ambulance	154,876	149,729	5,147	3.4%
All ED presentations	714,101	703,060	11,041	1.6%
Emergency presentations	688,837	676,380	12,457	1.8%
Emergency presentations by triage category				
Triage category — T1: Resuscitation	4,609	4,326	283	6.5%
Triage category — T2: Emergency	87,346	81,676	5,670	6.9%
Triage category — T3: Urgent	235,072	227,339	7,733	3.4%
Triage category — T4: Semi-urgent	287,988	286,698	1,290	<1%
Triage category — T5: Non-urgent	73,822	76,341	-2,519	-3.3%
Admissions to hospital from NSW EDs	181,999	177,911	4,088	2.3%

Ambulance activity	January to March 2018	January to March 2017	Difference	% change
Calls	284,412	281,668	2,744	1.0%
Responses	279,390	277,218	2,172	0.8%
Priority category — P1: Emergency	123,150	121,162	1,988	1.6%
Priority category — P1A: Highest priority	5,374	5,141	233	4.5%
Priority category — P2: Urgent	134,018	122,958	11,060	9.0%
Priority category — P3: Time-critical	14,010	23,769	-9,759	-41.1%[†]
Priority category — P4–9: Non-emergency	8,212	9,329	-1,117	-12.0%
Incidents	222,065	220,174	1,891	0.9%
Patient transports	167,896	163,265	4,631	2.8%

Admitted patient activity	January to March 2018	January to March 2017	Difference	% change
All admitted patient episodes	458,797	*	*	*
All acute episodes	431,394	*	*	*
Overnight episodes	232,279	*	*	*
Same-day episodes	199,115	*	*	*
Non-acute episodes	15,984	*	*	*
Mental health episodes	11,419	*	*	*
Average length of stay (days) — All acute episodes	3.5	*	*	
Average length of stay (days) — Acute overnight episodes	2.8	*	*	
Average length of stay (days) — Non-acute episodes	12.3	*	*	
Average length of stay (days) — Mental health episodes	15.8	*	*	
Hospital bed days — All bed days	1,586,098	*	*	*
Hospital bed days — Acute bed days	1,208,534	*	*	*
Hospital bed days — Non-acute bed days	196,692	*	*	*
Hospital bed days — Mental health bed days	180,872	*	*	*
Babies born in NSW public hospitals	18,207	18,041	166	0.9%

Elective surgery activity	January to March 2018	January to March 2017	Difference	% change
Elective surgical procedures performed	52,717	51,831	886	1.7%
Urgency category — Urgent surgery	10,731	10,646	85	0.8%
Urgency category — Semi-urgent surgery	17,156	16,492	664	4.0%
Urgency category — Non-urgent surgery	22,056	21,916	140	0.6%
Patients on waiting list ready for elective surgery at end of quarter	77,575	74,745	2,830	3.8%
Urgency category — Urgent surgery	1,812	2,003	-191	-9.5%
Urgency category — Semi-urgent surgery	12,535	11,764	771	6.6%
Urgency category — Non-urgent surgery	63,228	60,978	2,250	3.7%

Notes: Ambulance activity data do not include outage estimates. Data drawn on: 17 April 2018 (Emergency department), 13 April 2018 (Ambulance), 17 April 2018 (Admitted patients), 13 April 2018 (Elective surgery).

† In September 2017, a change in protocol was introduced when triaging patients for inter-facility transport. Some of these responses remain as priority 3 while others require a higher priority response.

* This number is not reported due to a policy change in the definition of patient stay types. A new mental health care stay type has been introduced that comprises patients who were previously included in the acute and non-acute stay types. Accordingly, it is not possible to make fair comparisons across these time periods.

Healthcare Quarterly – Performance

Emergency department performance			January to March 2018	January to March 2017	Difference
Percentage of patients transferred from ambulance to ED within 30 minutes			92.1%	91.5%	+0.6 percentage points
Time to treatment by triage category	T2: Emergency	Median	8 mins	8 mins	unchanged
		90th percentile	23 mins	26 mins	-3 mins
	T3: Urgent	Median	20 mins	20 mins	unchanged
		90th percentile	65 mins	68 mins	-3 mins
	T4: Semi-urgent	Median	25 mins	25 mins	unchanged
		90th percentile	98 mins	100 mins	-2 mins
	T5: Non-urgent	Median	22 mins	21 mins	1 mins
		90th percentile	97 mins	101 mins	-4 mins
Percentage of patients whose treatment started on time	All patients		76.2%	75.7%	+0.5 percentage points
	T2: Emergency (Recommended: 80% in 10 minutes)		68.5%	66.3%	+2.2 percentage points
	T3: Urgent (Recommended: 75% in 30 minutes)		71.2%	70.6%	+0.6 percentage points
	T4: Semi-urgent (Recommended: 70% in 60 minutes)		78.7%	78.4%	+0.3 percentage points
	T5: Non-urgent (Recommended: 70% in 120 minutes)		93.8%	93.4%	+0.4 percentage points
Median time spent in the ED			2h 42m	2h 40m	2 mins
90th percentile time spent in the ED			6h 49m	7h 1m	-12 mins
Percentage of patients who spent four hours or less in the ED			74.4%	73.8%	+ 0.6 percentage points

Ambulance performance		January to March 2018	January to March 2017	Difference
Call to ambulance arrival time				
Percentage of P1 call to ambulance arrival within 15 minutes		62.6%	63.2%	-0.6 percentage points
Percentage of P1 call to ambulance arrival within 30 minutes		94.6%	94.7%	-0.1 percentage points
Percentage of P2 call to ambulance arrival within 30 minutes		73.2%	75.6%	-2.4 percentage points
Percentage of P2 call to ambulance arrival within 60 minutes		94.4%	95.0%	-0.6 percentage points
Mobilisation time				
P1: Emergency	Median	2.4m	2.4m	unchanged
	Percentage P1 within 3 minutes	63.1%	62.5%	0.6 percentage points
Response time				
Percentage of P1A responses within 10 minutes		73.1%	71.9%	1.2 percentage points
Number of days median priority 1A response time > 10 minutes		1 day	3 days	-2 days
Turnaround time				
P1: Emergency	Median	36.6m	35.9m	0.7m
	90th percentile	59.2m	58.5m	0.7m
	Percentage within 45 minutes	70.3%	71.7%	-1.4 percentage points
P2: Urgent	Median	34.5m	33.2m	1.3m
	90th percentile	56.1m	55.1m	1.0m
	Percentage within 45 minutes	75.1%	77.1%	-2.0 percentage points

| Elective surgery performance		January to March 2018	January to March 2017	Difference
Median waiting time (days)	Urgent surgery	10 days	10 days	unchanged
	Semi-urgent surgery	47 days	46 days	+1 days
	Non-urgent surgery	226 days	221 days	+5 days
Elective surgeries performed on time	All surgeries	96.5%	97.1%	-0.6 percentage points
	Urgent surgery	99.6%	99.7%	-0.1 percentage points
	Semi-urgent surgery	95.9%	96.5%	-0.6 percentage points
	Non-urgent surgery	95.5%	96.3%	-0.8 percentage points

Notes: Data drawn on: 17 April 2018 (Emergency department), 13 April 2018 (Ambulance), 17 April 2018 (Admitted patients), 13 April 2018 (Elective surgery).

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.
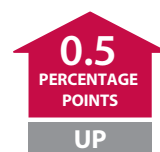
In the January to March 2018 quarter...
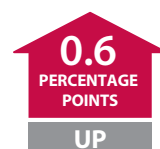
Emergency department

There were **714,101** emergency department presentations

UP 1.6%

11,041 more than same quarter last year
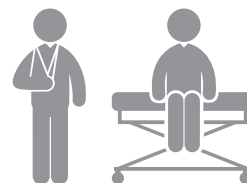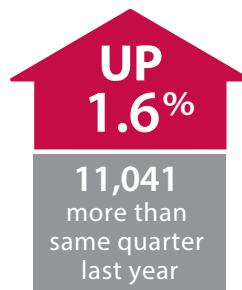
76.2% of patients' treatment **started on time**

0.5 PERCENTAGE POINTS

UP

74.4% of patients spent **four hours or less** in the emergency department

0.6 PERCENTAGE POINTS

UP

Ambulance

There were **279,390** ambulance responses

UP 0.8%

2,172 more than same quarter last year
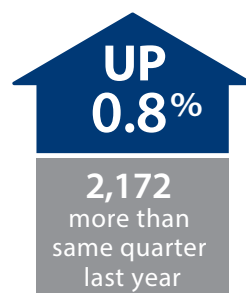
94.6% of priority 1 cases had a call to ambulance arrival time of 30 minutes or less
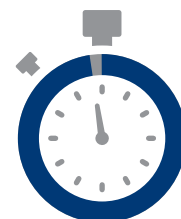
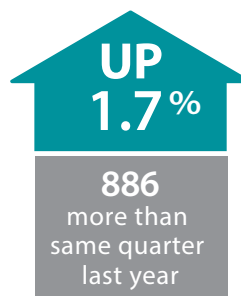Note: All comparisons are in reference to the same quarter last year.

Admitted patients

There were
458,797
admitted patient episodes of care

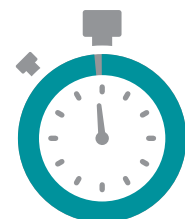# 53.8%
of admitted patient episodes were for overnight stays

Elective surgery

There were **52,717** elective surgical procedures performed

UP 1.7%

886 more than same quarter last year

Almost all (96.5%) were performed within recommended time frames

Median waiting times were longer for semi- and non-urgent surgery compared with same quarter last year

10, 47 and 226 days waiting for urgent, semi-urgent and non-urgent surgery, 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 17 April 2018

- **NSW Ambulance Computer Aided Dispatch (CAD) system** – provided on 13 April 2018

- **Admitted Patient Data Collection (APDC)** – data drawn from the HIE on 17 April 2018

- **Waiting List Collection Online System (WLCOS)** – data drawn on 13 April 2018

Hospital data are transmitted by the state's hospitals to centralised data warehouses administered by the NSW Ministry of Health and are extracted by the Bureau of Health Information (BHI) from the NSW Health Information Exchange. Ambulance data are provided directly to BHI by the Ambulance Service of NSW and resultant information is calculated independently by BHI.

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; 'urgent', 'semi-urgent' and 'non-urgent' for elective surgeries; 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 9.4. 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**

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

Emergency department (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 are 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 fewer 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 emergency departments (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 January to March 2018 quarter, there were 714,101 visits to NSW public hospital EDs, up 1.6% compared with the same quarter last year. Most presentations (96.5%) were classified as emergency presentations (Figure 1). The remaining 25,264 patients presented to ED for non-emergency reasons such as a planned return visit.

With the exception of triage category 5, the number of emergency presentations was higher in the January to March 2018 quarter. Notably, triage categories 2 and 3 were up by 5,670 (6.9%) and 7,733 (3.4%) presentations, respectively (Figure 1).

Figure 1   Patient presentations and ambulance arrivals at NSW emergency departments, January to March 2018

		This quarter	Same quarter last year	Change since one year ago
All ED presentations		714,101	703,060	1.6%
Emergency presentations by triage category		688,837	676,380	1.8%
Triage 1: Resuscitation	0.7%	4,609	4,326	6.5%
Triage 2: Emergency	12.7%	87,346	81,676	6.9%
Triage 3: Urgent	34.1%	235,072	227,339	3.4%
Triage 4: Semi-urgent	41.8%	287,988	286,698	0.4%
Triage 5: Non-urgent	10.7%	73,822	76,341	-3.3%
Ambulance arrivals		154,876	149,729	3.4%

In the January to March 2018 quarter, 44 small district hospitals were included in Healthcare Quarterly after being recently added to the Emergency Department Data Collection. These EDs contributed 19,562 attendances to the NSW total. Further information on inclusions and the implications for trend analyses is available in the Technical Supplement.

Compared with the same quarter last year, the number of ED attendances was higher this quarter in 51 out of 78 public hospital EDs in NSW. Of these, four were up by more than 10%: Cooma (16.3%), Moree (15.9%), Queanbeyan (11.7%) and Batemans Bay (10.3%).

Hospitals identified in Figure 2 had more than 5,000 total 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 the number of ED attendances, compared with same quarter last year

Hospital	Peer group	ED attendances	Change (%)
Cooma*	C2	2,734	16.3
Moree	C2	2,281	15.9
Queanbeyan	C2	5,280	11.7
Batemans Bay	C2	4,710	10.3
Young	C2	1,832	-24.0

* This hospital was included for the first time in the July to September 2017 issue of Healthcare Quarterly.

Figure 2   Change in number of total emergency department presentations compared with the same quarter last year, hospitals by peer group, January to March 2018
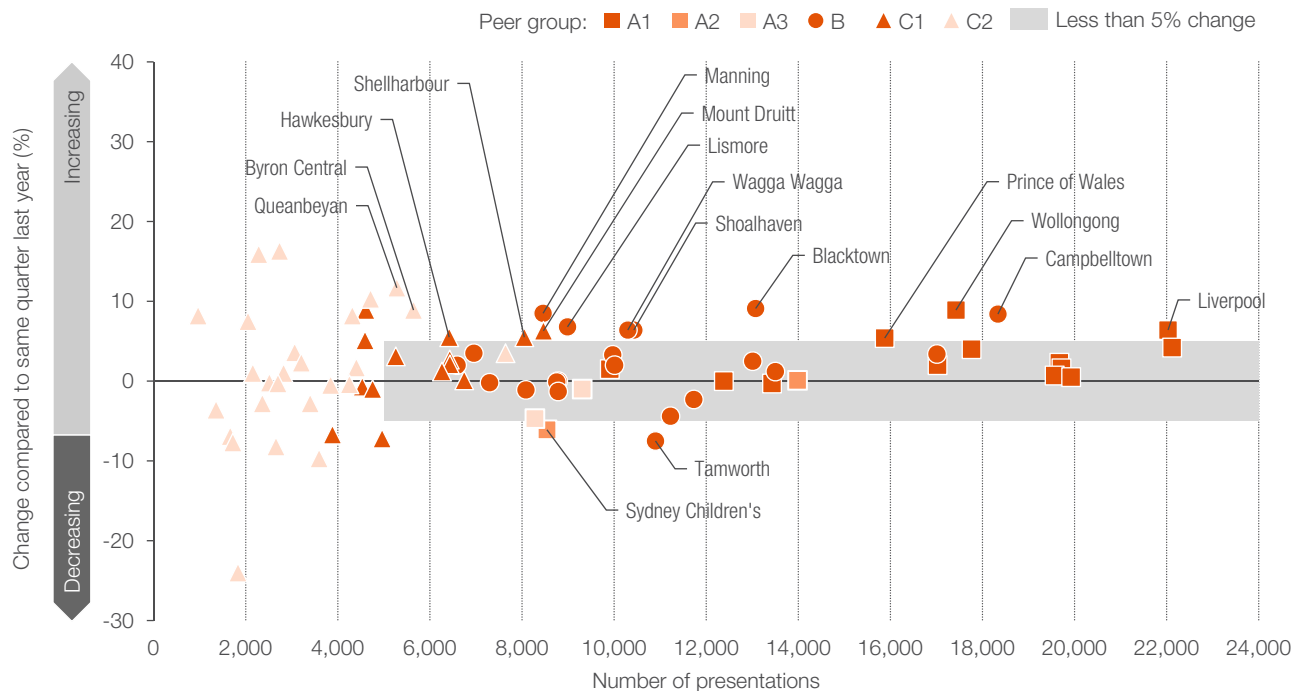
Time to treatment in the emergency department

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

Higher percentages of patients starting treatment within recommended timeframes were recorded across all triage categories. Triage category 2 saw the largest rise, up 2.2 percentage points to 68.5% (Figure 3).

The median time to treatment was unchanged for triage categories 2, 3 and 4. The 90th percentile time to starting treatment was down across all triage categories.

Figure 3   Percentage of patients whose treatment started on time, by triage category, January to March 2018

	This quarter	Same quarter last year	Percentage point change since one year ago
All emergency presentations	76.2%	75.7%	0.5
Triage category 2	Recommended: 80% in 10 minutes 68.5%	66.3%	2.2
Triage category 3	Recommended: 75% in 30 minutes 71.2%	70.6%	0.6
Triage category 4	Recommended: 70% in 60 minutes 78.7%	78.4%	0.3
Triage category 5	Recommended: 70% in 120 minutes 93.8%	93.4%	0.4

	This quarter	Same quarter last year	Change since one year ago
Triage 2 Emergency (e.g. chest pain, severe burns): 86,277 patients			
Median time to start treatment	8m	8m	unchanged
90th percentile time to start treatment	23m	26m	-3m
Triage 3 Urgent (e.g. moderate blood loss, dehydration): 229,499 patients			
Median time to start treatment	20m	20m	unchanged
90th percentile time to start treatment	1h 5m	1h 8m	-3m
Triage 4 Semi-urgent (e.g. sprained ankle, earache): 267,882 patients			
Median time to start treatment	25m	25m	unchanged
90th percentile time to start treatment	1h 38m	1h 40m	-2m
Triage 5 Non-urgent (e.g. small cuts or abrasions): 63,766 patients			
Median time to start treatment	22m	21m	1m
90th percentile time to start treatment	1h 37m	1h 41m	-4m

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.

Nine hospitals saw a change of more than 10 percentage points in the percentage of patients whose treatment started on time.

Figure 4 maps hospital results this quarter compared with the same quarter last year. Hospitals labelled are those that had an increase or decrease of more than five percentage points in the percentage 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	Emergency visits treated on time (%)	Percentage point change
Westmead	A1	62.1	26.3
Maclean	C2	84.8	20.5
Mount Druitt	C1	78.1	14.9
Singleton	C2	79.5	13.6
Blacktown	B	65.3	12.3
Broken Hill	C1	78.1	-10.2
Coffs Harbour	B	73.6	-10.7
Nepean	A1	54.4	-11.1
Concord	A1	70.2	-14.5

Figure 4   Percentage of patients whose treatment started on time, and percentage point change compared with same quarter last year, hospitals by peer group, January to March 2018
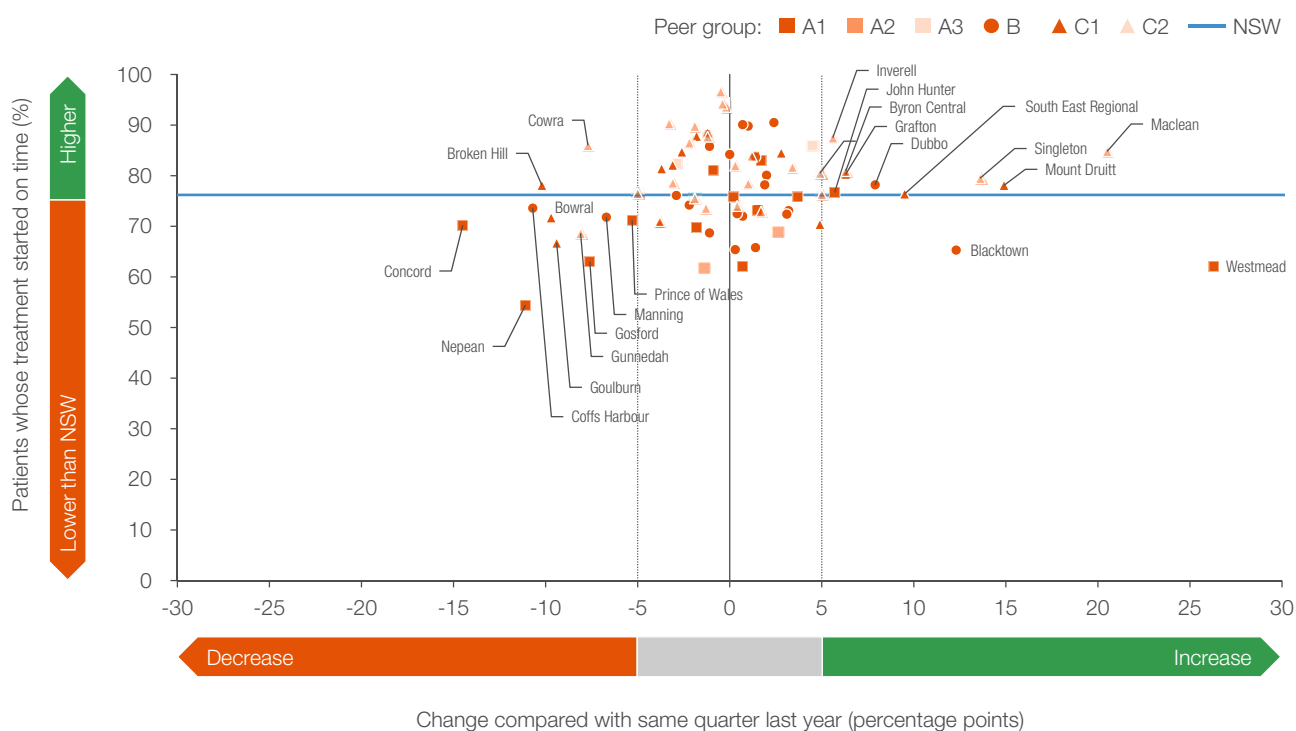
Time spent in the emergency department

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

Almost three quarters (74.4%) of patients spent four hours or less in the ED during the January to March 2018 quarter, 0.6 percentage points higher than the same quarter last year (Figure 5).

Patients who require admission to hospital from the ED usually have more complex health needs than those who are treated and discharged, and therefore often spend longer periods in the ED. Less than half of these patients left within four hours (45.5%).

Patients who left without, or before completing, treatment were the only group to see a drop in the percentage leaving in four hours (88.9%, down 1.6 percentage points) (Figure 5).

Figure 5   Percentage of patients who spent four hours or less in the emergency department, by mode of separation, January to March 2018

|	Number		This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	531,185		74.4%	73.8%	0.6
Treated and discharged	394,239		84.7%	84.3%	0.4
Treated and admitted	82,796		45.5%	44.0%	1.5
Left without, or before completing, treatment	33,640		88.9%	90.5%	-1.6
Transferred to another hospital	7,459		48.1%	47.6%	0.5

Compared with the same quarter last year:

- In 37 hospitals, the percentage of patients who spent four hours or less in the ED was higher. Of these, three hospitals were up by more than 10 percentage points: Blacktown (15.5 percentage points), Westmead (13.5 percentage points) and Mount Druitt (12.9 percentage points).

- In 41 hospitals, there was a drop in the proportion of patients who spent four hours or less in the ED. Of these, seven hospitals were over five percentage points lower (Figure 6).

Hospitals with >10 percentage point change in the percentage of patients who spent four hours or less in the ED, compared with same quarter last year

Hospital	Peer group	Left ED within four hours (%)	Percentage point change
Blacktown	B	69.3	15.5
Westmead	A1	64.6	13.5
Mount Druitt	C1	80.2	12.9

Figure 6

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, January to March 2018
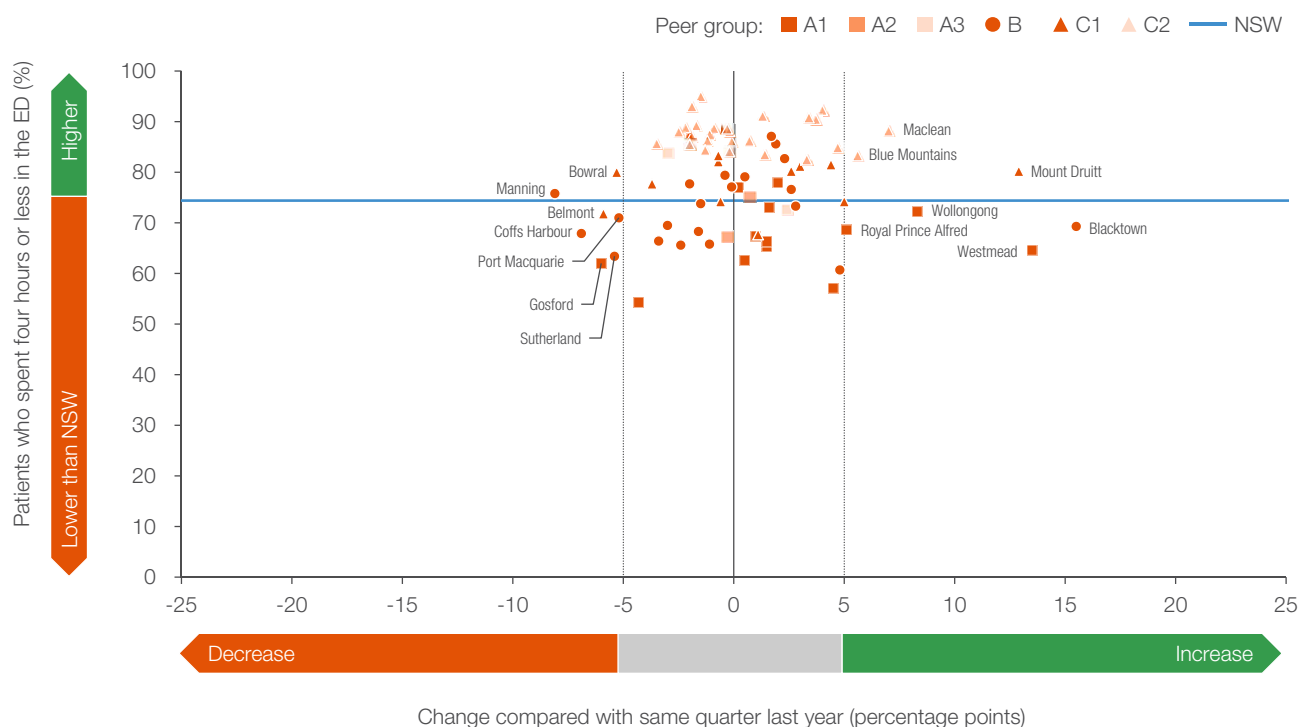
Transfer of care

The median time for patient care to be transferred from ambulance crews to ED staff in the January to March 2018 quarter was 11 minutes; unchanged from the same quarter last year (Figure 7).

In NSW, transfer of care should occur within 30 minutes for at least 90% of patients. This quarter, 92.1% of patients who arrived by ambulance had their care transferred within 30 minutes, 0.6 percentage points higher compared with the same quarter last year (Figure 7).

Compared with the same quarter last year, the number of ambulance arrivals (used to calculate transfer of care time) in the January to March 2018 quarter was up 4.9% to 136,046 arrivals (Figure 7).

Figure 7   Emergency presentations, ambulance arrivals and transfer of care time, January to March 2018

		This quarter	Same quarter last year	Change since one year ago
Emergency presentations		688,837	676,380	1.8%
Ambulance arrivals (number used to calculate transfer of care time)		136,046	129,698	4.9%
ED transfer of care time				
Median time		11m	11m	unchanged
90th percentile time		26m	27m	-1m
Percentage of patients transferred from ambulance to ED within 30 minutes		92.1%	91.5%	+0.6 percentage points

Note: Transfer of care time requires matched records between ambulance service and ED data.

Compared with the same quarter last year, the number of ambulance arrivals in 12 hospitals was up by more than 10%. In four of these hospitals, the change was over 20%: Kurri Kurri (36.7%), Fairfield (26.7%), Moree (20.6%) and Mount Druitt (20.4%).

Figure 8 shows variation between and within hospital peer groups in the percentage of patients who had their care transferred within 30 minutes this quarter. District hospitals in peer groups C1 had the highest percentage of patients transferred within 30 minutes (95.1%).

Hospitals with >10% change in the number of ambulance arrivals, compared with same quarter last year

Hospital	Peer group	Emergency presentations	Change (%)
Kurri Kurri	C2	67	36.7
Fairfield	B	1,775	26.7
Moree*	C2	304	20.6
Mount Druitt	C1	1,063	20.4
Casino	C2	441	15.4
Wagga Wagga	B	2,546	13.7
Shoalhaven	B	2,734	13.5
Auburn	B	1,149	12.4
Forbes	C2	209	12.4
Goulburn	C1	945	12.0
South East Regional	C1	1,037	11.4
Cessnock	C2	519	10.4
Moruya	C2	614	-10.9
Byron Central*	C2	500	-12.9
Deniliquin*	C2	218	-13.8

* Caution - Transfer of care could not be calculated for more than 30% of records in each quarter

Figure 8   Percentage of patients transported to the ED by ambulance whose care was transferred within 30 minutes, by peer group, January to March 2018
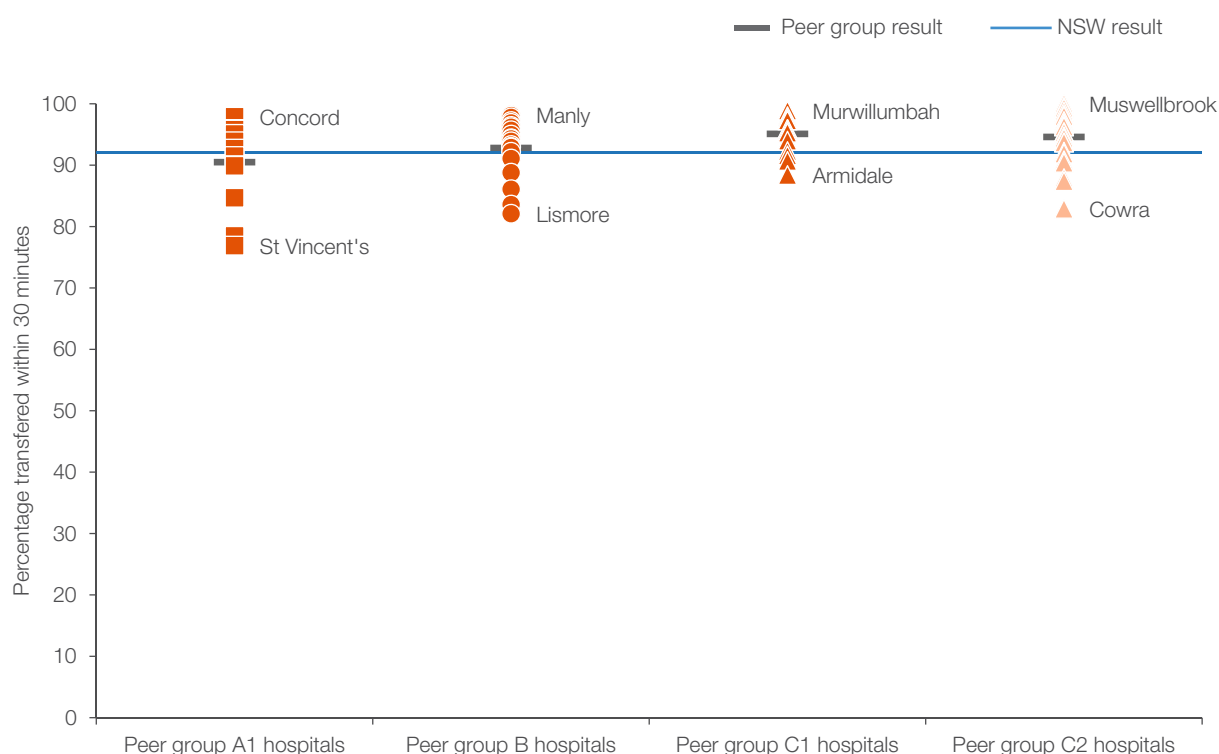
Ambulance activity

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

In the January to March 2018 quarter, there were 284,412 calls and 279,390 ambulance responses; up 1.0% and 0.8% over the same quarter last year, respectively (Figure 9).

Most responses were categorised as emergency (priority 1; 44.1%) or urgent (priority 2; 48.0%). Of priority 1 responses, 5,374 (4.4%) were categorised as highest priority (1A) (Figure 9).

Table 2   Description of ambulance activity counts

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

Figure 9   Ambulance calls, incidents, responses and transports, January to March 2018

		This quarter	Same quarter last year	Change since one year ago
Calls		284,412	281,668	1.0%
Incidents		222,065	220,174	0.9%
All responses		279,390	277,218	0.8%
P1: Emergency	44.1%	123,150	121,162	1.6%
P1A: Highest priority	4.4%	5,374	5,141	4.5%
P2: Urgent	48.0%	134,018	122,958	9.0%
P3: Time-critical	5.0%	14,010	23,769	-41.1%
P4–9: Non-emergency	2.9%	8,212	9,329	-12.0%*
Patient transports		167,896	163,265	2.8%

Note: Ambulance activity data do not include CAD outages and activity estimates. All calls, incidents and responses that have been assigned a priority number are included in the total counts. Most priority numbers correspond to priority codes P1 to P9.

* In September 2017, a change in protocol was introduced when triaging patients for inter-facility transport. Some of these responses remain as priority 3 while others require a higher priority response.

Figure 10 shows the daily number of priority 1, 2 and 3 responses this quarter. The number of priority 1 responses in the January to March 2018 quarter had the widest daily range, varying by 802 responses. The first day of January saw the highest number of emergency (priority 1) and urgent (priority 2) responses this quarter with 1,942 and 1,851 repsonses, respectively.

Figure 10   Daily number of priority category 1, 2 and 3 responses, January to March 2018

■ Weekend ■ Weekday
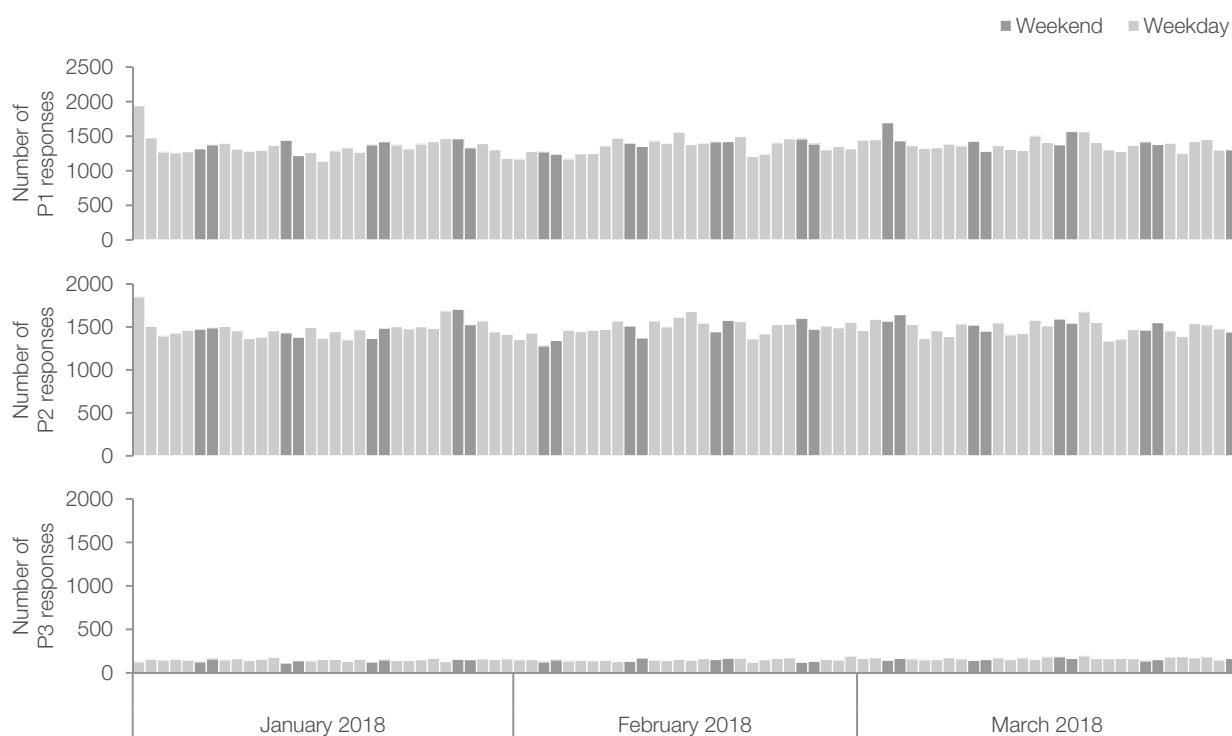
Call to ambulance arrival time

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 an ambulance arrives at the scene.

Compared with the same quarter last year, the percentage of priority 1 call to ambulance arrival times within 15 minutes was lower (62.6%, down 0.6 percentage points). The percentage of priority 2 call to ambulance arrival times within 30 minutes was lower (73.2%, down 2.4 percentage points) (Figure 11).

This quarter, most priority 1 call to ambulance arrival times were within 30 minutes (94.6%). A similar percentage of priority 2 responses had a call to ambulance arrival time within 60 minutes (94.4%) (Figure 11).
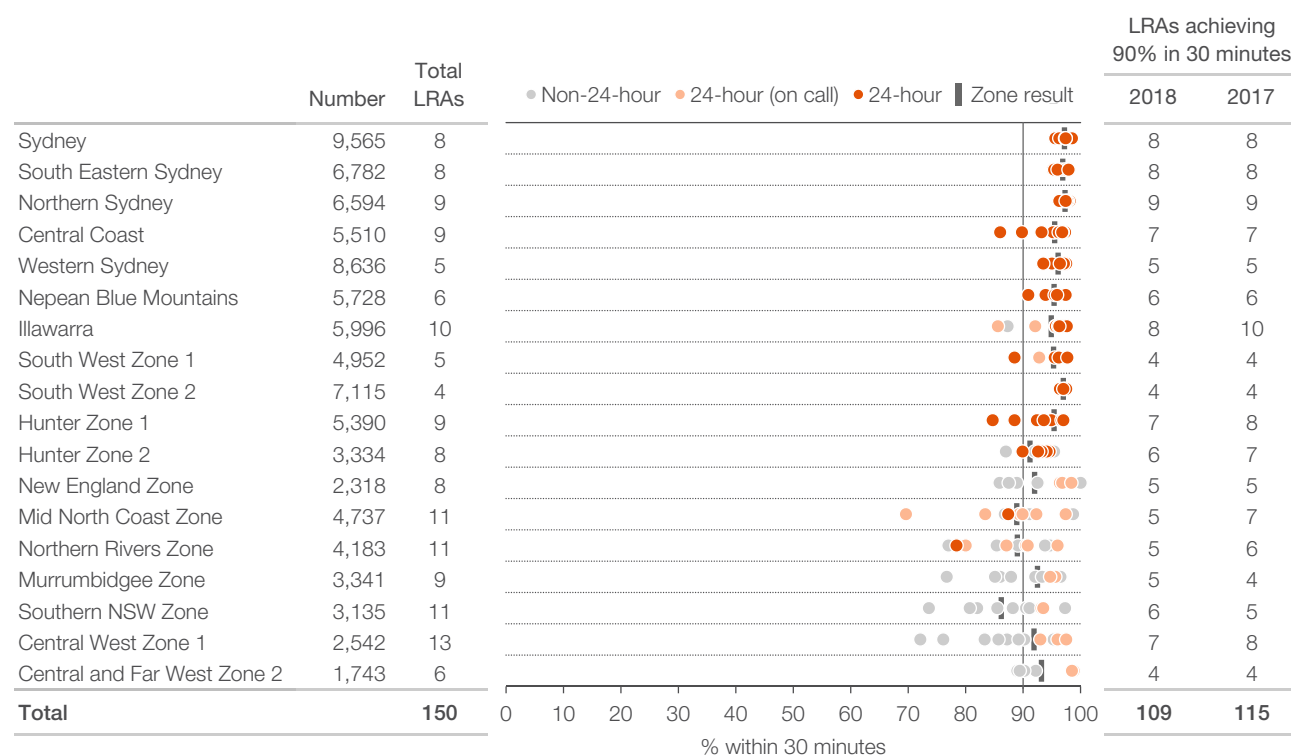
Figure 11   Call to ambulance arrival time, by priority category, January to March 2018

Priority category		This quarter	Same quarter last year	Change since one year ago
P1 responses	91,632			
Within 15 minutes		62.6%	63.2%	-0.6 percentage points
Within 30 minutes		94.6%	94.7%	-0.1 percentage points
Local response areas meeting 90% threshold (arrival within 30 minutes)		109 (of 150)	115 (of 150)	
P2 responses	103,479			
Within 30 minutes		73.2%	75.6%	-2.4 percentage points
Within 60 minutes		94.4%	95.0%	-0.6 percentage points
Local response areas meeting 90% threshold (arrival within 60 minutes)		147 (of 150)	150 (of 150)	

Among local response areas (LRAs), more than seven in 10 (72.7%) met a 90% threshold for the percentage of priority 1 call to ambulance arrival times within 30 minutes. This was a lower proportion than the same quarter last year (76.7%) (Figure 12).

For priority 2 responses, nearly all LRAs (98.0%) met a 90% threshold for the percentage of call to ambulance arrival times within 60 minutes [data not shown].

Figure 12   Percentage of priority category 1 responses with a call to ambulance arrival time within 30 minutes, by zone and local response area type, January to March 2018

	Number	Total LRAs	● Non-24-hour ● 24-hour (on call) ● 24-hour ▮ Zone result	LRAs achieving 90% in 30 minutes	
				2018	2017
Sydney	9,565	8		8	8
South Eastern Sydney	6,782	8		8	8
Northern Sydney	6,594	9		9	9
Central Coast	5,510	9		7	7
Western Sydney	8,636	5		5	5
Nepean Blue Mountains	5,728	6		6	6
Illawarra	5,996	10		8	10
South West Zone 1	4,952	5		4	4
South West Zone 2	7,115	4		4	4
Hunter Zone 1	5,390	9		7	8
Hunter Zone 2	3,334	8		6	7
New England Zone	2,318	8		5	5
Mid North Coast Zone	4,737	11		5	7
Northern Rivers Zone	4,183	11		5	6
Murrumbidgee Zone	3,341	9		5	4
Southern NSW Zone	3,135	11		6	5
Central West Zone 1	2,542	13		7	8
Central and Far West Zone 2	1,743	6		4	4
Total		150	0 10 20 30 40 50 60 70 80 90 100	109	115

% within 30 minutes

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 January to March 2018 quarter, median response times were 11.1 minutes for priority 1, 7.4 minutes for priority 1A and 18.2 minutes for priority 2 (Figure 13).

In NSW, the benchmark for the median priority 1A response time is 10 minutes. The median response time exceeded 10 minutes on one day during the January to March 2018 quarter; down by two days compared with the same quarter last year [data not shown].

There has been little change in median priority 1 and 1A response times since 2013 (Figure 13). Median priority 2 response times showed more variation. The January to March 2018 quarter saw the longest median priority 2 response time for a January to March quarter since 2014 (18.2 minutes; up 1.6 minutes) (Figure 13).

Figure 13   Median ambulance response time (minutes), by priority category, January 2013 to March 2018
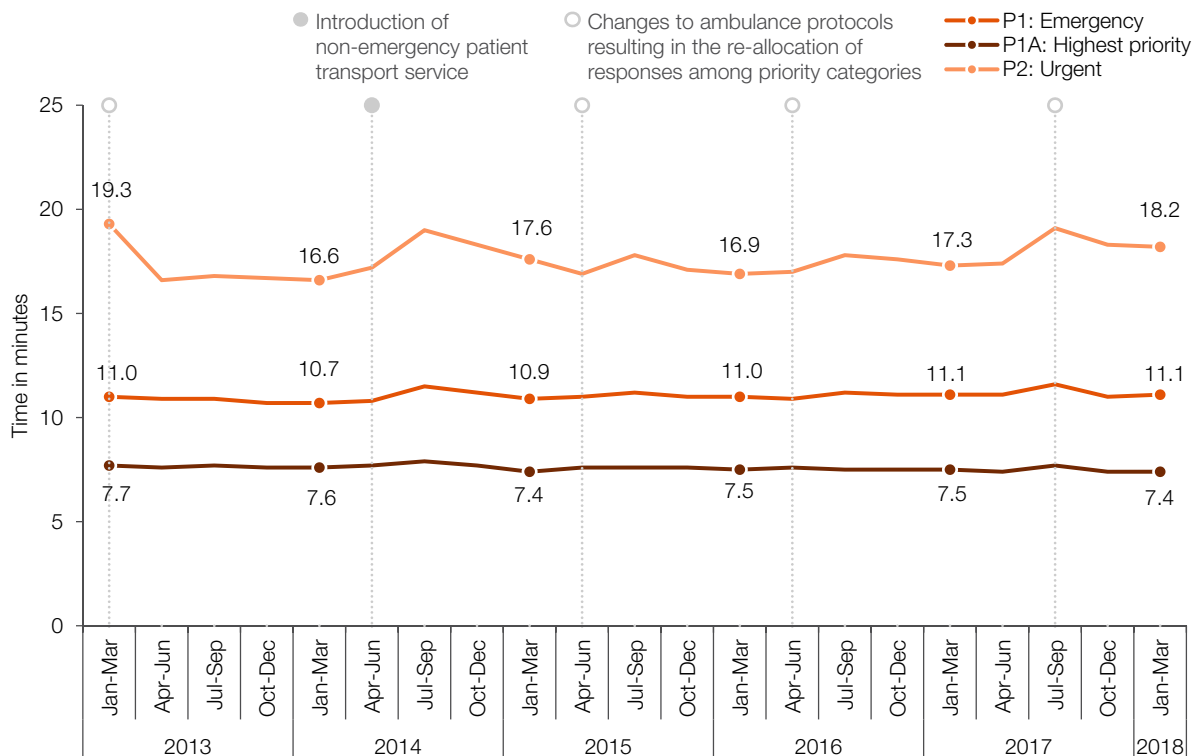
Figure 14 shows this quarter's priority 1A, 1 and 2 median response times for zones relative to the NSW result. For priority category 2, non-metropolitan zones generally had shorter response times than metropolitan zones.

Figure 14   Median ambulance response time, by zone, relative to NSW, January to March 2018

Priority category 1A median response time

| 6.2 | 7.0 | 7.6 | 7.7 | 8.1 | 7.8 | 7.5 | 8.3 | 7.2 | 7.0 | 8.1 | 6.9 | 9.8 | 8.2 | 6.4 | 7.5 | 7.5 | 7.5 |

NSW result
7.4 minutes

Priority category 1 median response time

| 9.6 | 10.3 | 10.8 | 11.7 | 11.5 | 11.7 | 11.9 | 11.7 | 11.1 | 11.3 | 13.1 | 9.5 | 13.0 | 12.5 | 10.3 | 12.0 | 10.0 | 9.0 |

NSW result
11.1 minutes

Priority category 2 median response time

| 19.3 | 19.5 | 18.5 | 18.5 | 22.2 | 20.1 | 16.8 | 20.6 | 20.6 | 18.5 | 18.7 | 11.3 | 17.9 | 18.5 | 13.0 | 14.5 | 11.6 | 10.8 |

NSW result
18.2 minutes

Difference from NSW (minutes)

Sydney
South Eastern Sydney
Northern Sydney
Central Coast
Western Sydney
Nepean Blue Mountains
Illawarra
South West Zone 1
South West Zone 2
Hunter Zone 1
Hunter Zone 2
New England Zone
Mid North Coast Zone
Northern Rivers Zone
Murrumbidgee Zone
Southern NSW Zone
Central West Zone 1
Central and Far West Zone 2

Admitted patients

There were 458,797 admitted patient episodes in NSW public hospitals in the January to March 2018 quarter.

Bed days are calculated for all admitted patient episodes that ended during the period. Total bed days for an overnight episode refers to the difference, in days, between the episode start and end dates, minus the number of episode leave days recorded. Same-day episodes count as one bed day. In the January to March 2018 quarter, there were 1,586,098 hospital bed days. Mental health bed days accounted for 11.4% of the total (Figure 15).

Between 1 July 2016 and 30 June 2017, all local health districts (LHDs) and health networks introduced a mental health stay type when classifying newly admitted or long-standing mental health patients. The new mental health stay type comprises patients who were previously included in the acute and non-acute stay types that are routinely reported by BHI.

Fair comparisons cannot be made with results from the policy phase-in period due to staggered implementation across LHDs that affected activity counts in the acute, non-acute and mental health categories. Mental health activity counts presented before the introduction of the classification change are estimates that were calculated using a flag for days in a psychiatric unit. Accordingly, comparisons between the pre- and post-policy period should be made with caution.

Figure 15   Total number of hospital bed days, by episode type, January to March 2018

		This quarter	Same quarter last year	Change since one year ago
Total bed days		1,586,098	*	*
Acute	76.2%	1,208,534	*	*
Non-acute	12.4%	196,692	*	*
Mental health	11.4%	180,872	*	*

* Between July 1, 2016 and June 30, 2017, a new mental health care stay type was introduced that comprises patients who were previously included in the acute and non-acute stay types that are routinely reported by BHI. Fair comparisons cannot be made with results during this period due to LHDs implementing the policy at different times of the year which affected activity counts for acute, non-acute and mental health categories.

There were hospital-level differences in the average length of stay for acute overnight episodes, even within peer groups. Peer group A1 had the longest average length of stay (Figure 16). Length of stay measures were not adjusted for differences in case mix and variation across hospitals should be interpreted with care.

Figure 16   Average length of stay for acute overnight admitted patient episodes, by peer group, January to March 2018
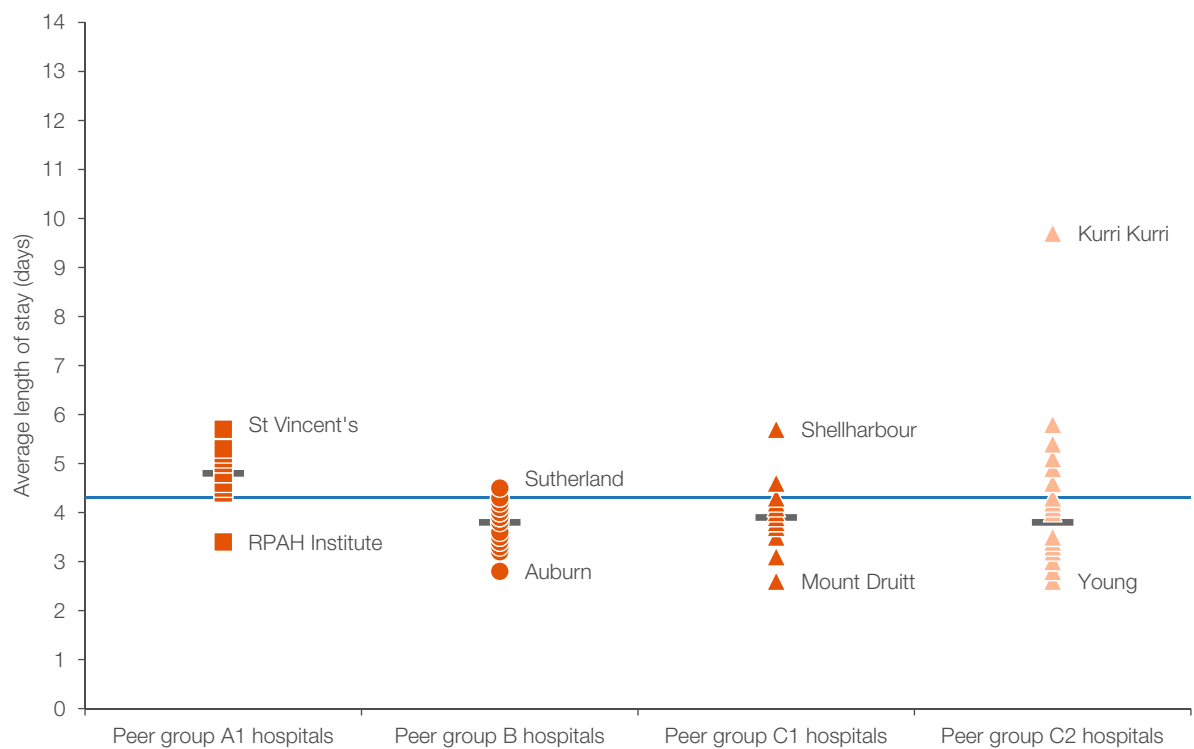
Elective surgery

In the January to March 2018 quarter, 52,717 elective surgical procedures were performed, 1.7% more than the same quarter last year and 9.8% more than the same quarter in 2013 (Figures 17 and 18).

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. Over half (52.9%) of all procedures performed this quarter were either urgent or semi-urgent (Figure 17).

In the January to March 2018 quarter, the number of elective surgical procedures was up by more than 10% in 15 hospitals, compared with the same quarter last year. The procedures were down by more than 10% in 12 hospitals.

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

Hospital	Peer group	Procedures	Change (%)
Maclean	C2	38	31.0
Cowra	C2	122	22.0
Dubbo	B	872	17.4
Liverpool	A1	1,997	17.4
Calvary	A3	275	16.0
Macksville	C2	256	15.8
Grafton	C1	576	15.4
Kurri Kurri	C2	566	15.3
Griffith	C1	308	14.5
Shoalhaven	B	856	14.3
Queanbeyan	C2	257	13.2
Royal Hospital for Women	A3	457	12.3
Campbelltown	B	1,101	11.8
Cessnock	C2	247	10.3
Westmead	A1	2,420	10.1
Goulburn	C1	357	-10.1
Ballina	C2	196	-10.5
Gosford	A1	1,445	-11.6
Mudgee	C2	122	-12.2
Deniliquin	C2	50	-15.3
Kempsey	C2	276	-18.1
Blue Mountains	C2	166	-21.0
St Vincents	A1	607	-21.6
Young	C2	61	-22.8
Moruya	C2	127	-26.2
Moree	C2	57	-39.4
Cooma	C2	22	-60.0

Figure 17   Elective surgical procedures performed, by urgency category, January to March 2018

	This quarter	Same quarter last year	Change since one year ago
Total number of elective surgical procedures	52,717	51,831	1.7%
Urgent — 20.4%	10,731	10,646	0.8%
Semi-urgent — 32.5%	17,156	16,492	4.0%
Non-urgent — 41.8%	22,056	21,916	0.6%
Staged* — 5.3%	2,774	2,777	-0.1%

* 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).

There are clear seasonal fluctuations in the number of elective surgical procedures performed. For this reason, comparisons are made with the same quarter. Compared with the same quarter in 2013, there was an increase in the number of procedures that were performed in the urgent, semi-urgent and non-urgent categories (up 1.5%, 13.4% and 15.6%, respectively). Staged procedures were the exception with a 14.2% decline (Figure 18).

Figure 18   Elective surgical procedures performed, by urgency category, January 2013 to March 2018
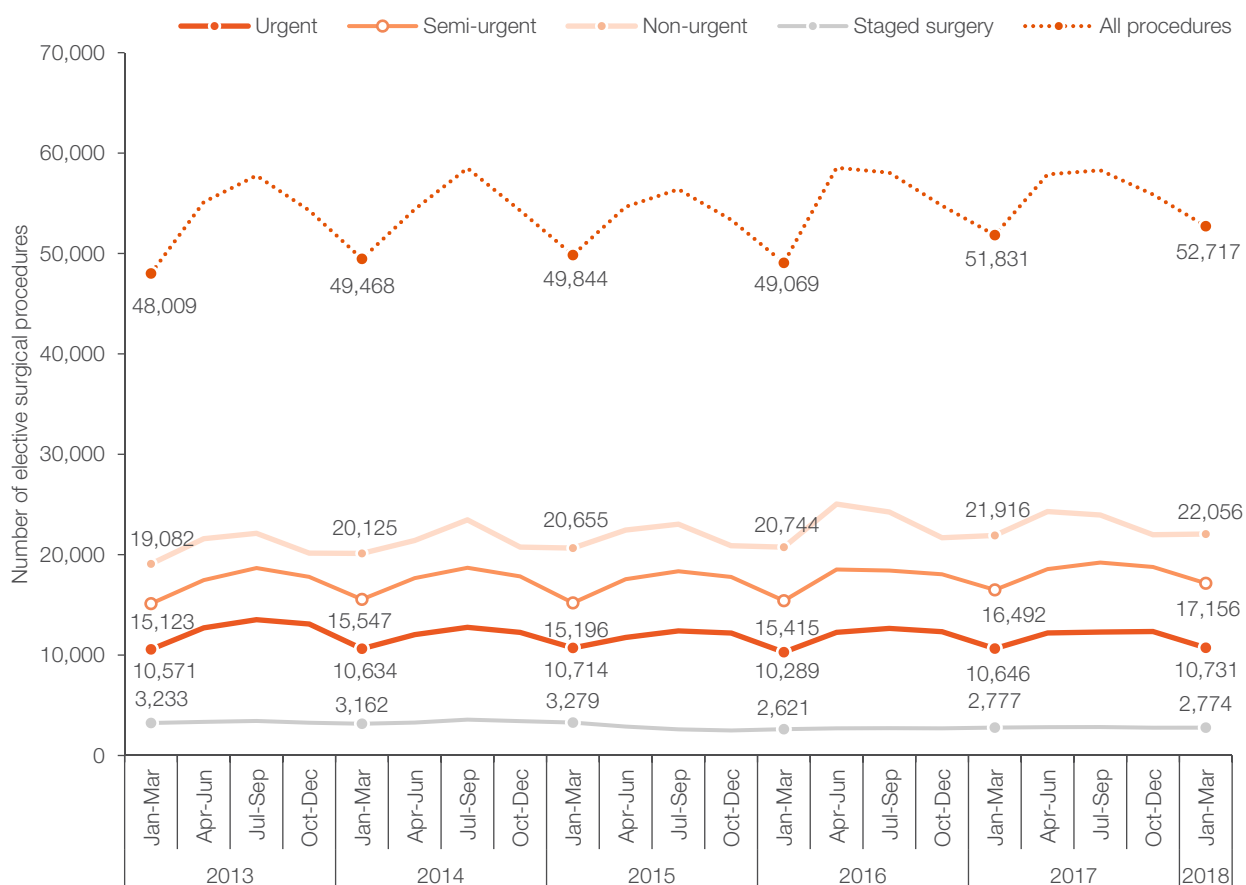
Waiting time for elective surgery

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

Compared with the same quarter last year, median waiting times in the January to March 2018 quarter were 10 days for urgent (unchanged), 47 days for semi-urgent (up one day) and 226 days for non-urgent procedures (up five days) (Figure 19).

The recommended wait times for elective surgery are up to: 30 days for urgent, 90 days for semi–urgent, and 365 days for non–urgent procedures. Almost all procedures (96.5%) were performed within recommended timeframes this quarter (Figure 19).

Figure 19   Percentage of elective surgical procedures performed on time and waiting times, by urgency category, January to March 2018

		This quarter	Same quarter last year	Percentage point change since one year ago
All procedures		96.5%	97.1%	-0.6
Urgent	Recommended: 30 days	99.6%	99.7%	-0.1
Semi-urgent	Recommended: 90 days	95.9%	96.5%	-0.6
Non-urgent	Recommended: 365 days	95.5%	96.3%	-0.8

		This quarter	Same quarter last year	Change since one year ago
Urgent: 10,731 patients				
Median time to receive surgery		10 days	10 days	unchanged
90th percentile time to receive surgery		26 days	26 days	unchanged
Semi-urgent: 17,156 patients				
Median time to receive surgery		47 days	46 days	1 day
90th percentile time to receive surgery		85 days	84 days	1 day
Non-urgent: 22,056 patients				
Median time to receive surgery		226 days	221 days	5 days
90th percentile time to receive surgery		356 days	356 days	unchanged

Median wait times for non-urgent surgeries fluctuated more over time than urgent and semi-urgent procedures. Compared with the same quarter five years ago, the median wait time for non-urgent elective surgeries decreased by four days and was unchanged for urgent and semi-urgent procedures (Figure 20).

Figure 20   Median waiting times for elective surgery, by urgency category, January 2013 to March 2018

Elective surgery

Acknowledgements

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.
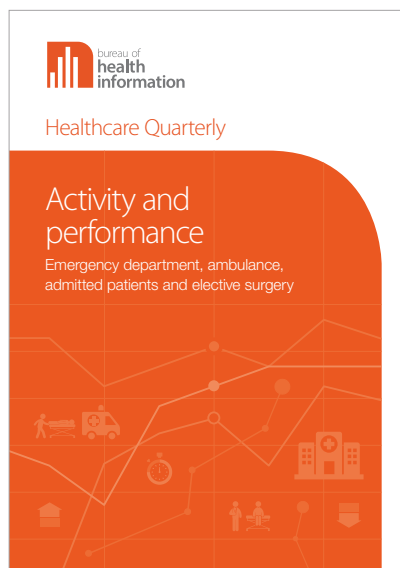
Healthcare Quarterly is published alongside three standalone modules that provide more detailed information about emergency department care, admitted patients and elective surgery, and ambulance services.
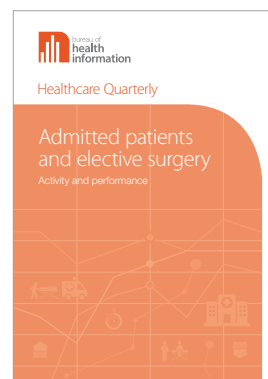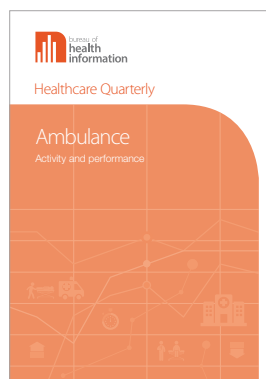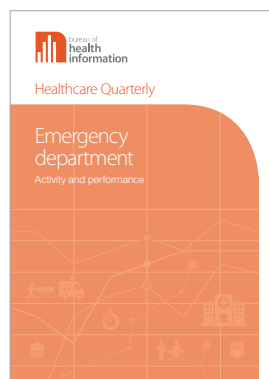
Additional information on local performance is available in our hospital profiles or from BHI's interactive portal Healthcare Observer, at **bhi.nsw.gov.au/healthcare_ observer**
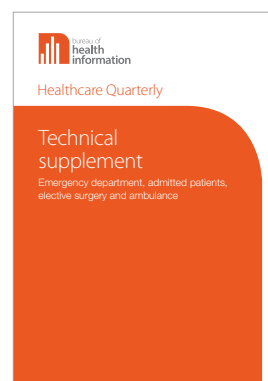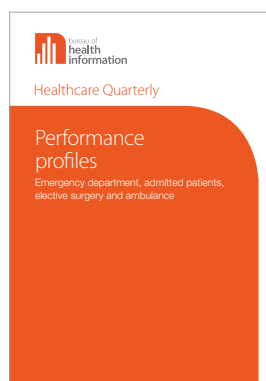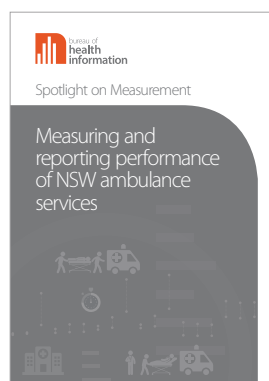
All reports and profiles are available at **bhi.nsw.gov.au**

Additional information on local performance is available from BHI's interactive data portal Healthcare Observer, at **bhi.nsw.gov.au/healthcare_observer**

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.

bhi.nsw.gov.au