bureau of health information

Healthcare Quarterly

Activity and performance

Emergency department, ambulance, admitted patients and elective surgery

January to March 2017

BUREAU OF HEALTH INFORMATION
Level 11, 67 Albert Avenue
Chatswood NSW 2067
Australia
Telephone: +61 2 9464 4444
bhi.nsw.gov.au

State Health Publication Number: (BHI) 170341
ISSN: 2207-9556 (print); 2207-9564 (online)

Suggested citation:
Bureau of Health Information. *Healthcare Quarterly, Activity and performance – Emergency department, ambulance, admitted patients and elective surgery, January to March 2017.* Sydney (NSW); BHI; 2017.

Please note there is the potential for minor revisions of data in this report.
Please check the online version at **bhi.nsw.gov.au** for any amendments.

Published June 2017

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Changes in data coverage and analytic methods from quarter to quarter mean that figures published in this document are superseded by subsequent reports.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.

Table of contents

Introducing Healthcare Quarterly

Hospital Quarterly has had an enhancement, a makeover and a name change.

The Bureau of Health Information's quarterly reports on public hospital activity and performance are expanding in scope to include information about ambulance services in NSW. This information will supplement core measures of emergency department care, admitted patients and elective surgery that BHI has published every three months for the past seven years.

The opportunity to include ambulance data in BHI reports represents an important step forward in our ability to assess on patient care in NSW. Over the past 12 months, we have been working with colleagues at NSW Ambulance and the NSW Ministry of Health to develop robust, meaningful, timely and fair measures of ambulance performance. These developments prompted some restructuring, realignment and refocusing of our reporting products, resulting in the new *Healthcare Quarterly* report.

Much of the material in the report will be familiar to you. The number of emergency department presentations, admitted patient episodes and elective surgical procedures will continue to be reported, but in a new structure that places these activity measures alongside corresponding timeliness measures for emergency department and elective surgery services. New information will describe ambulance activity data together with ambulance timeliness measures that reflect on operational issues such as mobilisation, response and turnaround times. In addition, we will feature a new patient-focused measure – the 'call to ambulance arrival time' which covers the period from when a triple zero call is first answered in an ambulance control centre (phone pick-up) until an ambulance arrives at the scene of an incident.

In all our reporting efforts, we aim to strike a balance between providing enough information to give a rounded picture of performance and avoiding an information overload. As a result, we try to tailor products to audiences with different information needs. With the new *Healthcare Quarterly report*, we have produced an abridged set of the established *Hospital Quarterly* measures together with several ambulance measures – summarised in 10 key findings, translated into infographic displays, and published in a 32-page format. More detailed analyses and background information are available in three separate modules – one each for emergency departments, admitted patients and elective surgery, and ambulance services. Local health districts will receive tailored dashboards to inform them about relative performance at a glance; and specific information on hospitals and ambulance services will be released on our interactive data portal, Healthcare Observer.

Measuring and reporting on healthcare system performance have never been more important. Robust, timely and meaningful information supports statewide and local efforts to improve; helps clinical, managerial and policy decision-makers to respond to changing circumstances and priorities; and informs the people of NSW about how their healthcare system and local hospitals are performing.

In the coming months we will continue to refine the reporting products, with the objective of providing useful information to all of you who are interested in understanding and improving healthcare in NSW. We welcome any feedback you may have as we do so.

Kim Sutherland

Acting Chief Executive,
Bureau of Health Information

10 key findings

January to March 2017

1. **There were 677,602 patients who presented to a NSW public hospital emergency department – making this the busiest January to March quarter ever reported in terms of emergency department presentations.** Thirteen out of 75 hospitals had an increase of more than 5% in the number of emergency department presentations. There was a 5.4% increase in the number of the most urgent cases (triage categories T1 and T2 combined) compared to the same quarter last year.

2. **Altogether, 145,801 patients arrived by ambulance.** Most patients (91.5%, up 0.8 percentage points) had their care transferred from ambulance to emergency department staff within 30 minutes. Compared with transfer of care results for the same quarter last year, Wagga Wagga, Forbes, Deniliquin and Kempsey hospitals had an increase of more than 10 percentage points and no hospitals had a decrease of more than 10 percentage points.

3. **Most emergency department patients received prompt care** – three quarters (75.2%, down 0.2 percentage points) of patients' treatment started within clinically recommended times. Compared with time to treatment results for the same quarter last year, Goulburn, Liverpool, Concord and Wagga Wagga hospitals had an increase of more than 10 percentage points and Westmead had a decrease of more than 10 percentage points.

4. **Almost three quarters (73.2%, down 1.1 percentage points) of patients who visited an emergency department spent four hours or less there.** Compared with results in the same quarter last year, the proportion of patients who spent four hours or less in the emergency department in Manning Base and Nepean hospitals increased by more than 10 percentage points and in Westmead and South East Regional Hospital * the proportion decreased by more than 10 percentage points.

5. **There were 277,218 (up 1.2%) ambulance responses (where a vehicle was dispatched).** Although this was higher than for the same quarter last year, long term trends show a marked decrease in the number of responses, reflecting deliberate efforts to provide non-urgent services via the Patient Transport Service.

6. **NSW ambulance performance has been fairly stable over time in terms of call to ambulance arrival time across the two most urgent priority categories** – for both priority category 1 and 2, around 95% of arrival times were within respective 30 and 60 minute timeframes.

7. **Across the state, performance was generally stronger for priority 1 call to ambulance arrival times in metropolitan zones and stronger for priority 2 call to ambulance arrival times in non-metropolitan zones.**

8. **There were 457,535 (up 3.4%) patients admitted for acute care in a NSW public hospital and 51,830 (up 5.6%) elective surgical procedures performed.** Both of these figures represent an increase over the same quarter in previous years.

9. **Almost all (97.1%) elective surgical procedures were performed within clinically recommended timeframes.** Median waiting times were either unchanged or shorter than the same quarter last year – this quarter they were 10 days for urgent surgery (unchanged), 46 days for semi-urgent surgery (one day less) and 221 days for non-urgent surgery (eight days less).

10. **Across hospitals, timeliness indicator results for elective surgery were fairly stable.** The Children's Hospital at Westmead saw an improvement of 10.6 percentage points in elective surgical procedures performed within recommended timeframes.

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

Healthcare Quarterly – Activity

Emergency department activity		January to March 2017	January to March 2016	Difference	% change
All arrivals at NSW EDs by ambulance		145,801	142,930	2,871	2.0%
All ED presentations		677,602	672,686	4,916	0.7%
Emergency presentations		654,189	646,083	8,106	1.3%
Emergency presentations by triage category					
Triage category	T1: Resuscitation	4,252	4,067	185	4.5%
	T2: Emergency	79,873	75,774	4,099	5.4%
	T3: Urgent	221,615	214,826	6,789	3.2%
	T4: Semi-urgent	277,964	280,450	-2,486	-0.9%
	T5: Non-urgent	70,485	70,966	-481	-0.7%
Admissions to hospital from NSW EDs		192,279	183,436	8,843	4.8%

Ambulance activity		January to March 2017	January to March 2016	Difference	% change
Calls		281,668	279,682	1,986	0.7%
Responses		277,218	273,959	3,259	1.2%
Priority category	P1: Emergency	121,162	127,114	-5,952	-4.7%
	P1A: Highest priority	5,141	5,117	24	0.5%
	P2: Urgent	122,958	111,151	11,807	10.6%
	P3: Time-critical	23,769	25,116	-1,347	-5.4%
	P4–9: Non-emergency	9,329	10,578	-1,249	-11.8%
Patient transports		163,265	162,126	1,139	0.7%

Note: Abulance activity data do not include outage estimates

Admitted patient activity		January to March 2017	January to March 2016	Difference	% change
All admitted patient episodes		477,983	459,494	18,489	4.0%
All acute episodes		457,535	442,686	14,849	3.4%
Overnight episodes		245,195	237,852	7,343	3.1%
Same-day episodes		212,340	204,834	7,506	3.7%
Non-acute episodes		20,448	16,808	3,640	21.7%
Average length of stay (days)	All acute episodes	3.1	3.0	0.1	
	Acute overnight episodes	4.9	4.8	0.1	
	Non-acute episodes	22.1	15.4	6.7	
Hospital bed days	All bed days	1,853,263	1,600,674	252,589	15.8%
	Acute bed days	1,401,693	1,341,723	59,970	4.5%
	Non-acute bed days	451,570	258,951	192,619	74.4%
Babies born in NSW public hospitals		18,070	18,201	-131	-0.7%

Elective surgery activity		January to March 2017	January to March 2016	Difference	% change
Elective surgical procedures performed		51,830	49,069	2,761	5.6%
Urgency category	Urgent surgery	10,646	10,289	357	3.5%
	Semi-urgent surgery	16,492	15,415	1,077	7.0%
	Non-urgent surgery	21,915	20,744	1,171	5.6%
Patients on waiting list ready for elective surgery at end of quarter		74,855	74,250	605	0.8%
Urgency category	Urgent surgery	2,006	1,753	253	14.4%
	Semi-urgent surgery	11,803	11,297	506	4.5%
	Non-urgent surgery	61,046	61,200	-154	-0.3%

Healthcare Quarterly – Performance

Emergency department performance			January to March 2017	January to March 2016	Difference
Percentage of patients whose care was transferred within 30 minutes			91.5%	90.7%	+0.8 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	69 mins	68 mins	1 min
	T4: Semi-urgent	Median	26 mins	26 mins	0 mins
		90th percentile	101 mins	101 mins	0 mins
	T5: Non-urgent	Median	23 mins	23 mins	0 mins
		90th percentile	104 mins	101 mins	3 mins
Percentage of patients whose treatment started on time	All patients		75.2%	75.4%	-0.2 percentage points
	T2: Emergency		66.1%	67.6%	-1.5 percentage points
	T3: Urgent		70.2%	69.9%	+0.3 percentage points
	T4: Semi-urgent		77.9%	77.7%	+0.2 percentage points
	T5: Non-urgent		93.1%	93.4%	-0.3 percentage points
Median time spent in the ED			2h 44m	2h 40m	4 mins
90th percentile time spent in the ED			7h 7m	6h 51m	16 mins
Patients who spent four hours or less in the ED			73.2%	74.3%	-1.1 percentage points

NSW Ambulance performance		January to March 2017	January to March 2016	Difference
Call to ambulance arrival time				
Percentage of P1 call to ambulance arrival within 15 minutes		63.2%	64.5%	-1.3 percentage points
Percentage of P1 call to ambulance arrival within 30 minutes		94.7%	94.6%	0.1 percentage points
Percentage of P2 call to ambulance arrival within 30 minutes		75.6%	76.7%	-1.1 percentage points
Percentage of P2 call to ambulance arrival within 60 minutes		95.0%	95.2%	-0.2 percentage points
Mobilisation time				
P1: Emergency	Median	2.4m	2.4m	unchanged
	Percentage P1 within 3 minutes	62.5%	63.8%	-1.3 percentage points
Turnaround time				
P1: Emergency	Median	35.9m	36.4m	-0.5m
	90th percentile	58.5m	60.3m	-1.8m
	Percentage within 45 minutes	71.7%	69.9%	1.8 percentage points
P2: Urgent	Median	33.2m	33.9m	-0.7m
	90th percentile	55.1m	56.7m	-1.6m
	Percentage within 45 minutes	77.1%	75.2%	1.9 percentage points

Elective surgery performance		January to March 2017	January to March 2016	Difference
Median waiting time (days)	Urgent	10 days	10 days	0 days
	Semi-urgent	46 days	47 days	-1 day
	Non-urgent	221 days	229 days	-8 days
Elective surgery procedures performed on time	All procedures	97.1%	97.0%	+0.1 percentage points
	Urgent surgery	99.7%	99.7%	unchanged
	Semi-urgent surgery	96.5%	96.6%	-0.1 percentage points
	Non-urgent surgery	96.3%	96.0%	+0.3 percentage points

In the January to March 2017 quarter...

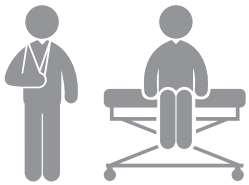
Emergency department

There were **654,189** emergency presentations

Highest ever for a January to March quarter!

UP 1.3%

8,106 more than same quarter last year



75.2% of patients' treatment **started on time**

DOWN 0.2

73.2% of all patients spent **four hours or less** in the emergency department

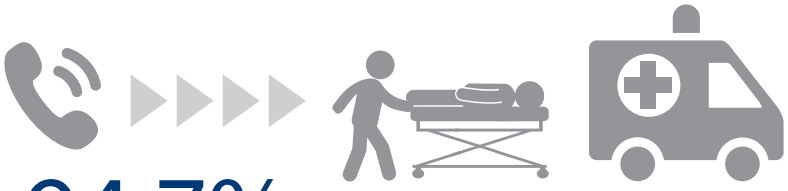
DOWN 1.1

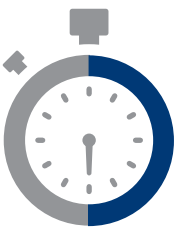
Ambulance

There were **277,218** ambulance responses

UP 1.2%

3,259 more than same quarter last year





94.7% of priority 1 cases had a call to ambulance arrival time of 30 minutes or less

Admitted patients

There were **14,849** more acute admissions to hospital

UP 3.4%

457,535 in total

The average length of stay for patients admitted for acute overnight care was **4.9 days**

Elective surgery

There were **51,830** elective surgical procedures performed

UP 5.6%

2,761 more than same quarter last year

Almost all (97.1%) were performed within recommended time frames

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

10, 46 and 221 days for urgent, semi-urgent and non-urgent, respectively

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 18 April 2017
- **NSW Ambulance Computer Aided Dispatch (CAD) system** – provided on 15 April 2017
- **Admitted Patient Data Collection (APDC)** – data drawn from the HIE on 20 April 2017
- **Waiting List Collection Online System (WLCOS)** – data drawn on 18 April 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**

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 with less than five consecutive quarters of data, those with on average fewer than 100 responses per quarter, and those 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; and often act as an entry point to inpatient services.

In the January to March 2017 quarter, a total of 677,602 people presented to NSW public hospital EDs; up 0.7% compared with the same quarter last year. Most presentations (96.5%) were unplanned (or emergency) (Figure 1). Over the past five years, the number of emergency presentations in the January to March quarter has increased by 21.7% (Figure 2).

Compared with the same quarter last year, the number of patients assigned to triage categories 1, 2, and 3 increased. The largest increase was in triage category 3 (6,789 more presentations; up 3.2%). There was a decrease in the number of patients assigned to triage category 4 (2,486 fewer patients; down 0.9%), and triage category 5 (481 fewer patients; down 0.7%) (Figure 1).

The number of ED presentations increased this quarter in 44 out of 75 NSW hospital EDs. Of these, four 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
Deniliquin	C2	2,433	19.4%
Bateman's Bay	C2	4,270	15.0%
South East Regional *	C1	4,231	13.8%
Kempsey	C2	7,382	11.2%

Figure 1 **Patient presentations and ambulance arrivals at NSW emergency departments, January to March 2017**

		This quarter	Same quarter last year	Change since one year ago
All ED presentations		677,602	672,686	0.7%
Emergency presentations by triage category		654,189	646,083	1.3%
Triage 1: Resuscitation	0.6%	4,252	4,067	4.5%
Triage 2: Emergency	12.2%	79,873	75,774	5.4%
Triage 3: Urgent	33.9%	221,615	214,826	3.2%
Triage 4: Semi-urgent	42.5%	277,964	280,450	-0.9%
Triage 5: Non-urgent	10.8%	70,485	70,966	-0.7%
Ambulance arrivals		145,801	142,930	2.0%

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

Figure 2 Number of emergency presentations to an ED, January to March quarters, 2012 to 2017

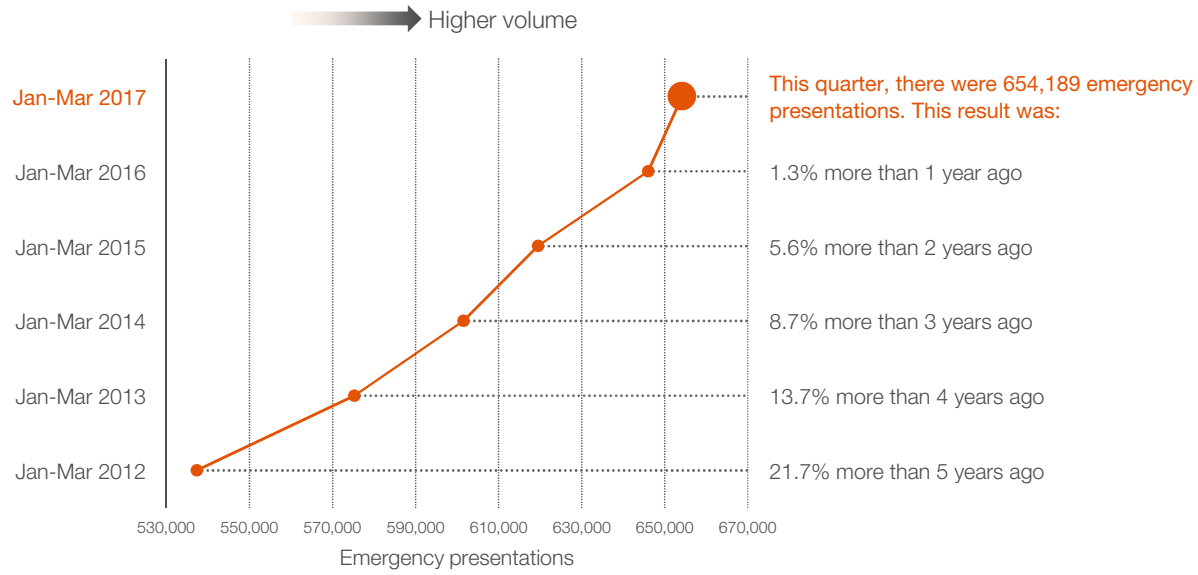
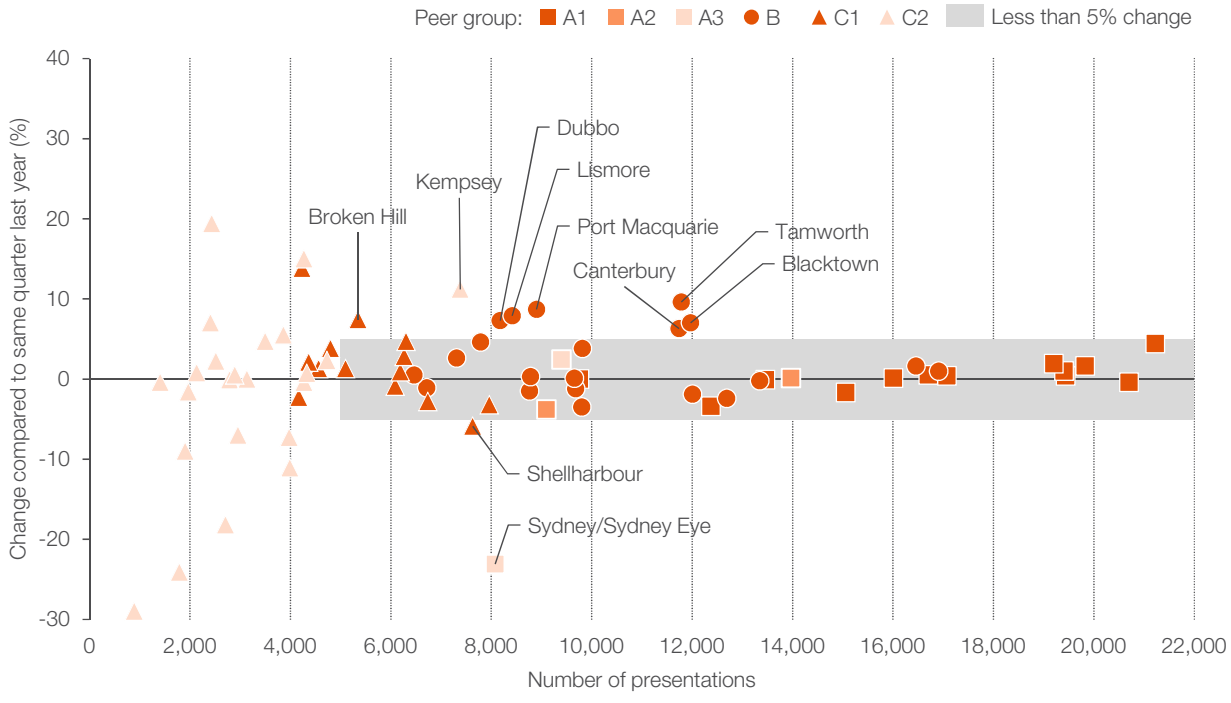


Figure 3 Change in number of emergency department presentations compared with the same quarter last year, hospitals by peer group, January to March 2017



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 January to March 2017 quarter, 75.2% of ED patients' treatment started within clinically recommended timeframes; down 0.2 percentage points compared with the same quarter last year (Figure 4). This result is 3.2 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 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	% on time	Percentage point change
Goulburn	C1	76.1	16.1
Liverpool	A1	82.0	15.1
Concord	A1	84.7	13.6
Wagga Wagga	B	84.1	10.7
Westmead	A1	35.8	-23.7

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

	This quarter	Same quarter last year	Percentage point change since one year ago
All emergency presentations	75.2%	75.4%	-0.2
Triage category 2	Recommended: 10 minutes 66.1%	67.6%	-1.5
Triage category 3	Recommended: 30 minutes 70.2%	69.9%	0.3
Triage category 4	Recommended: 60 minutes 77.9%	77.7%	0.2
Triage category 5	Recommended: 120 minutes 93.1%	93.4%	-0.3

	This quarter	Same quarter last year	Change since one year ago
Triage 2 Emergency (e.g. chest pain, severe burns): 78,784 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): 215,790 patients			
Median time to start treatment	20m	20m	0m
90th percentile time to start treatment	1h 9m	1h 8m	1m
Triage 4 Semi-urgent (e.g. sprained ankle, earache): 257,983 patients			
Median time to start treatment	26m	26m	0m
90th percentile time to start treatment	1h 41m	1h 41m	0m
Triage 5 Non-urgent (e.g. small cuts or abrasions): 60,369 patients			
Median time to start treatment	23m	23m	0m
90th percentile time to start treatment	1h 44m	1h 41m	3m

Note: Triage 1 patients are the most urgent and are almost all treated within two minutes. Clinicians treating them are focused on providing immediate and essential care, rather than recording times, therefore times to start treatment are generally not reported.

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

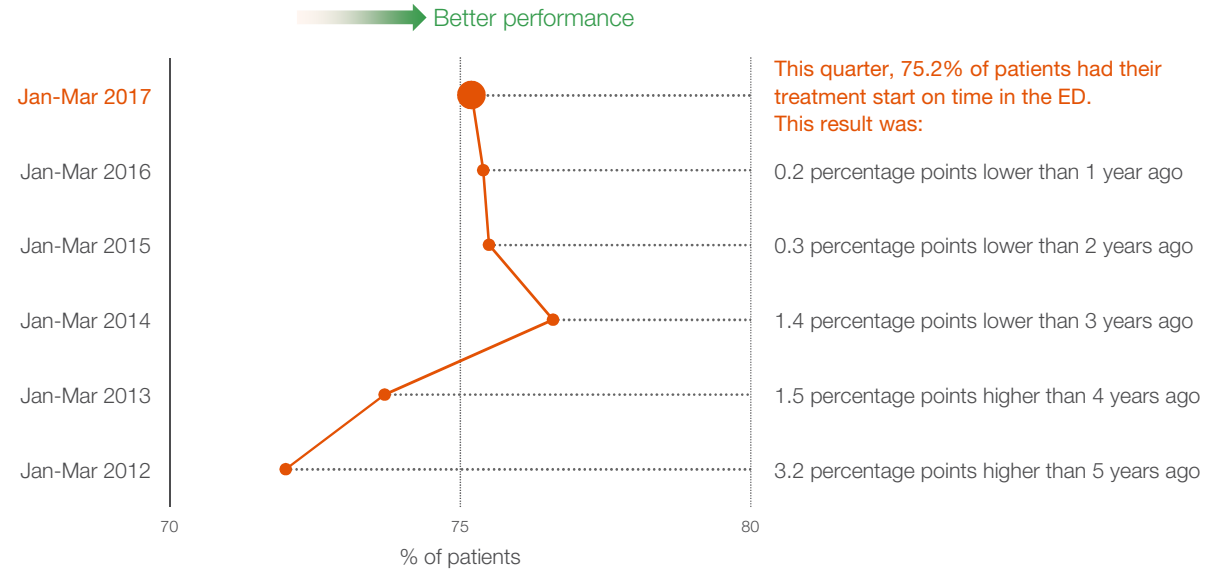
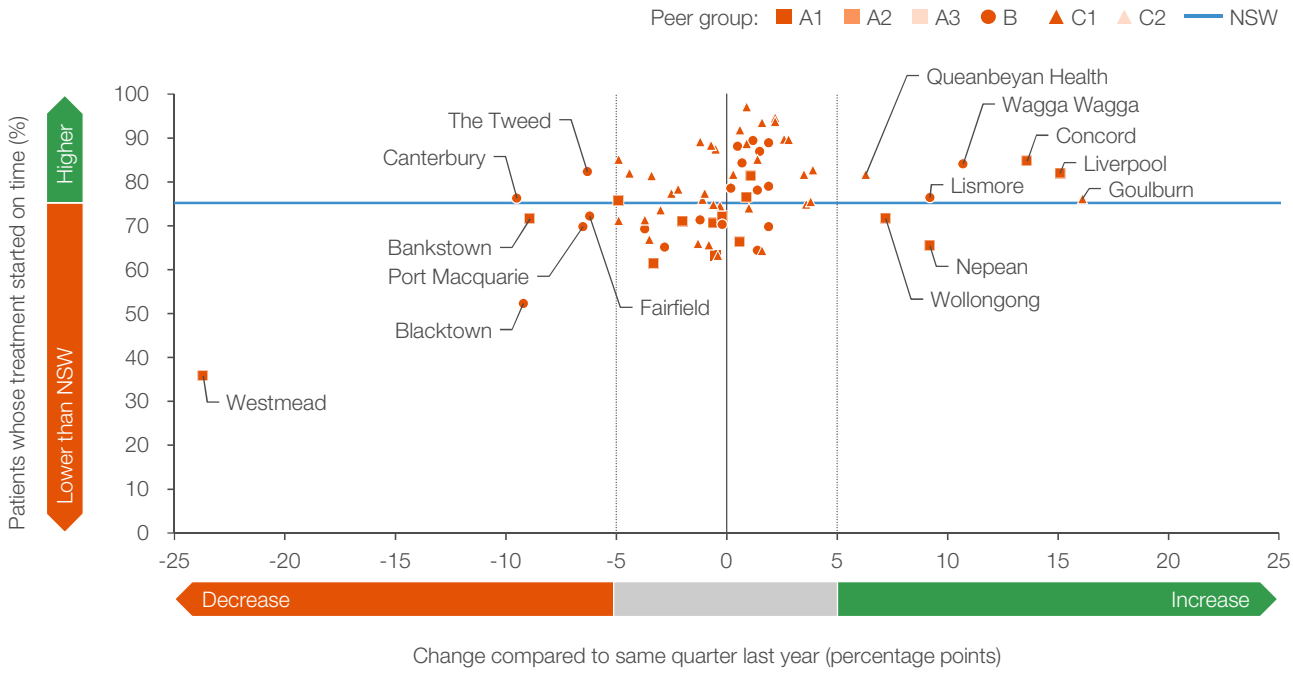


Figure 6 Percentage of patients whose treatment started on time, and percentage point change compared with same quarter last year, hospitals by peer group, January to March 2017



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 (42.1%) spent four hours or less in the ED. Among patients who were treated and discharged this quarter, 86.0% spent four hours or less in the ED (Figure 7).

In the January to March 2017 quarter, 73.2% of patients spent four hours or less in the ED. This was 1.1 percentage points lower than in the same quarter last year and 12.1 percentage points higher than in the same quarter in 2012 (Figure 8).

Compared with the same quarter last year:

- In 29 hospitals, there was an increase in the proportion of patients who spent four hours or less in the ED. Of these, six hospitals had an increase of more than five percentage points, including three that had an increase of more than 10 percentage points.
- In 46 hospitals, there was a decrease in the proportion of patients who spent four hours or less in the ED. Of these, 12 hospitals had a decrease of more than five percentage points, including two that 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, January to March 2017

	Number	This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	495,675	73.2%	74.3%	-1.1
Treated and discharged	361,555	86.0%	86.4%	-0.4
Treated and admitted	80,953	42.1%	43.4%	-1.3
Left without, or before completing, treatment	34,146	90.4%	91.5%	-1.1
Transferred to another hospital	6,216	44.6%	45.4%	-0.8

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

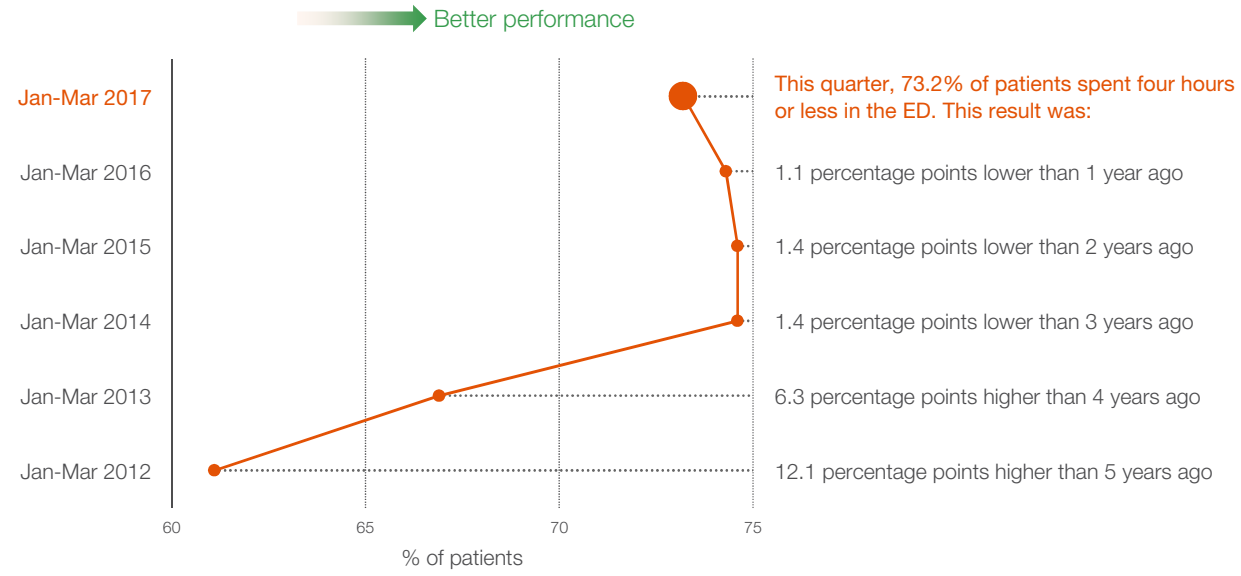
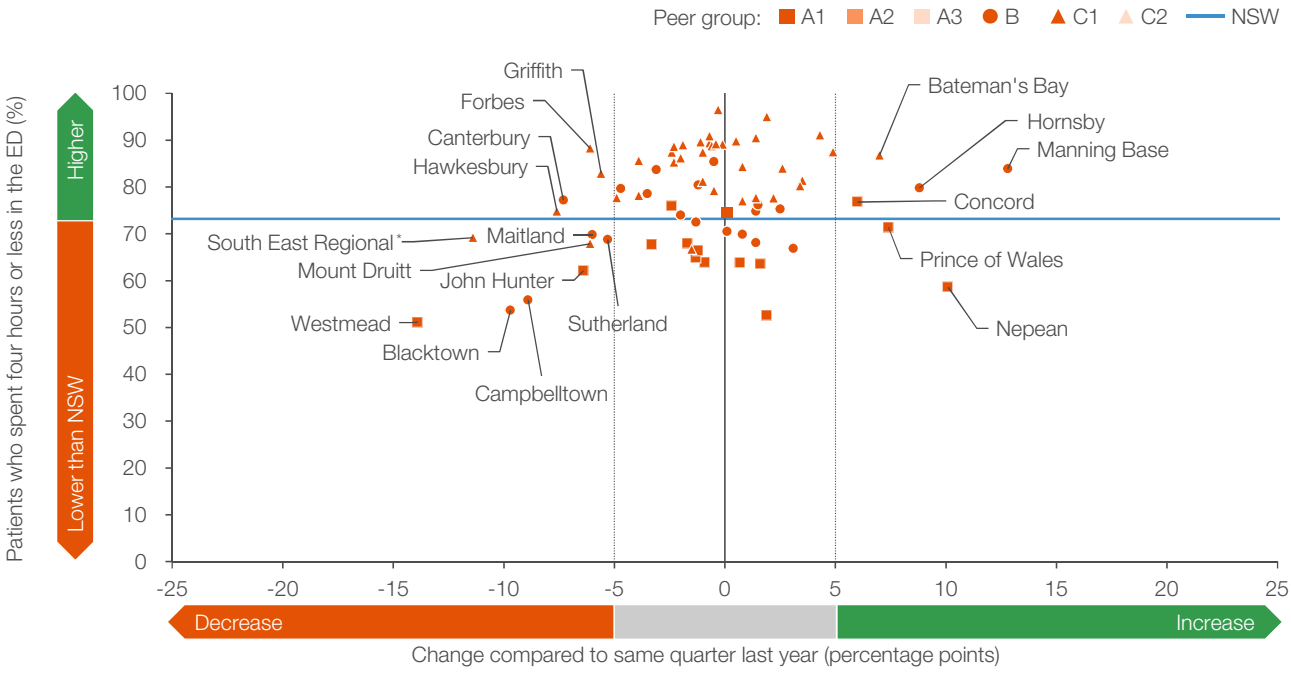


Figure 9 Percentage of patients who spent four hours or less in the emergency department, and percentage point change since same quarter last year, hospitals by peer group, January to March 2017



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

Transfer of care

Out of 654,189 emergency patient presentations this quarter, 21.5% 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.

Both the median and 90th percentile transfer of care times were one minute shorter this quarter compared with the same quarter last year (11 minutes and 27 minutes respectively) (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, 91.5% of patients who arrived by ambulance had their care transferred within 30 minutes; 0.8 percentage points higher than in the same quarter last year and 4.4 percentage points higher than the same quarter in 2014 (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 74.2% to 99.0%.

Compared with the same quarter last year, in five hospitals, ambulance arrivals increased by more than 10% and in five 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 were no hospitals 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
Kurri Kurri	C2	43	115.0%
South East Regional *	C1	919	28.2%
Blue Mountains	C2	994	16.7%
Murwillumbah	C1	366	14.7%
Casino	C2	374	14.0%
Sydney Children's	A3	633	-11.5%
Ballina District	C2	616	-11.7%
Deniliquin	C2	243	-12.9%
Mount Druitt	C1	880	-15.5%
Forbes District	C2	178	-22.6%

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
Wagga Wagga	B	95.2	22.8
Forbes	C2	90.0	20.6
Deniliquin**	C2	90.5	14.1
Kempsey	C2	93.3	12.7

** 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, January to March 2017

	This quarter	Same quarter last year	Change since one year ago
Emergency presentations	654,189	646,083	1.3%
Ambulance arrivals	132,747	127,349	4.2%
ED transfer of care time			
Median time	11m	12m	-1m
90th percentile time	27m	28m	-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, January to March quarters, 2014 to 2017

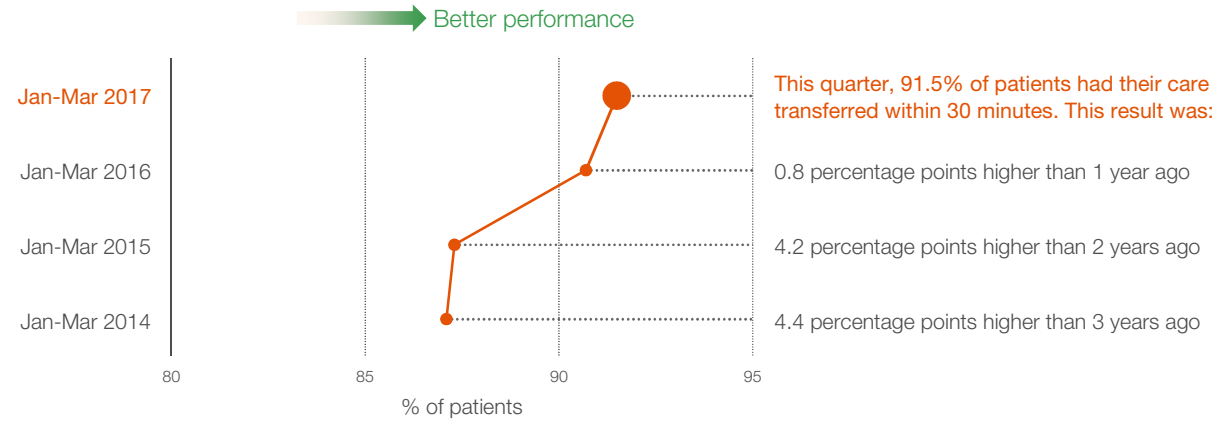
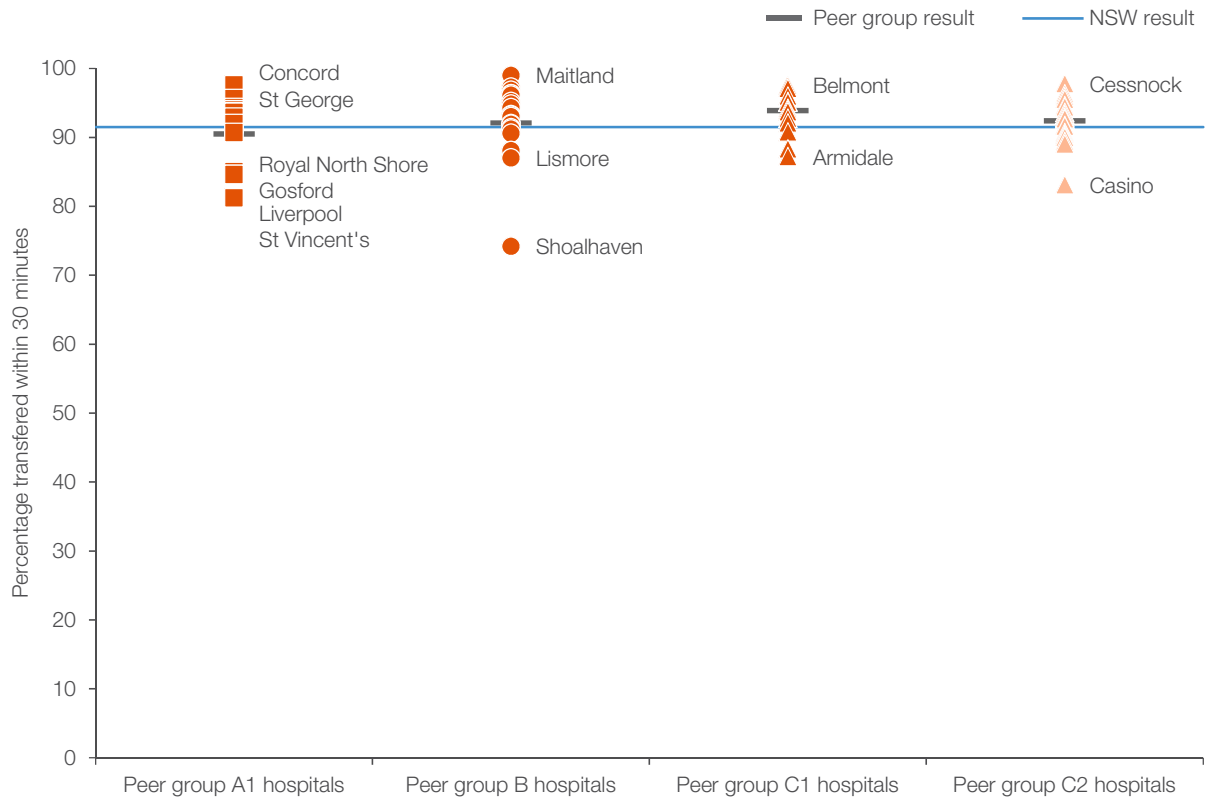


Figure 12 Percentage of patients transported to the ED by ambulance whose care was transferred within 30 minutes, by peer group, January to March 2017



Ambulance activity

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

In the January to March 2017 quarter, there were 281,668 calls and 277,218 ambulance responses; increases of 0.7% and 1.2% respectively compared with the same quarter last year (Figure 13).

This quarter, the majority of responses were categorised as either priority 1 (43.7% of the total responses) or priority 2 (44.4% of the total responses).

The total number of priority 1–3 responses this quarter was 1.7% higher than in the same quarter last year and 12.8% 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. The level of activity fluctuated across the quarter, and was particularly high on 1 January and in mid-February 2017.

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 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).
Patient transports	Number of patients transported by the ambulance service.

Figure 13 **Ambulance calls, incidents, responses and transports, January to March 2017**

	This quarter	Same quarter last year	Change since one year ago
Calls	281,668	279,682	0.7%
Incidents	220,174	219,960	0.1%
All responses	277,218	273,959	1.2%
P1: Emergency 43.7%	121,162	127,114	-4.7%
P1A: Highest priority 4.2%	5,141	5,117	0.5%
P2: Urgent 44.4%	122,958	111,151	10.6%
P3: Time-critical 8.6%	23,769	25,116	-5.4%
P4–9: Non-emergency 3.4%	9,329	10,578	-11.8%
Patient transports	163,265	162,126	0.7%

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

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

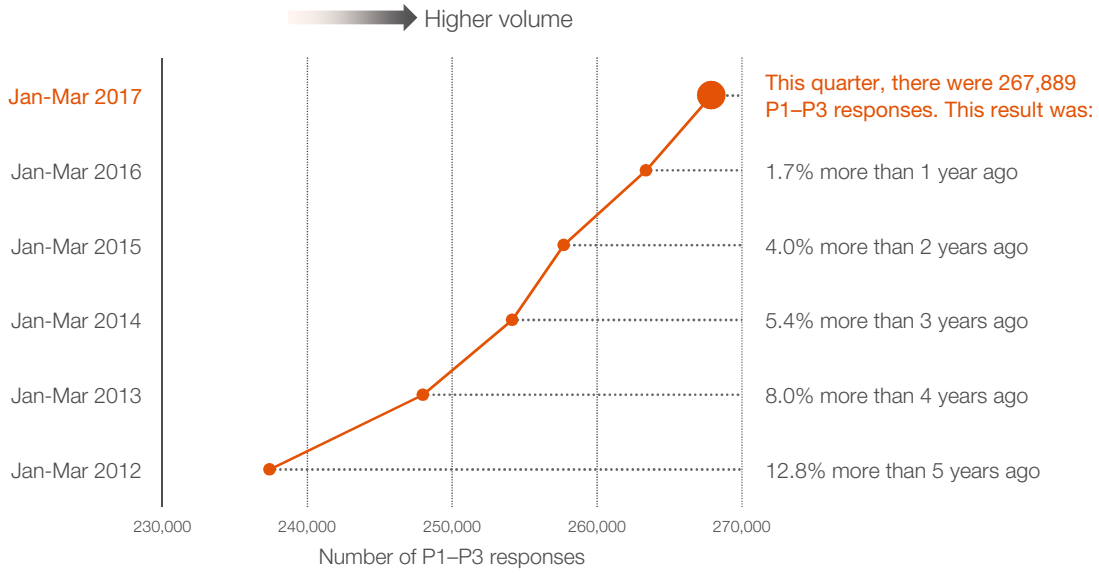
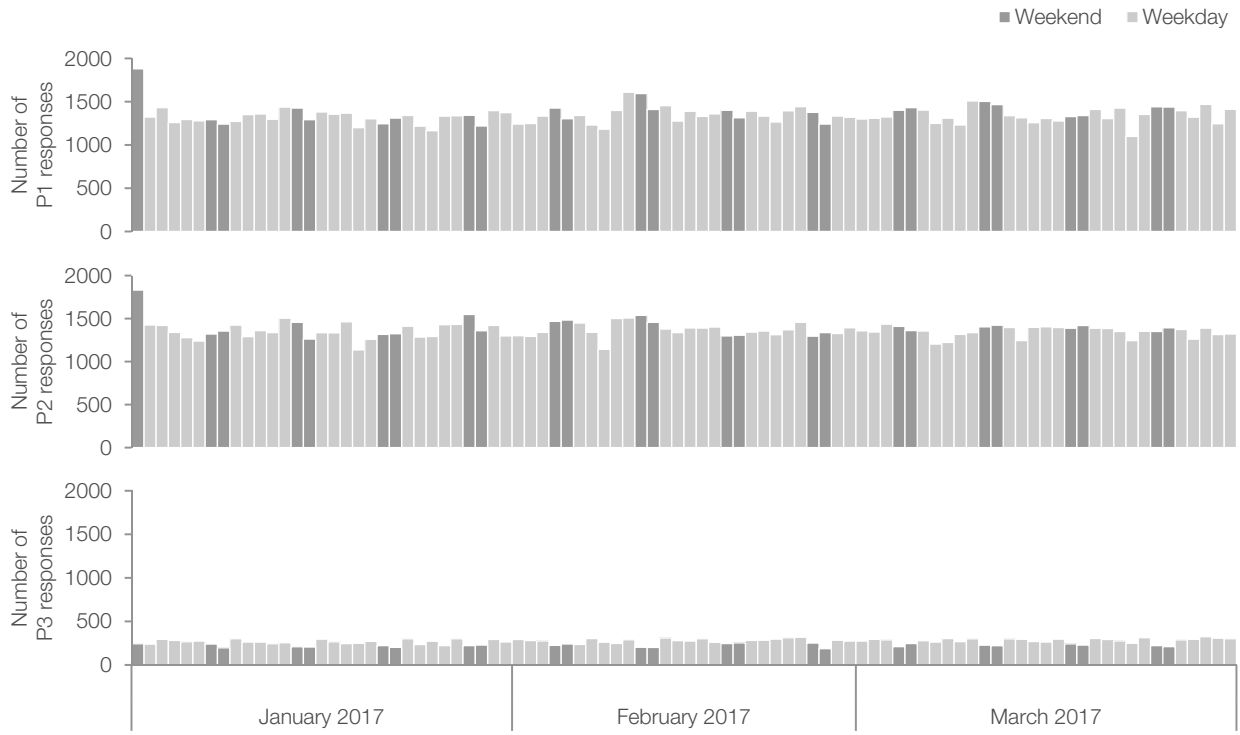


Figure 15 Daily number of priority category 1, 2 and 3 responses, January to March 2017



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 (94.7%). A similar proportion of priority category 2 responses had a call to ambulance arrival time within 60 minutes (95.0%) (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 decreased by 0.7 percentage points (Figure 17).

Among local response areas (LRAs), about three quarters (116 out of 153 or 75.8%) met a 90% threshold for the percentage of priority 1 call to ambulance arrival time within 30 minutes. This is a slightly higher proportion than in the same quarter last year (113 out of 153, or 73.8%).

For priority 2, all 153 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, January to March 2017

Priority category		This quarter	Same quarter last year	Change since one year ago
P1 responses	89,939			
Within 15 minutes		63.2%	64.5%	-1.3 percentage points
Within 30 minutes		94.7%	94.6%	0.1 percentage points
Local response areas meeting 90% threshold (arrival within 30 minutes)		116 (of 153)	113 (of 153)	
P2 responses	94,681			
Within 30 minutes		75.6%	76.7%	-1.1 percentage points
Within 60 minutes		95.0%	95.2%	-0.2 percentage points
Local response areas meeting 90% threshold (arrival within 60 minutes)		153 (of 153)	150 (of 153)	

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

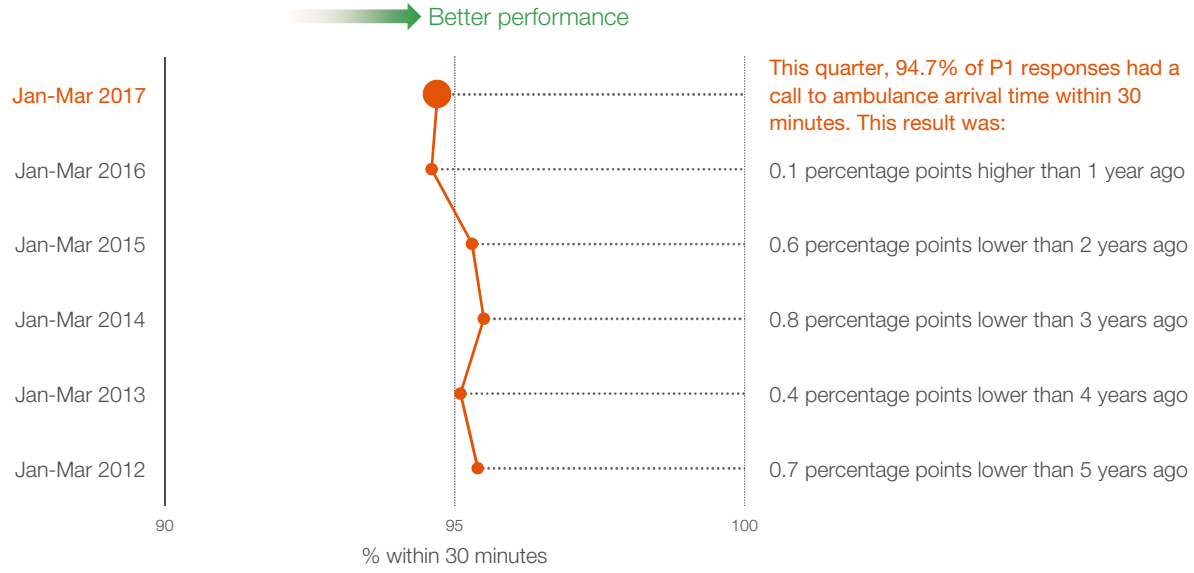
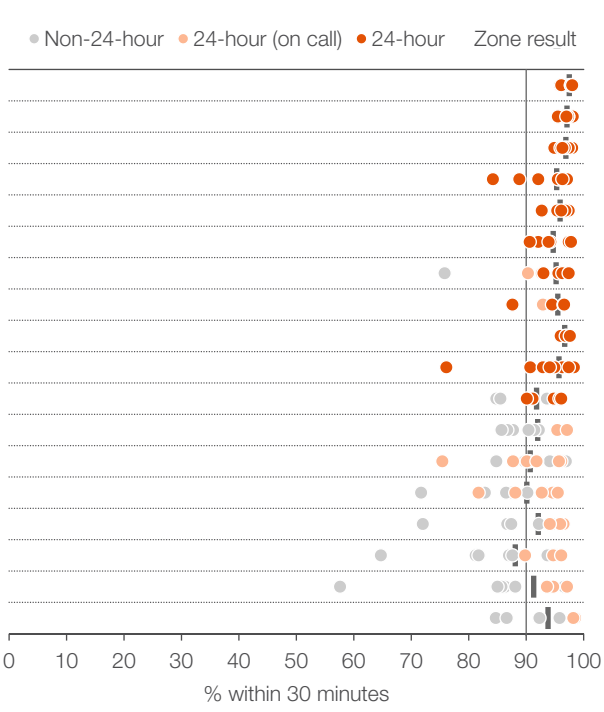


Figure 18 Percentage of priority category 1 responses with a call to ambulance arrival time within 30 minutes, by zone and local response area type, January to March 2017

	Number	Total LRAs	LRAs achieving 90% in 30 minutes 2017	2016
Sydney	9,510	8	8	8
South Eastern Sydney	6,620	8	8	8
Northern Sydney	6,480	9	9	9
Central Coast	5,462	9	7	7
Western Sydney	8,334	5	5	5
Nepean Blue Mountains	5,630	6	6	5
Illawarra	5,610	10	9	8
South West Zone 1	5,246	5	4	5
South West Zone 2	6,469	4	4	4
Hunter Zone 1	5,453	9	8	8
Hunter Zone 2	3,136	10	8	7
New England Zone	2,381	10	6	6
Mid North Coast Zone	4,649	12	8	7
Northern Rivers Zone	4,138	12	6	5
Murrumbidgee Zone	3,458	8	5	6
Southern NSW Zone	2,886	10	4	5
Central West Zone 1	2,535	12	7	8
Central and Far West Zone 2	1,847	6	4	2
Total		**153**	**116**	**113**



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 2017 quarter, the median response time was 7.5 minutes for priority 1A responses, 11.1 minutes for priority 1 responses, and 17.3 minutes for priority 2 responses (Figure 19).

In NSW, the target for the median priority 1A response time is 10 minutes. This quarter, 71.9% of priority 1A response times were within this timeframe; an increase of 0.4 percentage points compared with the same quarter last year. There were three days in the quarter when the median response time exceeded 10 minutes, compared to 1 day 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, January to March 2017

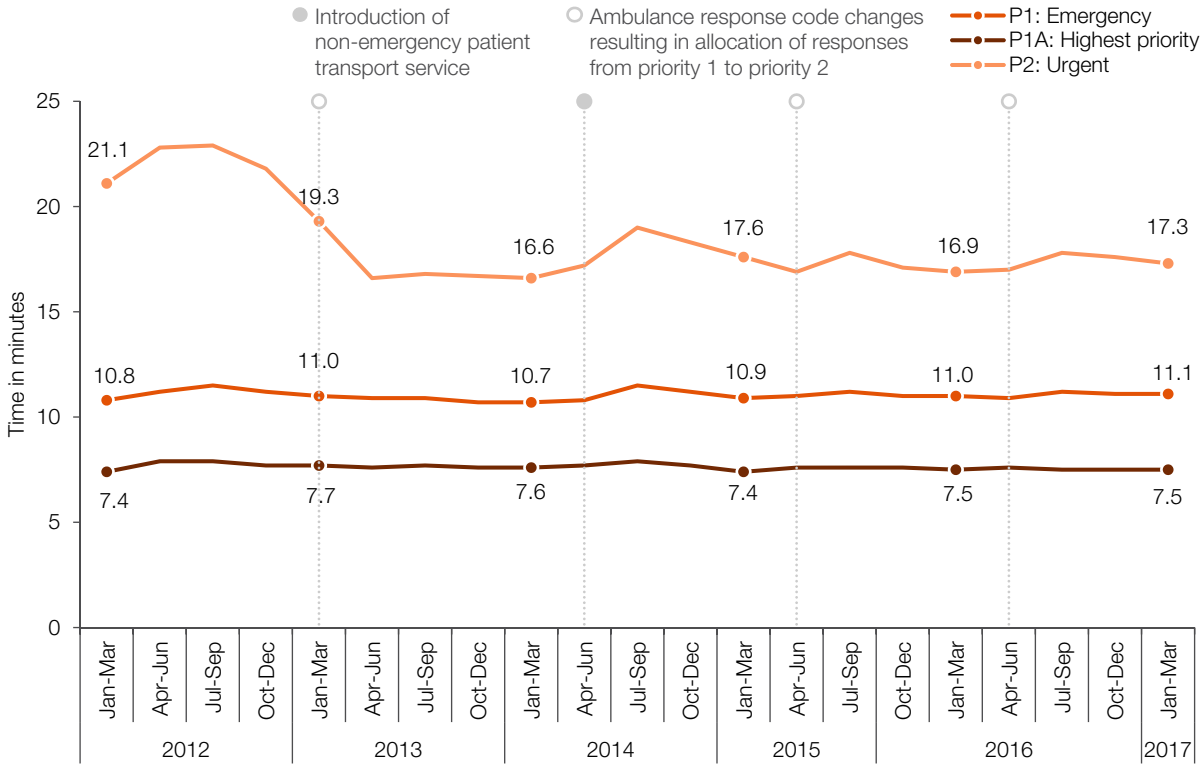
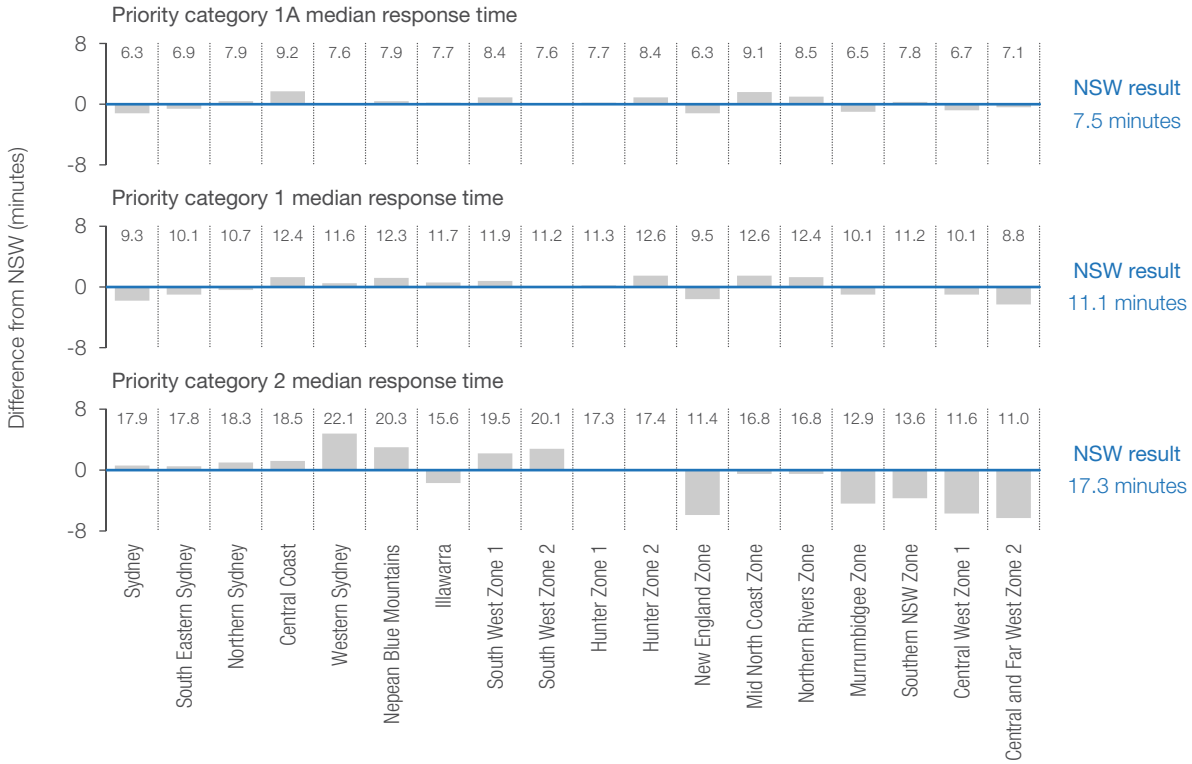


Figure 20 Median priority category 1 response time, January to March quarters, 2012 to 2017

Figure 21 Median ambulance response time, by priority category, January 2012 to March 2017



Admitted patients

In the January to March 2017 quarter, there were 477,983 admitted patient episodes (up 18,489; 4.0%) and 1.6 million bed days (up 252,589; 15.8%) compared with the same quarter last year. The majority of admitted patient episodes (95.7%) and bed days (75.6%) were for acute care (Figure 22).

Bed days are calculated for all admitted patient episodes completed during the reference period. Total bed days for an overnight episode is the difference, in days, between the episode start date and the episode end date, minus the number of episode leave days recorded. Same-day episodes count as one bed day.

The 1,401,693 acute bed days in the January to March 2017 quarter, represent a 4.5% increase over the number of bed days in the same quarter in 2016 and a 4.7% increase in the January to March quarter in 2012 (Figure 23).

The average length of stay for all acute episodes was 3.1 days this quarter and 4.9 days for all acute overnight episodes (both up 0.1 days compared with the same quarter last year). The average length of stay for all acute episodes has remained relatively stable for January to March quarters over the past five years.

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 principal referral hospitals (peer group A) where there was an 8.2 day difference between the highest and lowest average length of stay, and least variation was among major hospitals (peer group B) with a 2.2 day difference (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
Kurri Kurri	C2	734	27.7%
South East Regional *	C1	3,160	22.5%
Narrabri	C2	390	-13.9%
Gunnedah	C2	375	-16.3%

Figure 22 **Total number of admitted patient episodes and hospital bed days, by episode type, January to March 2017**

		This quarter	Same quarter last year	Change since one year ago
Total admitted patient episodes		477,983	459,494	4.0%
Acute	95.7%	457,535	442,686	3.4%
Non-acute	4.3%	20,448	16,808	21.7%
Total bed days		1,853,263	1,600,674	15.8%
Acute	75.6%	1,401,693	1,341,723	4.5%
Non-acute	24.4%	451,570	258,951	74.4%

Note: The 74.4% 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.
* Comparisons should be made with caution – South East Regional Hospital replaced Bega District Hospital, which provided different services.

Figure 23 Number of bed days for acute care, January to March quarters, 2012 to 2017

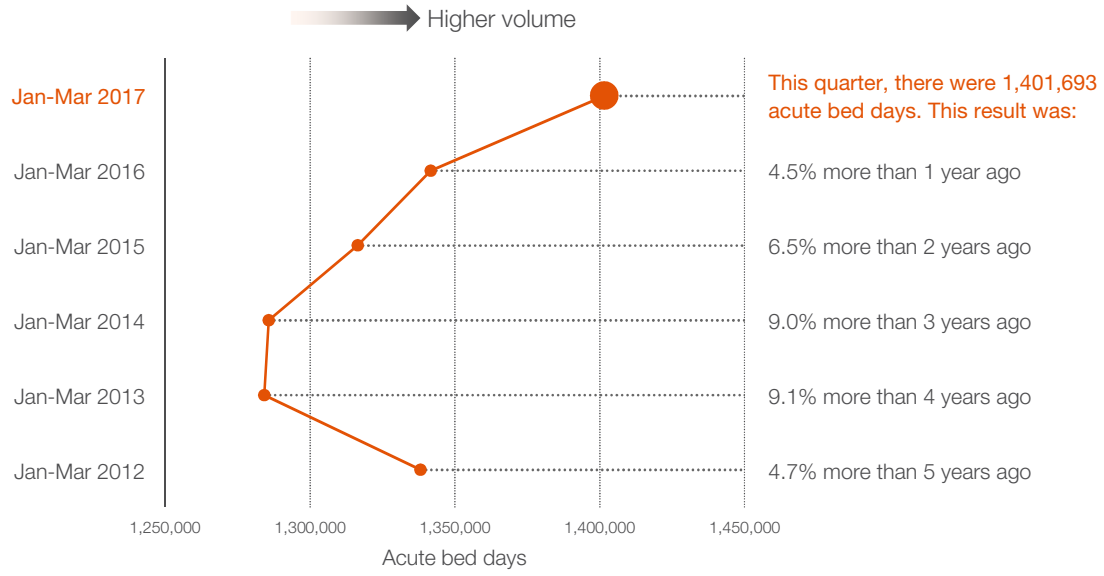
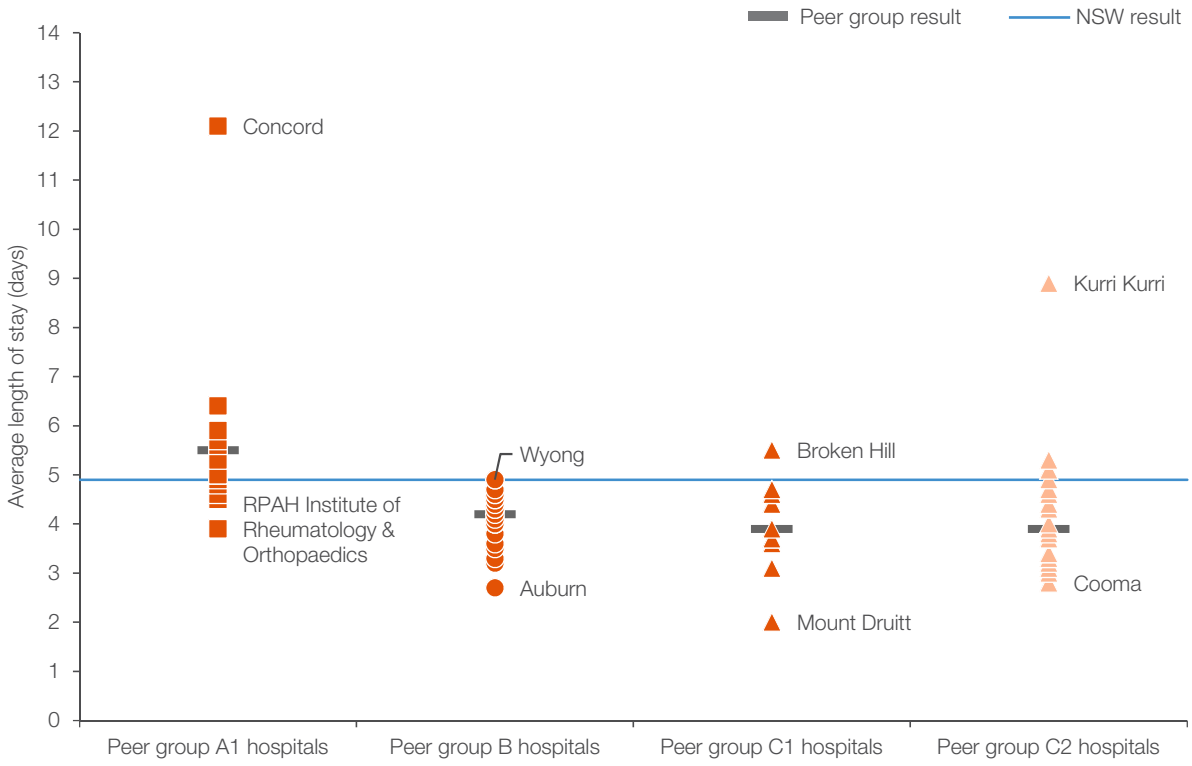


Figure 24 Average length of stay for acute overnight admitted patient episodes, by peer group, January to March 2017



Elective surgery

In the January to March 2017 quarter, a total of 51,830 elective surgical procedures were performed; 5.6% higher than the same quarter last year and 6.9% higher 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 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. For the January to March 2017 quarter there were increases across all urgency categories. The largest absolute increase was for non-urgent procedures (1,171 more; up 5.6%) (Figure 25).

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 surgery, compared with same quarter last year

Hospital	Peer group	Procedures	Percentage point change
Deniliquin	C2	59	55.3
Narrabri	C2	31	47.6
Goulburn	C1	397	42.8
Moruya	C2	172	34.4
Kempsey	C2	337	31.6
Shoalhaven	B	749	-13.2
Port Macquarie	B	875	-13.7
Singleton	C2	80	-14.9
Queanbeyan	C2	227	-18.1
Milton and Ulladulla	C2	12	-20.0

Figure 25 Elective surgical procedures performed, by urgency category, January to March 2017

	This quarter	Same quarter last year	Change since one year ago
Total number of elective surgical procedures	51,830	49,069	5.6%
Urgent 20.5%	10,646	10,289	3.5%
Semi-urgent 31.8%	16,492	15,415	7.0%
Non-urgent 42.3%	21,915	20,744	5.6%
Staged* 5.4%	2,777	2,621	6.0%

* 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, January to March quarters, 2012 to 2017

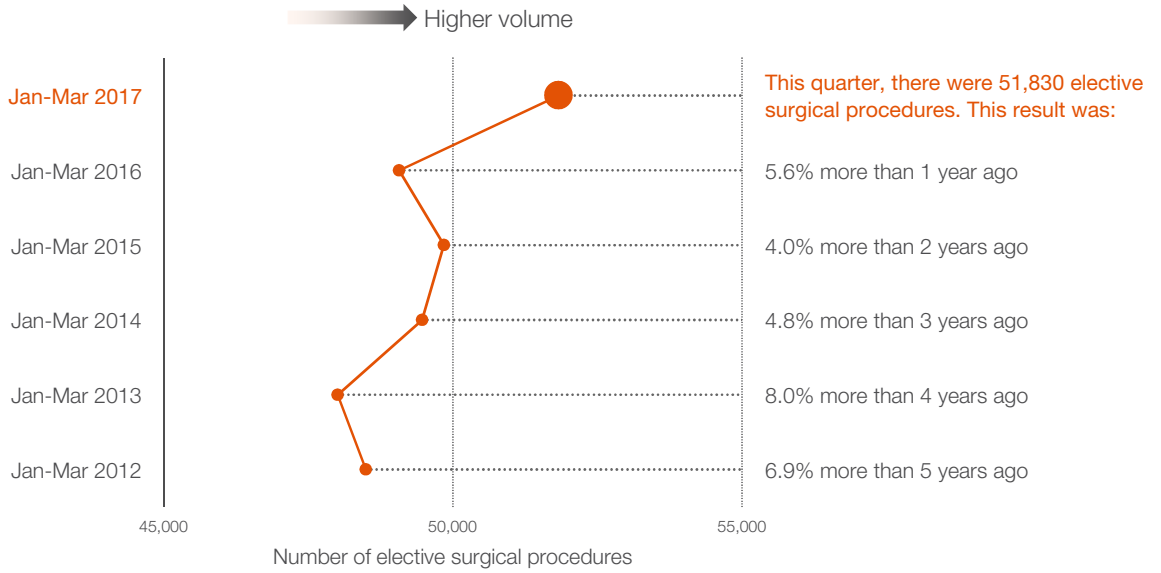
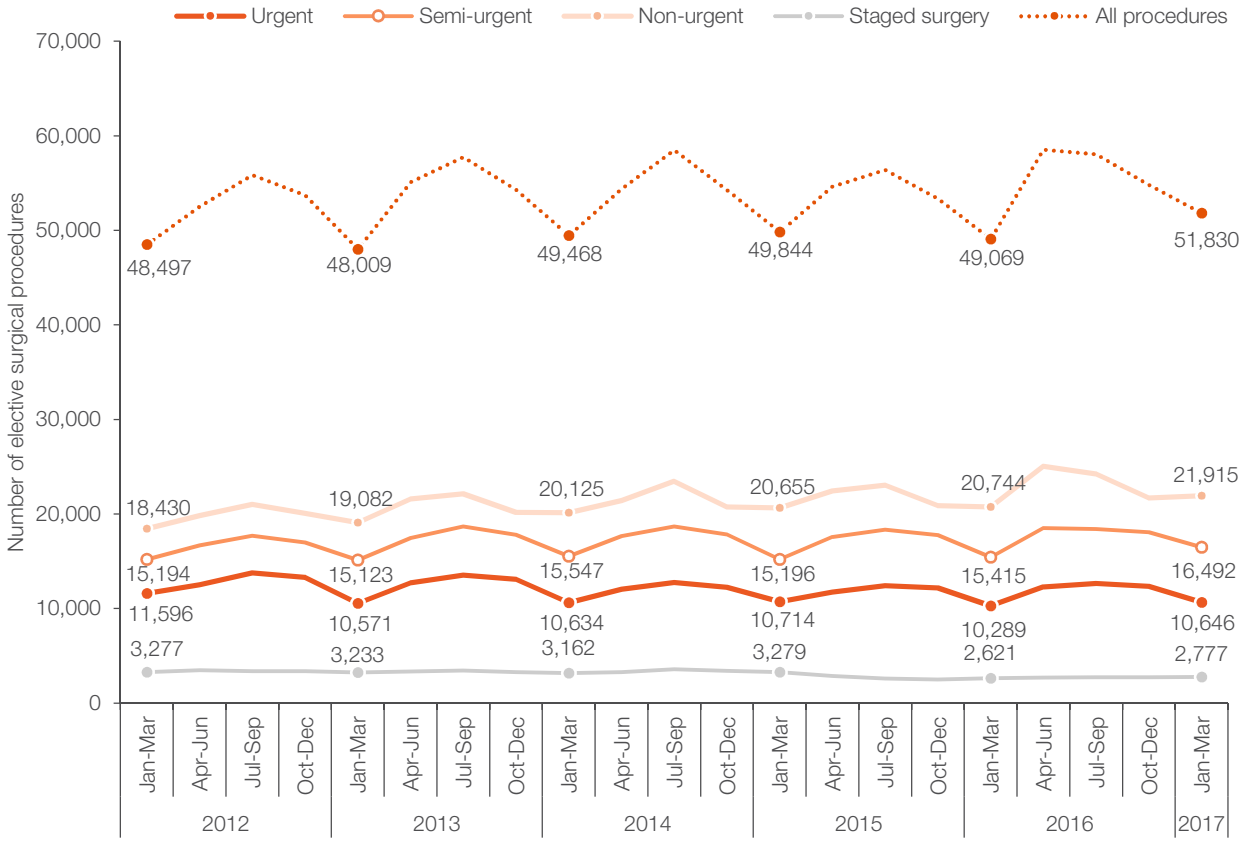


Figure 27 Elective surgical procedures performed, by urgency category, January to March 2017



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 January to March 2017 quarter show median waiting times were unchanged or lower compared with the same quarter last year for all urgency categories. The largest change was for non-urgent surgery (down eight days) (Figure 29).

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 (97.1%) were performed within recommended timeframes this quarter (up 0.1 percentage points compared with the same quarter last year) (Figure 29).

The percentage of elective surgical procedures performed on time in the January to March quarter was 6.5 percentage points higher in 2017 than in 2012 (Figure 30).

Median waiting times decreased slightly between 2012 and 2017 for each urgency category (Figure 31).

Hospitals with >10 percentage point change in procedures on time, compared with same quarter last year

Hospital	Peer group	% on time	Percentage point change
The Children's Hospital at Westmead	A3	95.6	10.6

Figure 29 Percentage of elective surgical procedures performed on time and waiting times, by urgency category, January to March 2017

	This quarter	Same quarter last year	Percentage point change since one year ago
All procedures	97.1%	97.0%	0.1
Urgent	99.7%	99.7%	unchanged
Semi-urgent	96.5%	96.6%	-0.1
Non-urgent	96.3%	96.0%	0.3

Recommended: 30 days

Recommended: 90 days

Recommended: 365 days

	This quarter	Same quarter last year	Change since one year ago
Urgent: 10,646 patients			
Median time to receive surgery	10 days	10 days	0 days
90th percentile time to receive surgery	26 days	26 days	0 days
Semi-urgent: 16,492 patients			
Median time to receive surgery	46 days	47 days	-1 day
90th percentile time to receive surgery	84 days	84 days	0 days
Non-urgent: 21,915 patients			
Median time to receive surgery	221 days	229 days	-8 days
90th percentile time to receive surgery	356 days	356 days	0 days

Figure 30 Percentage of elective surgical procedures performed on time, January to March quarters, 2012 to 2017

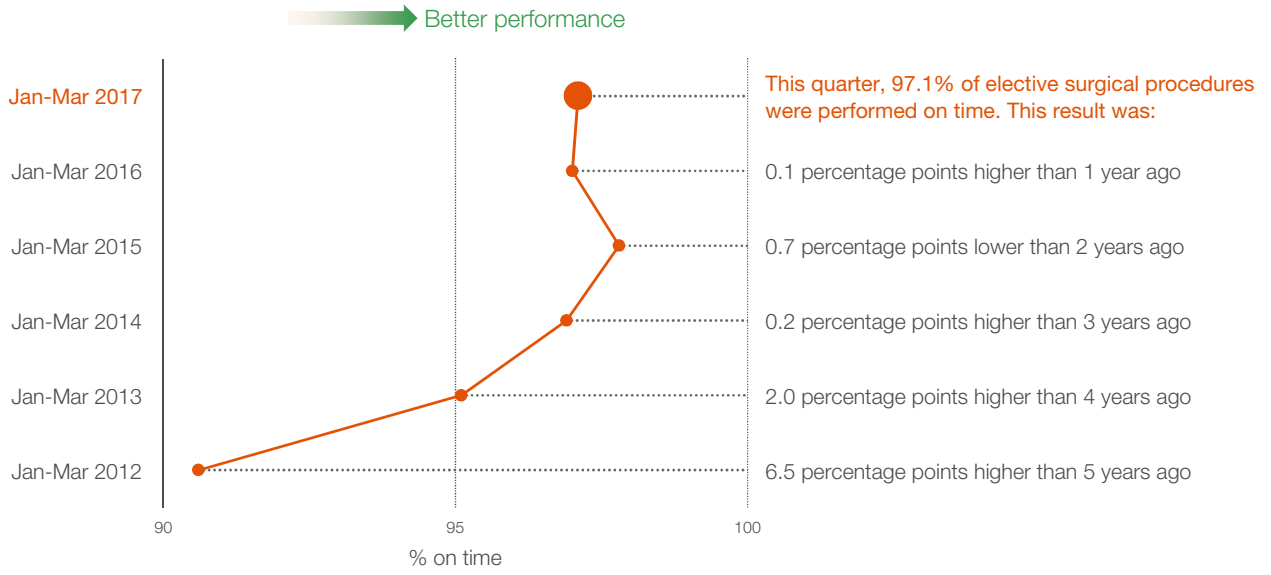
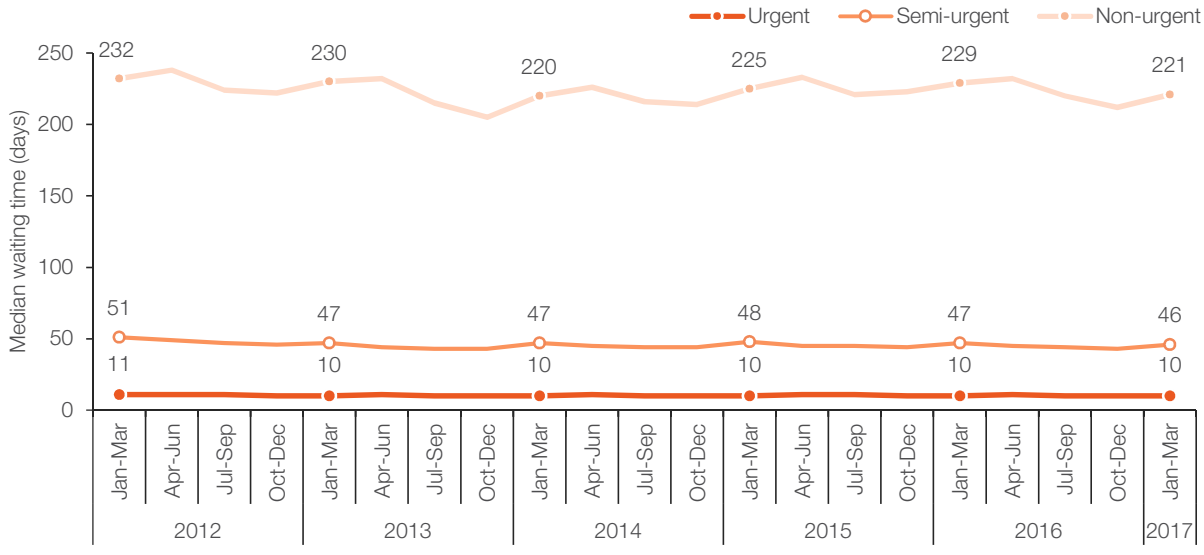


Figure 31 Median waiting times for elective surgery, by urgency category, January to March 2017



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 NSW board-governed organisation, BHI is led by Chairperson Professor Carol Pollock and Acting Chief Executive Dr Kim Sutherland.

We would also like to acknowledge the contribution of Dr Jean-Frederic Levesque for his leadership and guidance at BHI during the development of this report. We would like to thank our expert advisors, colleagues at the Ministry of Health and NSW Ambulance, reviewers and staff who contributed to the report.

External Advisors and Reviewers

NSW Ambulance

Queensland Ambulance Service

Ambulance Victoria

Health Quality and Safety Commission New Zealand

Bureau of Health Information Project Team

Analytics

Renee Carter

Carolynn Fredericks

Jill Kaldor

Behnoosh Khalaj

Research

Lilian Daly

Design

Ed Bury

Adam Myatt

Efren Sampaga

Mark Williams

Communications and Stakeholder Engagement

Rohan Lindeman

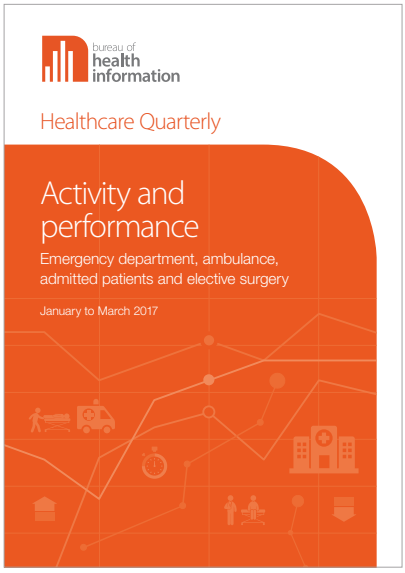
Karen Perini

Stephanie Watson

Healthcare Quarterly

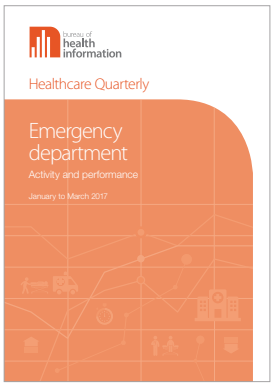
Healthcare Quarterly is a series of regular reports that describes the number and types of services provided to the people of NSW and the timeliness with which they are provided.

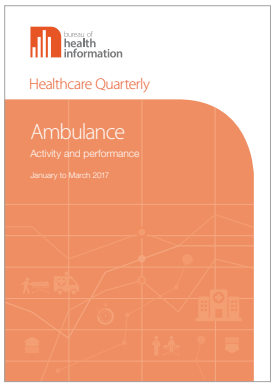
The reports feature key indicators of activity and performance across ambulance and public hospital services in NSW.



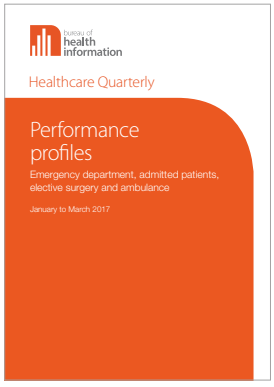
Every day around 25,000 people receive care in the NSW public hospital system and around 1,800 are transported to hospital by ambulance.

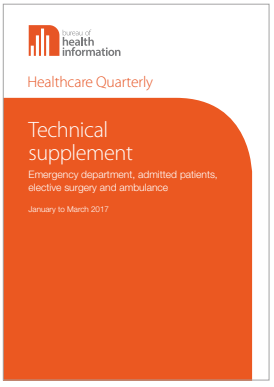
Healthcare Quarterly is published alongside three standalone modules that provide more detailed information about emergency department care, admitted patients and elective surgery, and ambulance services.





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**





All reports and profiles are available at **bhi.nsw.gov.au**

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

bureau of health information

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

bureau of health information

Healthcare Quarterly

Ambulance

Activity and performance

January to March 2017

BUREAU OF HEALTH INFORMATION
Level 11, 67 Albert Avenue
Chatswood NSW 2067
Australia
Telephone: +61 2 9464 4444
bhi.nsw.gov.au

State Health Publication Number: (BHI) 170341
ISSN: 2207-9556 (print); 2207-9564 (online)

Suggested citation:
Bureau of Health Information. *Healthcare Quarterly, Ambulance – Activity and performance, January to March 2017.* Sydney (NSW); BHI; 2017

Please note there is the potential for minor revisions of data in this report.
Please check the online version at **bhi.nsw.gov.au** for any amendments.

Published June 2017

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.

Table of contents

In the January to March 2017 quarter...

Ambulance

There were **277,218** ambulance responses

UP 1.2%

3,259 more than same quarter last year

94.7% of priority 1 cases had a call to ambulance arrival time of 30 minutes or less

Ambulance activity		January to March 2017	January to March 2016	Difference	% change
Calls		281,668	279,682	1,986	0.7%
Responses		277,218	273,959	3,259	1.2%
Priority category	P1: Emergency	121,162	127,114	-5,952	-4.7%
	P1A: Highest priority	5,141	5,117	24	0.5%
	P2: Urgent	122,958	111,151	11,807	10.6%
	P3: Time-critical	23,769	25,116	-1,347	-5.4%
	P4–9: Non-emergency	9,329	10,578	-1,249	-11.8%
Incidents		220,174	219,960	214	0.1%
Patient transports		163,265	162,126	1,139	0.7%

NSW Ambulance performance		January to March 2017	January to March 2016	Difference
Call to ambulance arrival time				
Percentage of P1 call to arrival within 15 minutes		63.2%	64.5%	-1.3 percentage points
Percentage of P1 call to arrival within 30 minutes		94.7%	94.6%	0.1 percentage points
Local response areas meeting 90% threshold (arrival within 30 minutes)		116 (of 153)	113 (of 153)	
Percentage of P2 call to arrival within 30 minutes		75.6%	76.7%	-1.1 percentage points
Percentage of P2 call to arrival within 60 minutes		95.0%	95.2%	-0.2 percentage points
Local response areas meeting 90% threshold (arrival within 60 minutes)		153 (of 153)	150 (of 153)	
Mobilisation time				
P1: Emergency	Median	2.4m	2.4m	0.0m
	90th percentile	6.2m	5.9m	0.3m
	Percentage P1 within 3 minutes	62.5%	63.8%	-1.3 percentage points
P2: Urgent	Median	4.0m	3.8m	0.2m
	90th percentile	19.8m	19.4m	0.4m
Ambulance response time				
P1: Emergency	Median	11.1m	11.0m	0.1m
	90th percentile	22.8m	22.9m	-0.1m
P1A: Highest priority	Median	7.5m	7.5m	0.0m
	90th percentile	15.0m	15.8m	-0.8m
P2: Urgent	Median	17.3m	16.9m	0.4m
	90th percentile	43.8m	43.0m	0.8m
Percentage of P1A responses within 10 minutes		71.9%	71.5%	0.4 percentage points
Number of days median priority 1A response time > 10 minutes		3 days	1 day	2 days
Turnaround time				
P1: Emergency	Median	35.9m	36.4m	-0.5m
	90th percentile	58.5m	60.3m	-1.8m
	Percentage within 45 minutes	71.7%	69.9%	1.8 percentage points
P2: Urgent	Median	33.2m	33.9m	-0.7m
	90th percentile	55.1m	56.7m	-1.6m
	Percentage within 45 minutes	77.1%	75.2%	1.9 percentage points

About this module

Data for this module are drawn from the NSW Ambulance Computer Aided Dispatch (CAD) system, which is used to manage and record ambulance activity and service time points.

Detailed data specifications and analytic methods used in this module are described in the technical supplements section of the Bureau of Health Information (BHI) website at **bhi.nsw.gov.au**

About the measures

Activity is measured as the number of ambulance calls, incidents, responses and transports during the quarter. Timeliness is measured using four key measures: call to ambulance arrival time, mobilisation time, response time and turnaround time. These measures cover different combinations of time points captured in the electronic data system (Figure 1).

Results are reported at NSW and zone levels. Results for local response areas (or stations) have been shown to be subject to random variation and impacted by non-modifiable factors and so are not reported on a nominal (named) basis.

More detailed state and zone level information is available from the BHI interactive data portal, Healthcare Observer at **bhi.nsw.gov.au/healthcare_observer**

Percentages in this report are rounded to one decimal point and therefore may not sum to 100%.

Terminology

A triple zero call generally initiates ambulance activity. An incident is an event that results in a response by one or more ambulances. A response is the dispatch of an ambulance from a local response area. Not all triple zero calls result in an ambulance response. Responses are prioritised based on the urgency of the case, based on the information provided by the caller.

Depending on the seriousness of an incident, or the number of people involved, multiple responses (vehicles) may be required for a single incident. Most incidents have one vehicle assigned. Around two in 10 incidents have multiple vehicles assigned. Some vehicles are cancelled en route.

Incidents involve one or multiple patients. Once an ambulance arrives at the scene, patients are either treated and transported, or treated at the scene only. About six in 10 responses result in patient transport.

Descriptions of ambulance indicator development, validation and sensitivity testing, are provided in the supplementary report, *Spotlight on Measurement: Measuring and reporting performance of NSW ambulance services*.

Figure 1 **Ambulance service time points and timeliness measures**

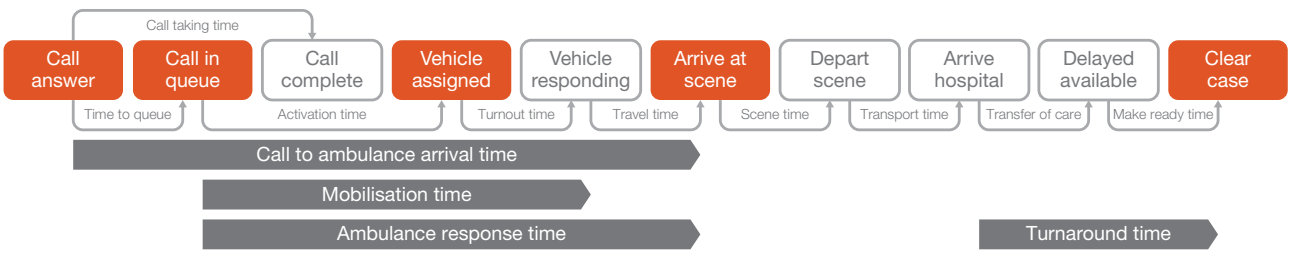


Table 1 Incident and response priority codes

Code	Priority	Description	Example	Response required
1	**1A Emergency**	Highest priority – life-threatening case	Cardiac or respiratory arrest, unconscious, ineffective breathing	Immediate response – median within 10 minutes – under 'lights and sirens'
	1B Emergency	High priority	Unconscious	Emergency response – under 'lights and sirens'
	1C Emergency	Priority	Breathing problems, chest or neck injury, serious haemorrhage	Emergency response – under 'lights and sirens'
2	**Urgent**	Urgent	Abdominal pain	Urgent response without 'lights and sirens' within specified timeframes
3	**Time-critical**	Time-critical	Medical responses requested by medical practitioners often pre-booked	Undelayed response within specified timeframes
4-9	**Non-emergency**	Non-emergency	Routine transport	Routine

Table 2 Ambulance local response area typology

Service type	Description
24-hour	Primarily situated in urban areas providing mostly urban, 24-hour operation. These are higher volume response areas, the majority with multiple vehicles and ambulance staff.
24-hour (with on-call)	Primarily situated in regional areas providing 24-hour operation, supplemented with on-call staff.
Non-24-hour	Primarily situated in regional and rural areas providing 8, 12 or 16-hour operation with remaining time covered by on-call staff.
Community and volunteer (volunteer ambulance officers, community first responder programs and community initiated groups)	Volunteer ambulance officers provide a first response and transport role in more remote areas. Some are attached to smaller stations, work with certified paramedics and respond in an ambulance vehicle. Members of community first responder programs are attached to emergency services, such as Fire Rescue NSW, NSW Rural Fire Service and the NSW State Emergency Service, and respond in their agency vehicle. Community-initiated groups (not attached to a response agency) can form a community first responder unit. Members agree to be available on a regular basis and respond from within the community in a private, or community-funded, vehicle.

Ambulance activity and performance

Ambulance activity

In the January to March 2017 quarter, there were 281,668 calls for an ambulance; up 0.7% compared with the same quarter last year. There were 277,218 ambulance responses, (up 1.2%) with most categorised as emergency (priority 1; 43.7%) or urgent (priority 2; 44.4%). Of priority 1 responses, 5,141 were priority 1A (4.2% of priority 1 and 1.9% of total responses) (Figure 2).

The number of calls, incidents and responses has decreased over the past five years (Figure 3).

Much of this is due to the introduction of a dedicated patient transport service for non-emergency cases in 2014. Daily activity fluctuated across the quarter but was particularly high on 1 January and around mid-February 2017 (Figure 4).

Changes in urgency categorisation or 'grid' resulted in an apparent increase in the number of priority 2 responses and a corresponding decrease in the number of priority 1 responses (Figure 5).

Figure 2 **Ambulance calls, incidents and responses by priority, January to March 2017**

	This quarter	Same quarter last year	Change since one year ago
Calls	281,668	279,682	0.7%
Incidents	220,174	219,960	0.1%
All responses	277,218	273,959	1.2%
P1: Emergency (43.7%)	121,162	127,114	-4.7%
P1A: Highest priority (4.2%)	5,141	5,117	0.5%
P2: Urgent (44.4%)	122,958	111,151	10.6%
P3: Time-critical (8.6%)	23,769	25,116	-5.4%
P4–9: Non-emergency (3.4%)	9,329	10,578	-11.8%
Patient transports	163,265	162,126	0.7%

Figure 3 **Ambulance calls, incidents, responses and patient transports, January 2012 to March 2017**

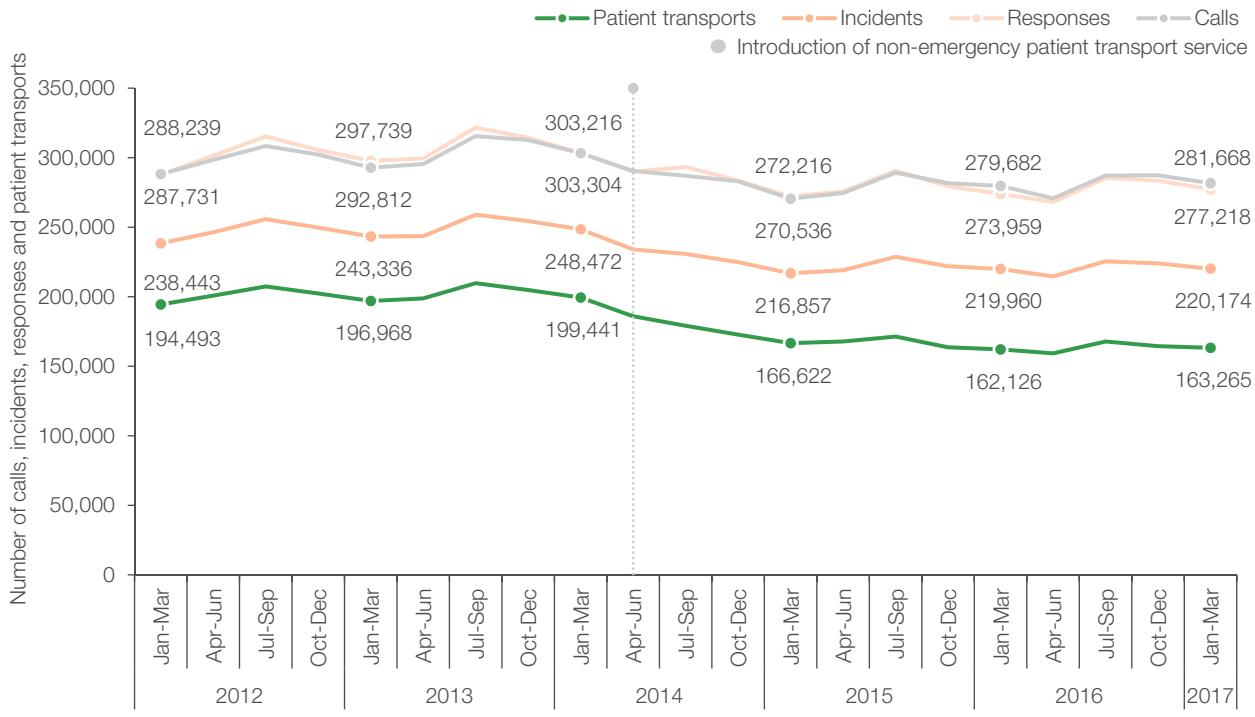


Figure 4 Daily number of priority 1, 2 and 3 responses, January to March 2017

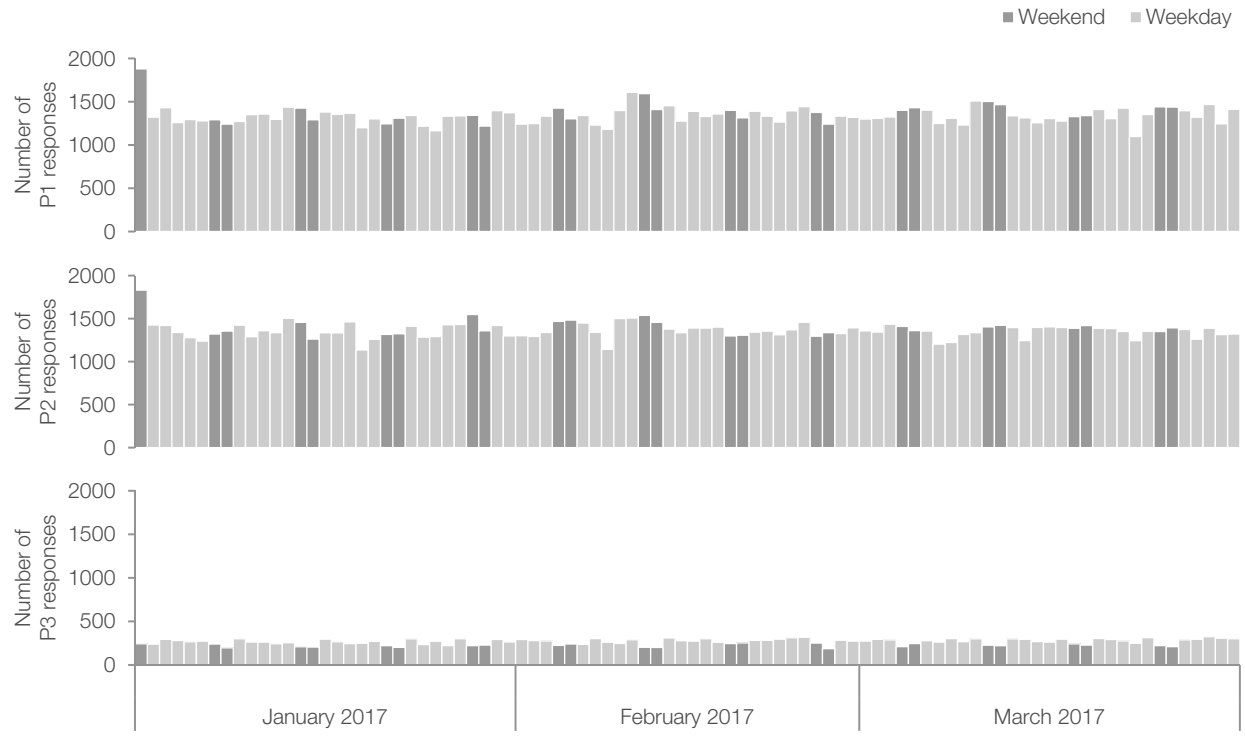
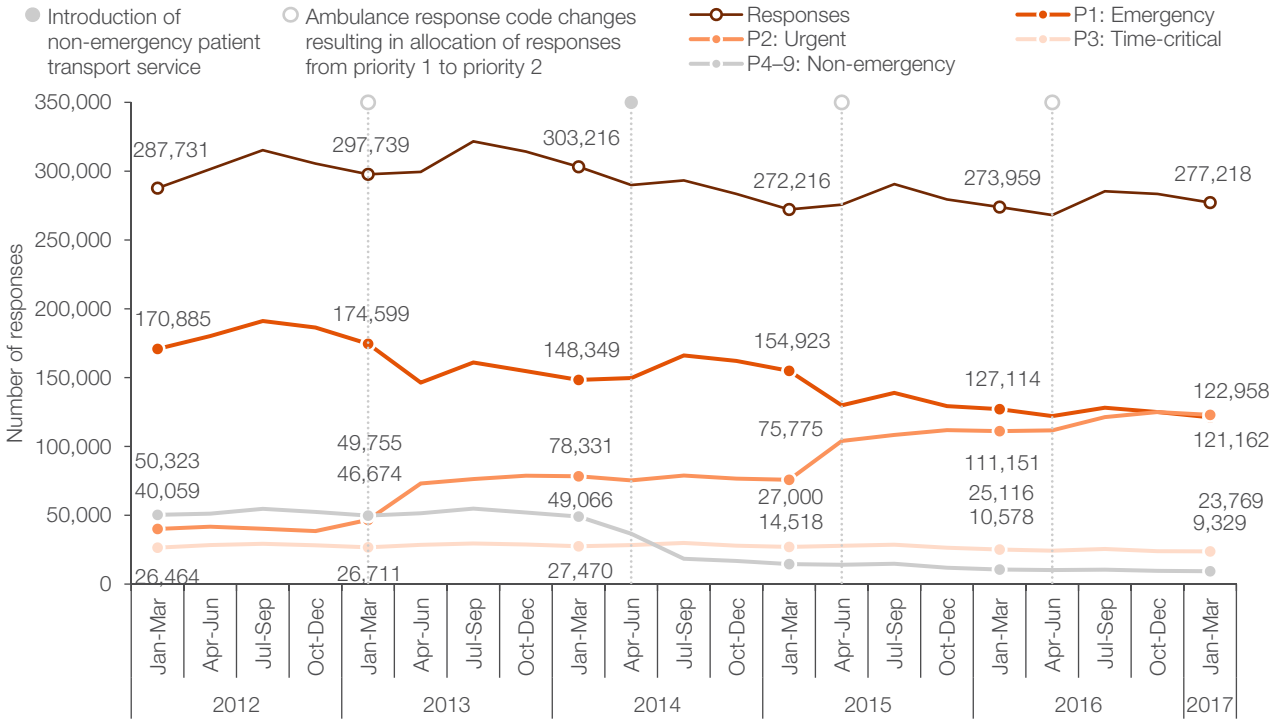


Figure 5 Ambulance responses by priority, January 2012 to March 2017



Call to ambulance arrival time – NSW and zone performance

Call to ambulance arrival time reflects patients' experiences, spanning 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.

In the January to March 2017 quarter, 63.2% of priority category 1 responses had a call to ambulance arrival time within 15 minutes, and 94.7% within 30 minutes (compared to same quarter last year, down 1.3 and up 0.1 percentage points, respectively). For priority 2 responses, 75.6% had a call to ambulance arrival time within 30 minutes and 95.0% within 60 minutes (Figure 7).

At a state level, call to ambulance arrival times have remained fairly steady over the past three years (Figure 8).

For priority 1, the percentage of call to ambulance arrival times within 30 minutes ranged across zones from 88.1% in Southern NSW to 97.5% in Sydney.

For priority 2, the percentage of call to ambulance arrival times within 60 minutes ranged across zones from 92.1% in Western Sydney to 98.8% in New England (Figure 9).

Figure 6 Intervals covering call to ambulance arrival time, NSW

Figure 7 Call to ambulance arrival time, by priority category, January to March 2017

Priority category		This quarter	Same quarter last year	Change since one year ago
P1 responses	89,939			
Within 15 minutes		63.2%	64.5%	-1.3 percentage points
Within 30 minutes		94.7%	94.6%	0.1 percentage points
Local response areas meeting 90% threshold (arrival within 30 minutes)		116 (of 153)	113 (of 153)	
P2 responses	94,681			
Within 30 minutes		75.6%	76.7%	-1.1 percentage points
Within 60 minutes		95.0%	95.2%	-0.2 percentage points
Local response areas meeting 90% threshold (arrival within 60 minutes)		153 (of 153)	150 (of 153)	

Figure 8 Call to ambulance arrival time, by priority category, January 2012 to March 2017

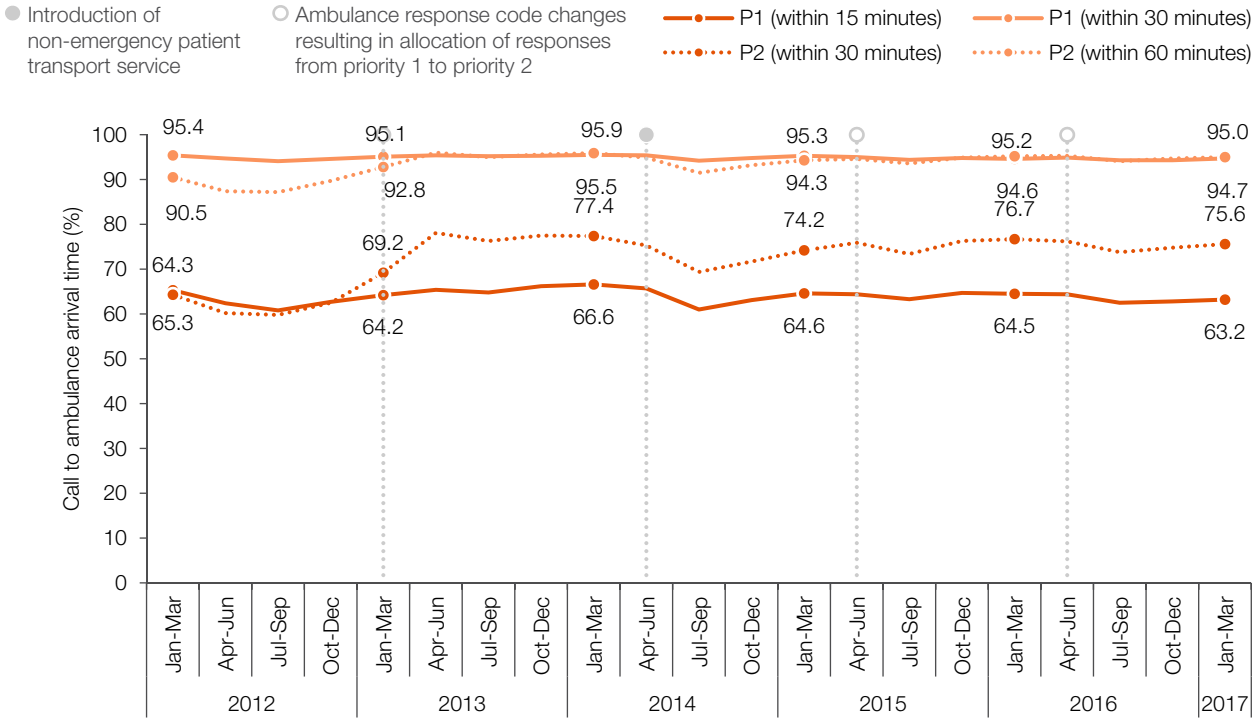
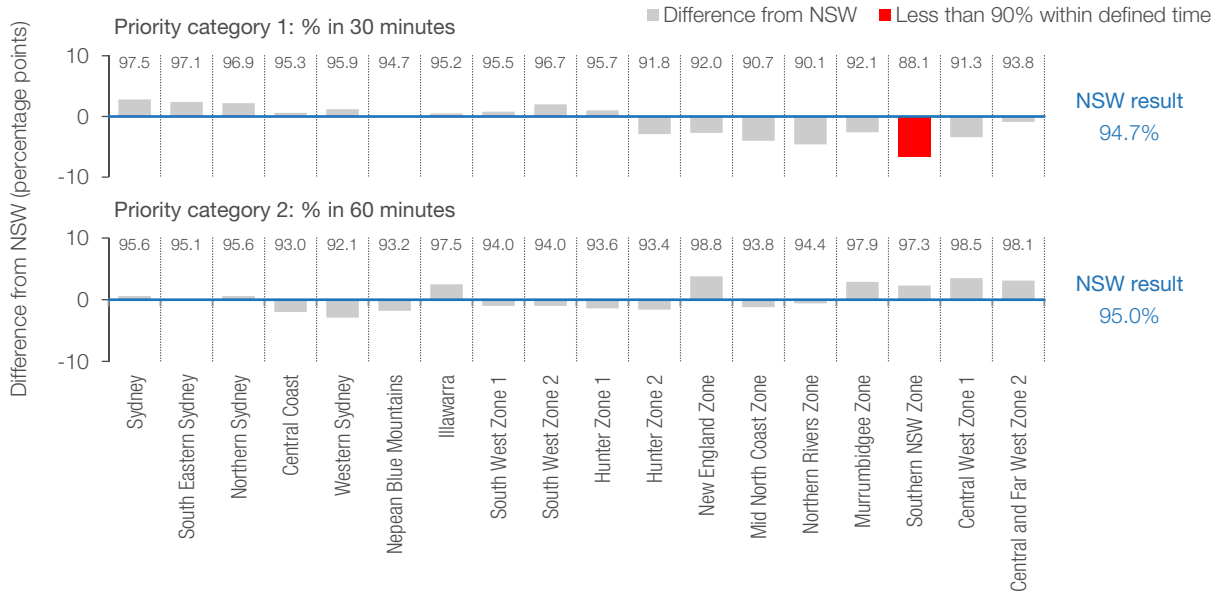


Figure 9 Call to ambulance arrival time, by zone, relative to NSW, January to March 2017



Call to ambulance arrival time – variation

For priority 1 responses this quarter, 116 of 153 local response areas (LRAs) achieved 90% call to ambulance arrival times within 30 minutes (Figure 10). Out of the total 89,939 priority 1 call to ambulance arrival times, 4,767 were over 30 minutes. Altogether, Mid North Coast crews met 5.2% of NSW priority 1 responses in the quarter, with 9.1% of all call to ambulance arrival times over 30 minutes (Figure 11).

Figure 10 **Percentage of priority 1 call to ambulance arrival times within 30 minutes, by zone and local response area type, January to March 2017**

	Number	Total LRAs	LRAs achieving 90% in 30 minutes 2017	2016
Sydney	9,510	8	8	8
South Eastern Sydney	6,620	8	8	8
Northern Sydney	6,480	9	9	9
Central Coast	5,462	9	7	7
Western Sydney	8,334	5	5	5
Nepean Blue Mountains	5,630	6	6	5
Illawarra	5,610	10	9	8
South West Zone 1	5,246	5	4	5
South West Zone 2	6,469	4	4	4
Hunter Zone 1	5,453	9	8	8
Hunter Zone 2	3,136	10	8	7
New England Zone	2,381	10	6	6
Mid North Coast Zone	4,649	12	8	7
Northern Rivers Zone	4,138	12	6	5
Murrumbidgee Zone	3,458	8	5	6
Southern NSW Zone	2,886	10	4	5
Central West Zone 1	2,535	12	7	8
Central and Far West Zone 2	1,847	6	4	2
Total		**153**	**116**	**113**

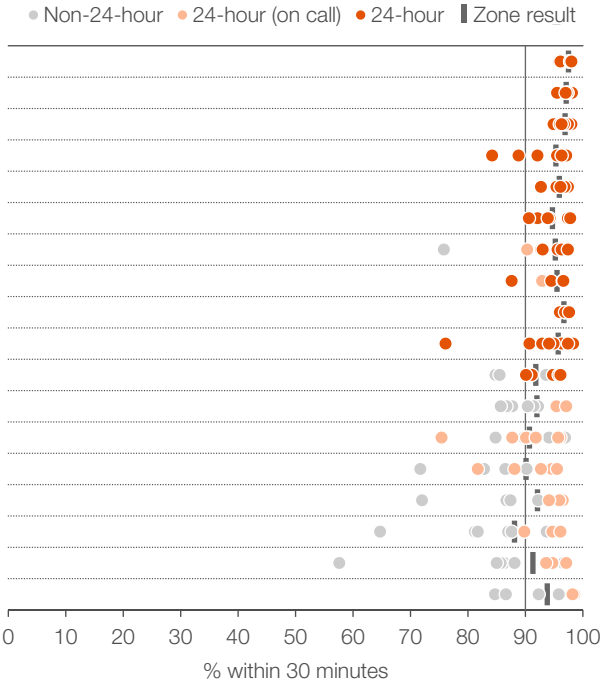
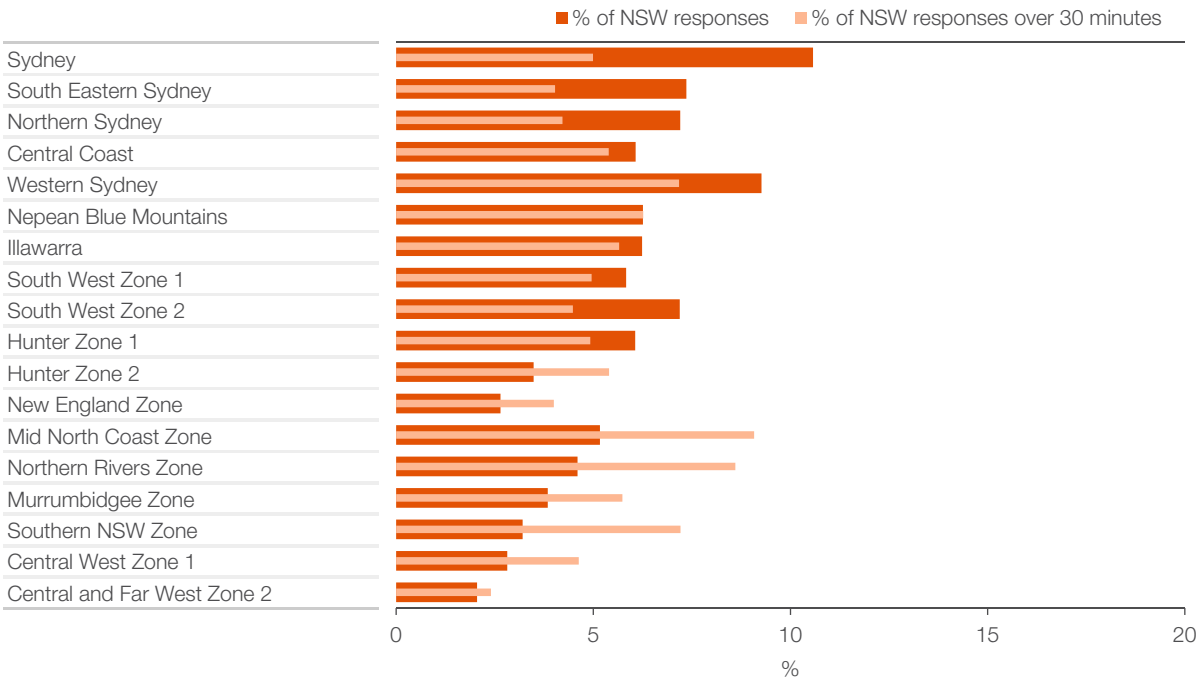


Figure 11 **Proportion of priority 1 responses and call to ambulance arrival times outside 30 minutes, by zone, January to March 2017**



For priority 2 responses this quarter, all 153 LRAs achieved 90% call to ambulance arrival times within 60 minutes (Figure 12). Out of a total of 94,681 priority 2 call to ambulance arrival times, 4,734 were over 60 minutes. Across zones, the distribution of priority 2 responses was similar to the distribution of call to ambulance arrival times over 60 minutes (Figure 13).

Figure 12 Percentage of priority 2 call to ambulance arrival times within 60 minutes, by zone and local response area type, January to March 2017

	Number	Total LRAs	LRAs achieving 90% in 60 minutes 2017	2016
Sydney	9,626	8	8	8
South Eastern Sydney	7,011	8	8	8
Northern Sydney	6,978	9	9	9
Central Coast	5,992	9	9	8
Western Sydney	7,664	5	5	5
Nepean Blue Mountains	5,239	6	6	6
Illawarra	6,418	10	10	10
South West Zone 1	4,780	5	5	5
South West Zone 2	5,600	4	4	4
Hunter Zone 1	6,114	9	9	9
Hunter Zone 2	3,462	10	10	10
New England Zone	2,714	10	10	10
Mid North Coast Zone	5,217	12	12	11
Northern Rivers Zone	4,580	12	12	12
Murrumbidgee Zone	4,222	8	8	8
Southern NSW Zone	3,545	10	10	9
Central West Zone 1	3,054	12	12	12
Central and Far West Zone 2	2,374	6	6	6
Total		**153**	**153**	**150**

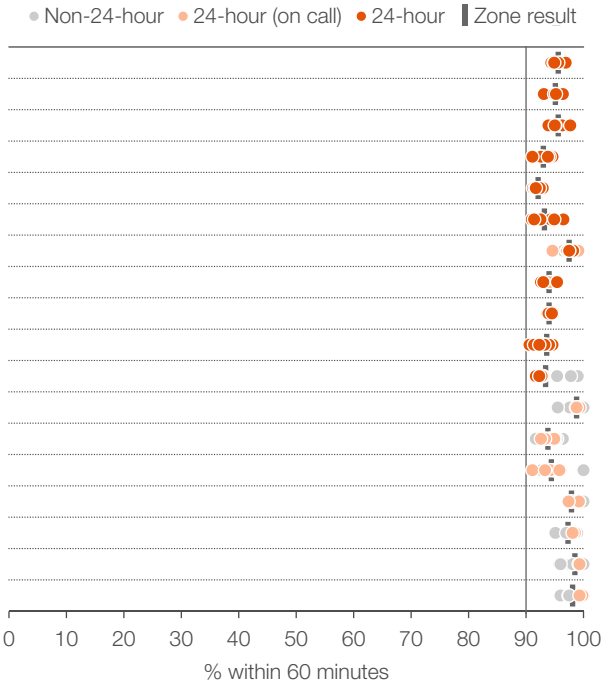


Figure 13 Proportion of priority 2 responses and call to ambulance arrival times outside 60 minutes, by zone, January to March 2017

Mobilisation time – NSW performance

Once a call has been placed 'in queue' for vehicle dispatch, there is typically a short period of time before the vehicle begins driving. This period – the mobilisation time – is a measure of preparedness and operational responsiveness. NSW Ambulance monitors for operational purposes the percentage of priority 1 mobilisation times within three minutes.

In January to March 2017, the NSW median mobilisation time was 2.4 minutes for priority 1 and 4.0 minutes for priority 2 responses. For priority 1 responses, 62.5% were within three minutes (Figure 15).

In January to March quarters between 2012 and 2017, priority 1 median mobilisation time has been relatively unchanged (Figure 16).

There has however been a decrease in priority 2 median mobilisation times – with a 2.4 minute drop between the January to March quarters in 2012 and 2017. The five year time series shows there is very little seasonal variation in mobilisation times (Figure 17).

Figure 14 Intervals covering mobilisation time, NSW

Figure 15 Mobilisation time, by priority category, January to March 2017

	Volume	This quarter	Same quarter last year	Change since one year ago
P1	89,925			
Median		2.4m	2.4m	unchanged
90th percentile		6.2m	5.9m	0.3m
Percentage P1 within 3 minutes		62.5%	63.8%	-1.3 percentage points
P2	94,675			
Median		4.0m	3.8m	0.2m
90th percentile		19.8m	19.4m	0.4m

Figure 16 Median priority category 1 mobilisation time, January to March quarters, 2012 to 2017

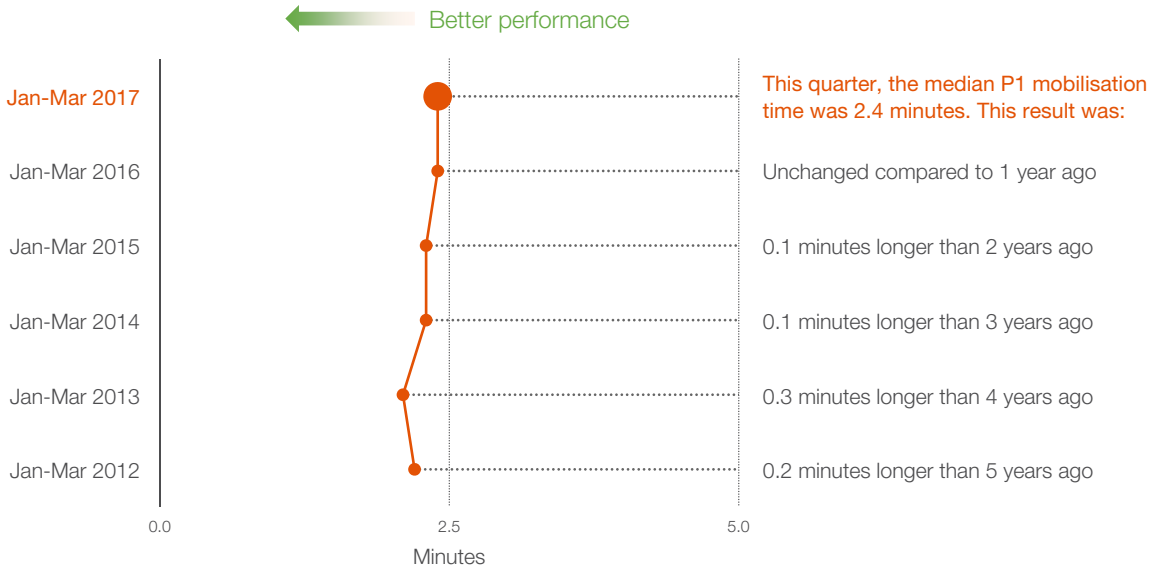
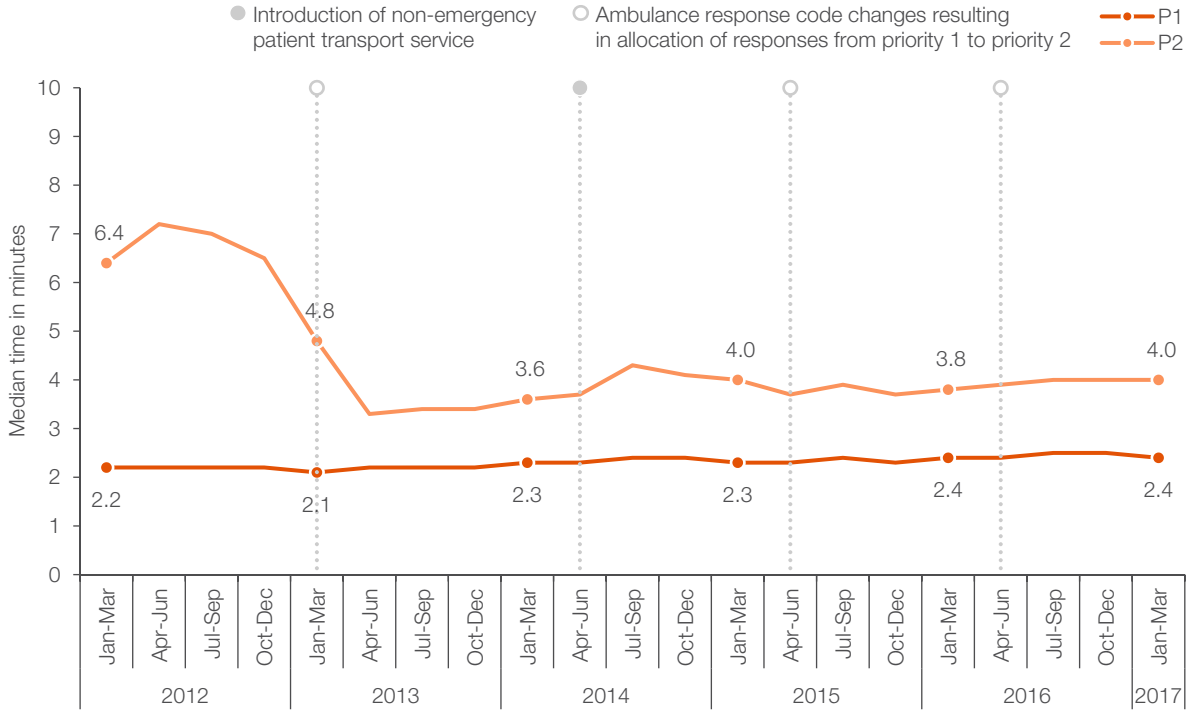


Figure 17 Median mobilisation time, by priority category, January 2012 to March 2017



Mobilisation time – variation

The NSW priority 1 median mobilisation time for January to March 2017 was 2.4 minutes. Across zones, median times ranged from 2.1 minutes in Sydney and South West Zone 2 to 3.5 minutes in Southern NSW Zone (a 1.4 minute range (Figure 18).

The NSW priority 2 median mobilisation time was 4.0 minutes this quarter, and ranged across zones from 3.5 minutes in Sydney to 4.8 minutes in Northern Rivers (a 1.3 minute range). In general, zones in non-metropolitan areas had longer mobilisation times for both priority 1 and priority 2 responses (Figure 18).

Within zones, median mobilisation times for individual LRAs were more variable in non-metropolitan zones (Figures 19 and 20).

This may reflect differences in the distribution of LRA types across zones. Metropolitan zones primarily have 24 hour LRAs while non-metropolitan zones have a preponderance of non-24 hour and 24 hour (on-call) LRAs, which rely on staff that are not always based at the ambulance station, ready to respond immediately to calls.

The level of variation seen within zones is similar for priority 1 and priority 2 responses (Figures 19 and 20).

Figure 18 Median mobilisation time, by zone, relative to NSW, January to March 2017

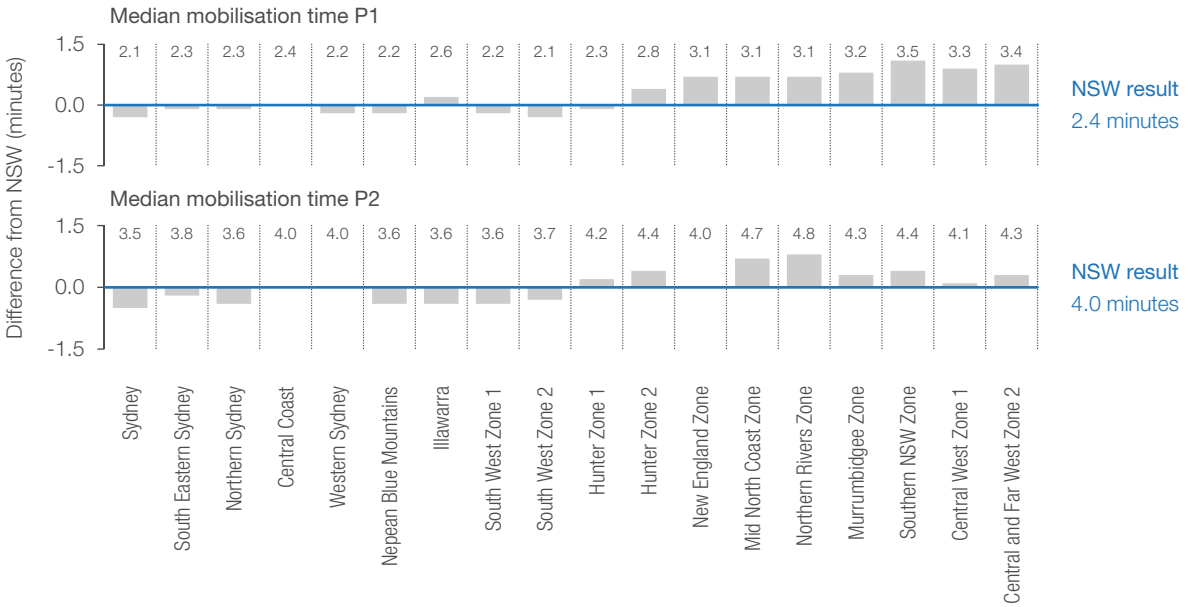


Figure 19 Median priority 1 mobilisation time, by zone and local response area type, January to March 2017

	Number
Sydney	9,506
South Eastern Sydney	6,620
Northern Sydney	6,480
Central Coast	5,462
Western Sydney	8,331
Nepean Blue Mountains	5,630
Illawarra	5,610
South West Zone 1	5,245
South West Zone 2	6,467
Hunter Zone 1	5,453
Hunter Zone 2	3,136
New England Zone	2,381
Mid North Coast Zone	4,649
Northern Rivers Zone	4,138
Murrumbidgee Zone	3,457
Southern NSW Zone	2,886
Central West Zone 1	2,532
Central and Far West Zone 2	1,847

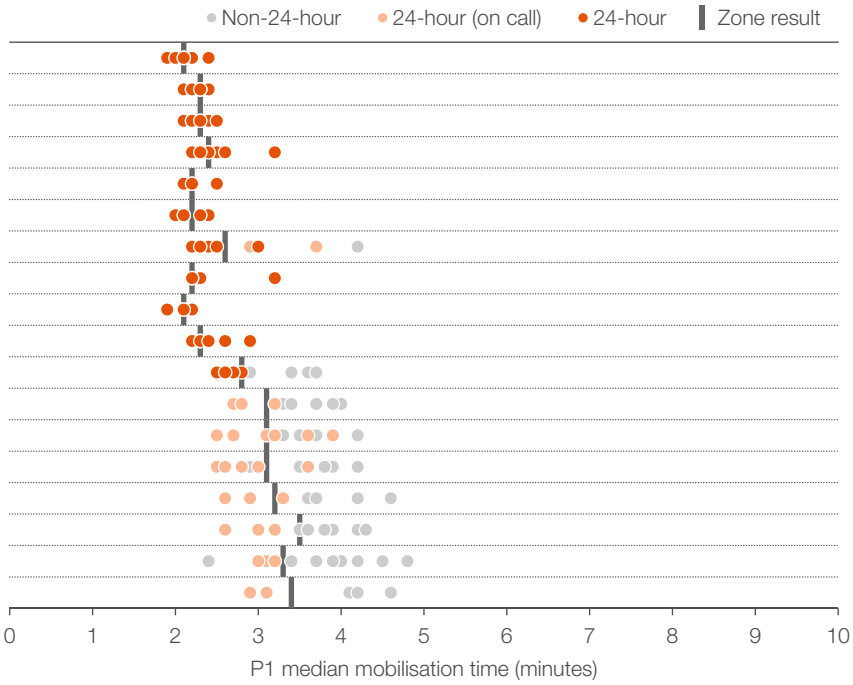
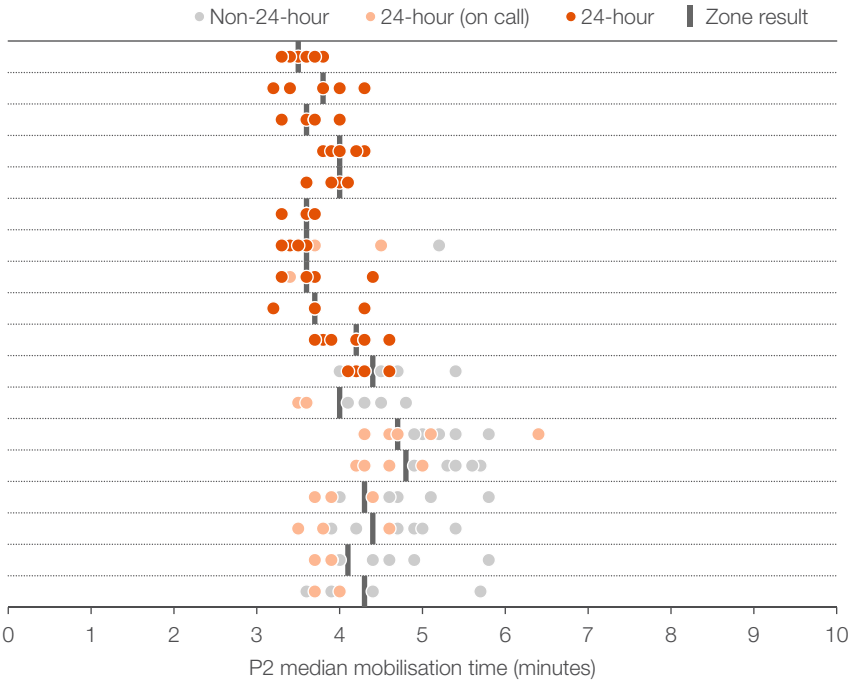


Figure 20 Median priority 2 mobilisation time, by zone and local response area type, January to March 2017

	Number
Sydney	9,626
South Eastern Sydney	7,011
Northern Sydney	6,976
Central Coast	5,992
Western Sydney	7,664
Nepean Blue Mountains	5,238
Illawarra	6,418
South West Zone 1	4,779
South West Zone 2	5,600
Hunter Zone 1	6,114
Hunter Zone 2	3,462
New England Zone	2,712
Mid North Coast Zone	5,217
Northern Rivers Zone	4,580
Murrumbidgee Zone	4,222
Southern NSW Zone	3,545
Central West Zone 1	3,054
Central and Far West Zone 2	2,374



Response time – NSW performance

Ambulance response time is measured 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.

In the January to March 2017 quarter, median response times were 11.1 minutes for priority 1 responses, 7.5 minutes for priority 1A and 17.3 minutes for priority 2 responses (Figure 22).

This quarter, 71.9% of priority 1A response times were within 10 minutes; almost unchanged since the same quarter last year.

There were three days in the quarter when the median response time for priority 1A responses exceeded 10 minutes, compared with one day in the same quarter last year.

Although seasonal fluctuations are apparent, in the January to March quarter there has been little change in median priority 1 response times since 2012. There has however been a 3.8 minute decrease in priority 2 response times (Figure 24).

Figure 21 Intervals covering response time, NSW

Figure 22 Ambulance response time, by priority category, January to March 2017

	This quarter	Same quarter last year	Change since one year ago
P1: Emergency (89,939 responses)			
Median response time	11.1m	11.0m	0.1m
90th percentile response time	22.8m	22.9m	-0.1m
P1A: Highest priority (1,982 responses)			
Median response time	7.5m	7.5m	unchanged
90th percentile response time	15.0m	15.8m	-0.8m
P2: Urgent (94,681 responses)			
Median response time	17.3m	16.9m	0.4m
90th percentile response time	43.8m	43.0m	0.8m
Percentage P1A responses within 10 minutes	71.9%	71.5%	0.4 percentage points
Number of days P1A median response time exceeded 10 minutes	3 days	1 day	2 days

Figure 23 Median priority category 1 response time, January to March quarters, 2012 to 2017

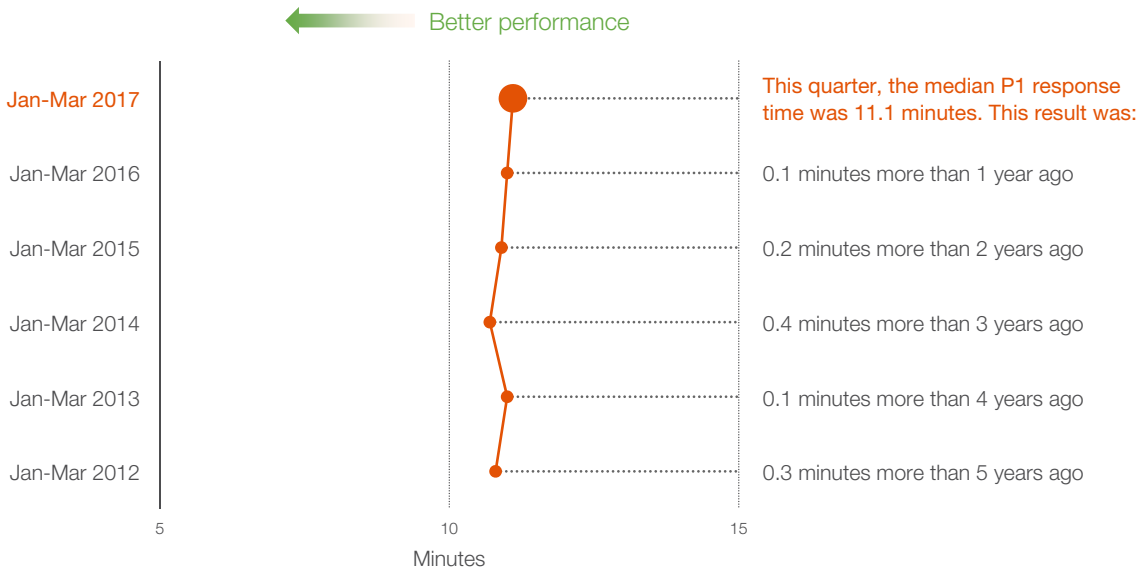
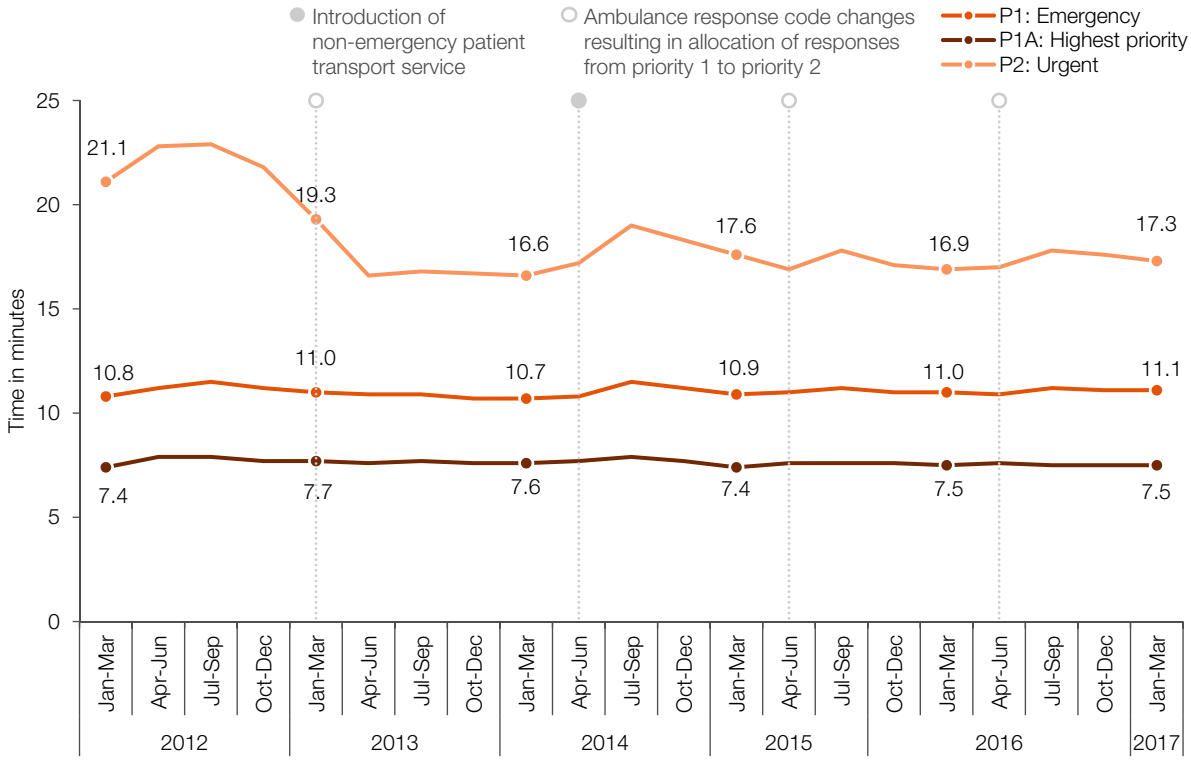


Figure 24 Median ambulance response time, by priority category, January 2012 to March 2017



Response time – variation

The NSW priority 1A median response time was 7.5 minutes in the January to March 2017 quarter. Across zones, priority 1A median response times ranged from 6.3 minutes in Sydney and New England to 9.2 minutes in Central Coast (a 2.9 minute range) (Figure 25).

The priority 1 median response time was 11.1 minutes in the January to March 2017 quarter. Across zones, median response times ranged from 8.8 minutes in Central and Far West Zone 2 to 12.6 minutes in Hunter Zone 2 and Mid North Coast Zone (a 3.8 minute range) (Figure 25).

The median priority 2 response time was 17.3 minutes this quarter. Across zones, median response times ranged from 11.0 minutes in Central and Far West Zone 2 to 22.1 minutes in Western Sydney (a 11.1 minute range) (Figure 25 and 27).

Within zones, the median response times of constituent LRAs varied more widely in non-metropolitan settings. Within-zone variation was more marked for priority 2 responses than for priority 1 responses (Figures 26 and 27).

Figure 25 Median ambulance response time, by zone, relative to NSW, January to March 2017

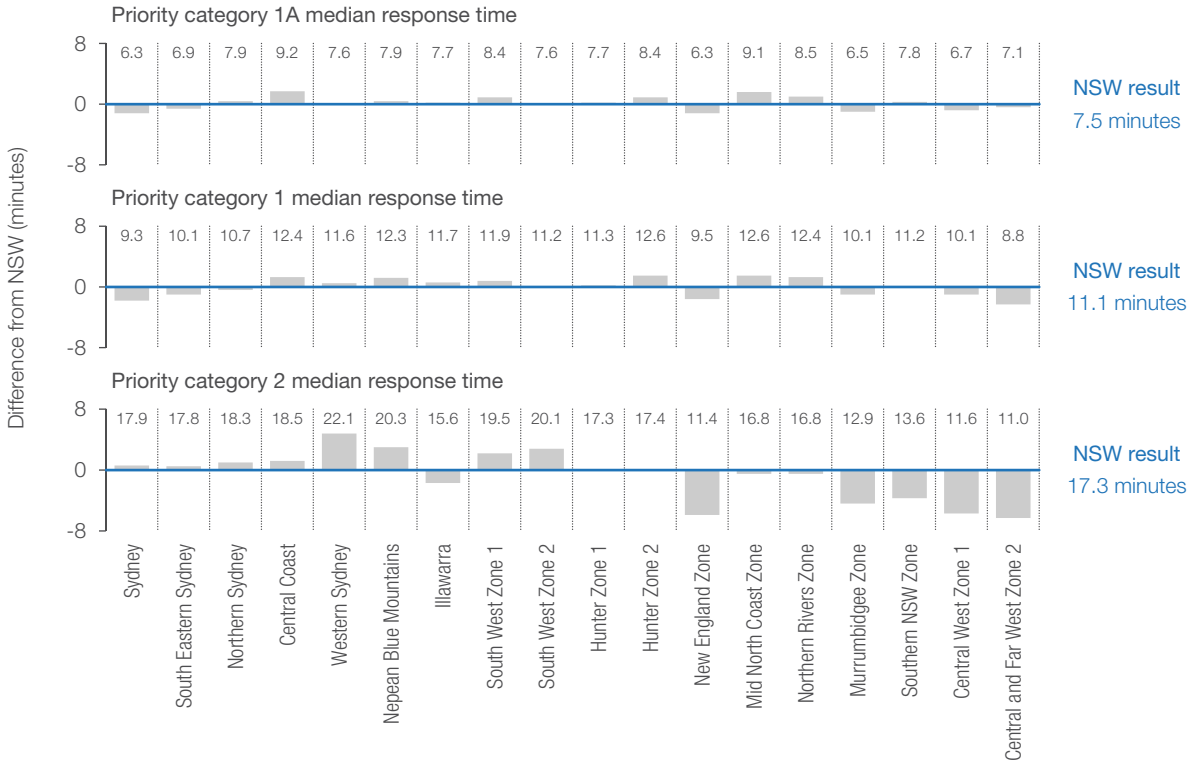


Figure 26 Median priority category 1 ambulance response time, by zone and local response area type, January to March 2017

	Number
Sydney	9,510
South Eastern Sydney	6,620
Northern Sydney	6,480
Central Coast	5,462
Western Sydney	8,334
Nepean Blue Mountains	5,630
Illawarra	5,610
South West Zone 1	5,246
South West Zone 2	6,469
Hunter Zone 1	5,453
Hunter Zone 2	3,136
New England Zone	2,381
Mid North Coast Zone	4,649
Northern Rivers Zone	4,138
Murrumbidgee Zone	3,458
Southern NSW Zone	2,886
Central West Zone 1	2,535
Central and Far West Zone 2	1,847

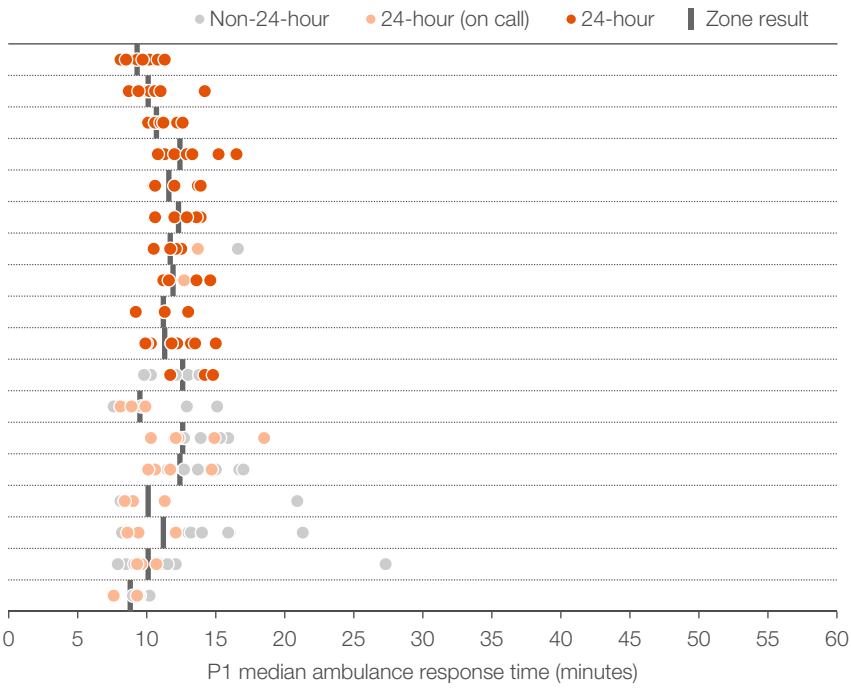
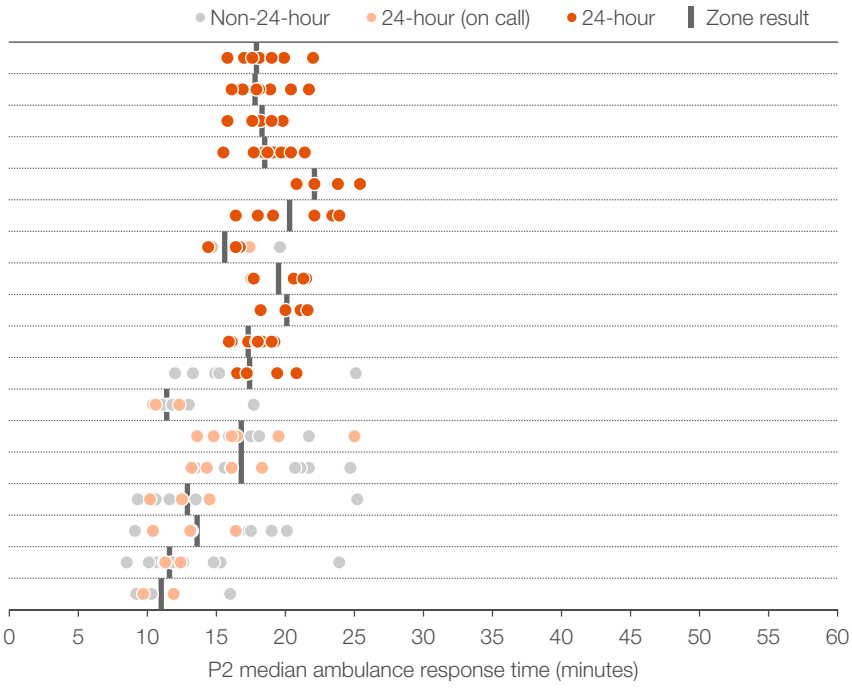


Figure 27 Median priority category 2 ambulance response time, by zone and local response area type, January to March 2017

	Number
Sydney	9,626
South Eastern Sydney	7,011
Northern Sydney	6,978
Central Coast	5,992
Western Sydney	7,664
Nepean Blue Mountains	5,239
Illawarra	6,418
South West Zone 1	4,780
South West Zone 2	5,600
Hunter Zone 1	6,114
Hunter Zone 2	3,462
New England Zone	2,714
Mid North Coast Zone	5,217
Northern Rivers Zone	4,580
Murrumbidgee Zone	4,222
Southern NSW Zone	3,545
Central West Zone 1	3,054
Central and Far West Zone 2	2,374



Turnaround time – NSW and zone performance

Turnaround time refers to the period paramedics spend at hospital emergency departments. It is measured from the time an ambulance arrives with a patient at a hospital until the time it is 'clear' and available to respond to another incident.

Turnaround time encapsulates transfer of care, off stretcher time and make ready time. In the January to March 2017 quarter, 71.7% of priority 1 and 77.1% of priority 2 turnaround times were within 45 minutes (Figure 29).

Since 2013, median turnaround times have decreased. There is a notable seasonal effect, with longer priority 1 and 2 median turnaround times in the July to September quarters (Figure 30).

Across zones, priority category 1 and 2 combined median turnaround times ranged from 21.9 minutes in Southern NSW to 42.1 minutes in Western Sydney (a 20.2 minute range) (Figure 31).

Non-metropolitan zones in general performed better than the NSW result for turnaround time (Figure 31).

Figure 28 Intervals covering turnaround time, NSW

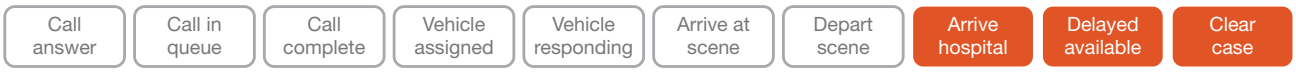


Figure 29 Turnaround time, by priority category, January to March 2017

	This quarter	Same quarter last year	Change since one year ago
Patients transported to hospital	133,246	130,882	1.8%
P1: Emergency			
Median	35.9m	36.4m	-0.5m
90th percentile	58.5m	60.3m	-1.8m
Percentage P1 within 45 minutes	71.7%	69.9%	1.8 percentage points
P2: Urgent			
Median	33.2m	33.9m	-0.7m
90th percentile	55.1m	56.7m	-1.6m
Percentage P2 within 45 minutes	77.1%	75.2%	1.9 percentage points

Figure 30 Median turnaround time, by priority category, January to March 2017

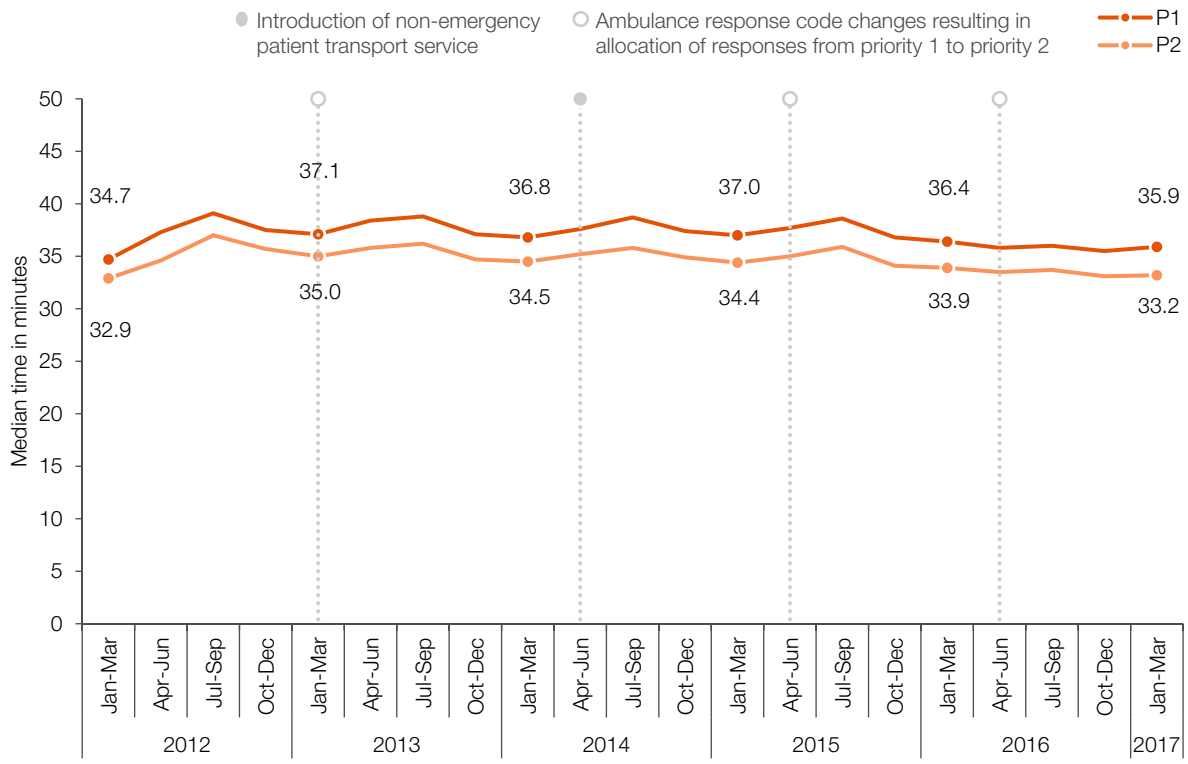
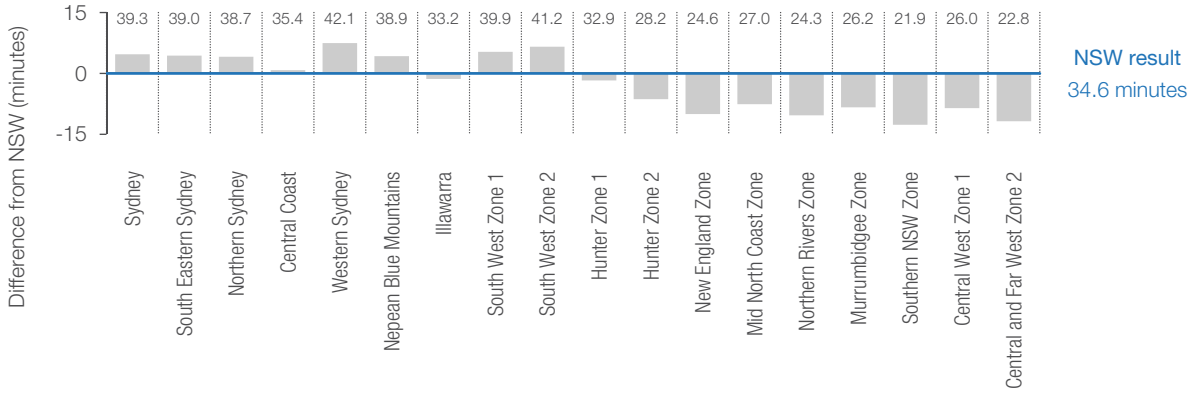


Figure 31 Median turnaround time, by zone, priority category 1 and 2, relative to NSW, January to March 2017



Activity and performance

The daily demand for ambulance services varies and can be affected by a range of factors such as local events and adverse weather conditions. Some of this variation occurs in predictable patterns, however there are days when demand is either much higher (surge days) or much lower (lull days) than historical patterns would predict – on the basis of the day of the week, and the week and month of the year (Figure 32).

Looking at patterns of activity, identifying surge and lull days and presenting this information alongside performance results can reflect on the system's resilience and preparedness.

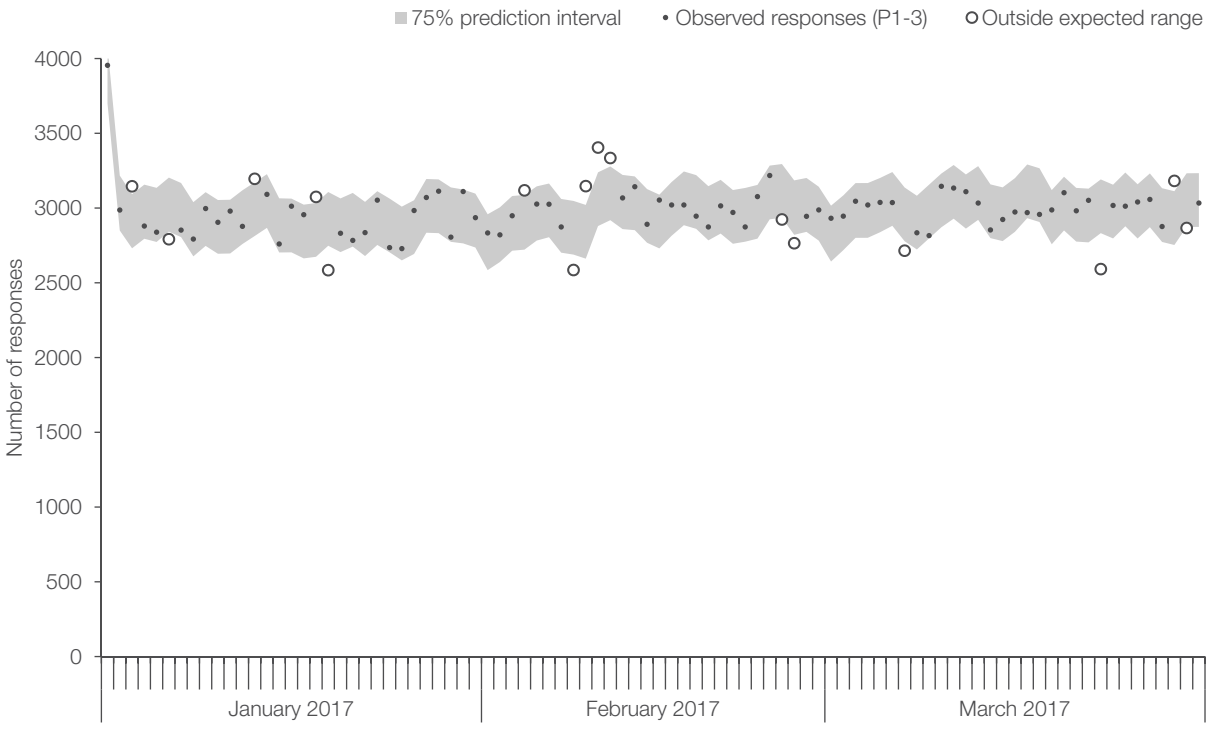
In the January to March 2017 quarter, there were eight surge days (gold bars) and nine days when the level of activity as assessed by number of responses, was particulary high (black bars) (Figure 33).

Six of the nine high activity (high response) days in the quarter were also surge days – that is, levels of activity were higher than might have been expected given historical patterns of demand. Two of these high activity/surge days (10 February and 29 March) had longer median times for at least one measure – suggesting that performance may have been affected by the surge in activity on these days.

For six of the surge days, no timeliness measures indicated poorer performance – suggesting resilience.

Figure 34 describes performance on surge days, performance on busy days, and levels of activity on the days with the lowest performance levels.

Figure 32 Daily ambulance responses, observed and expected, January to March 2017



Footnote:

Figure 33 Daily activity and timeliness measures, January to March 2017

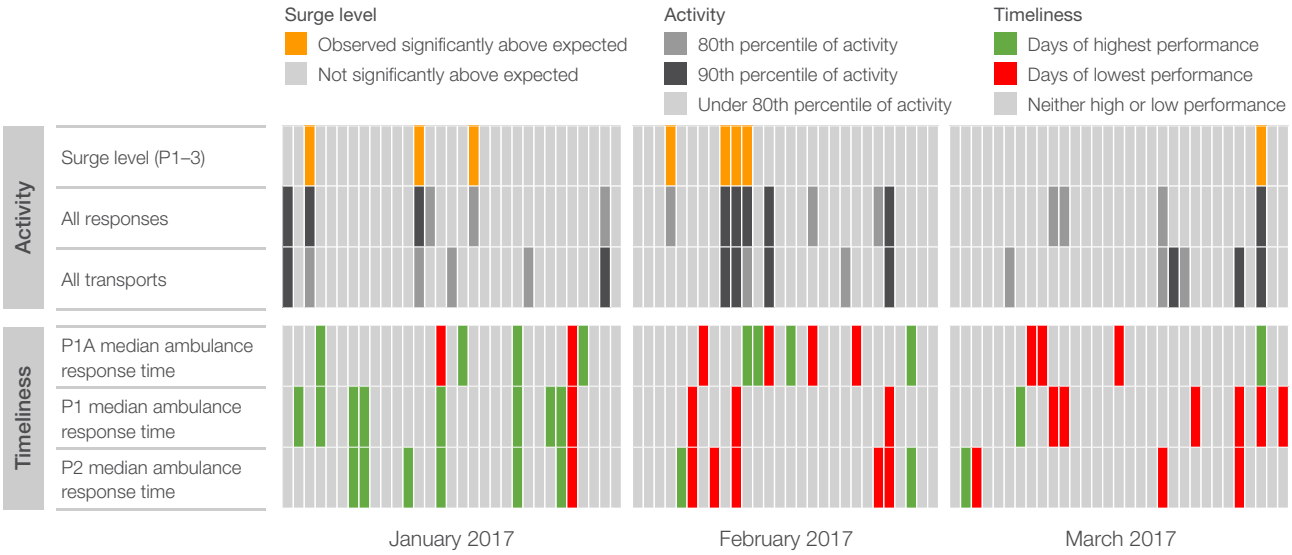
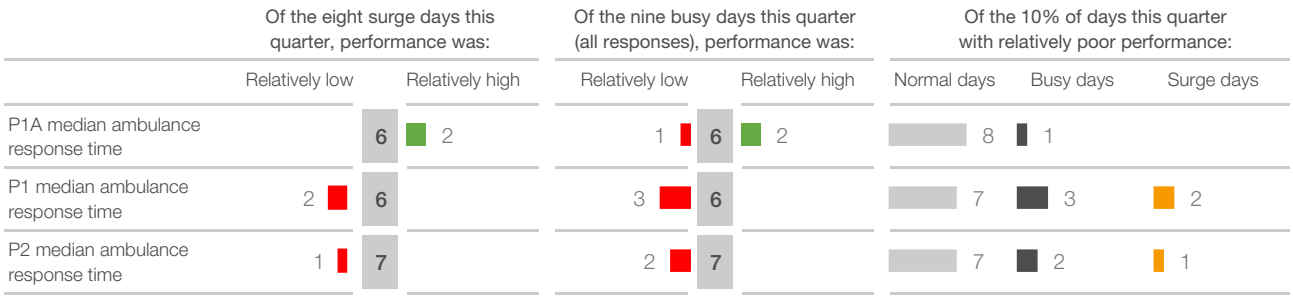


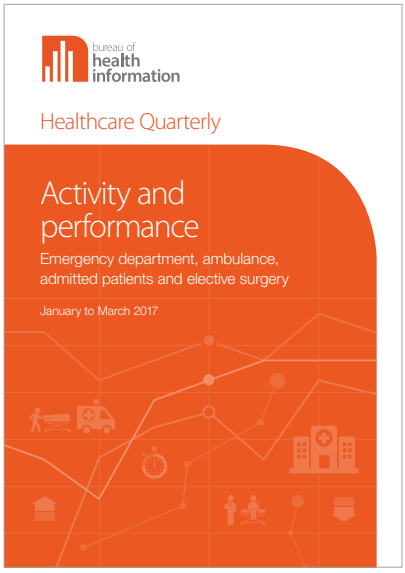
Figure 34 Summary of daily activity and timeliness measures, January to March 2017



Healthcare Quarterly

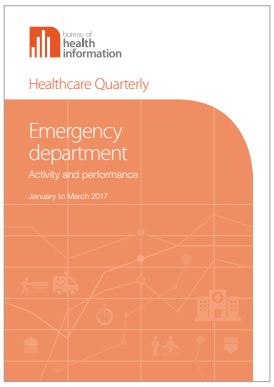
Healthcare Quarterly is a series of regular reports that describes the number and types of services provided to the people of NSW and the timeliness with which they are provided.

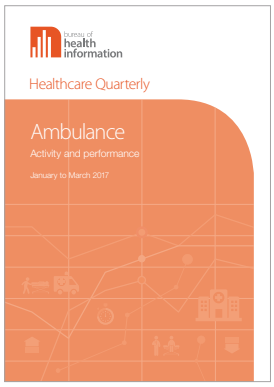
The reports feature key indicators of activity and performance across ambulance and public hospital services in NSW.



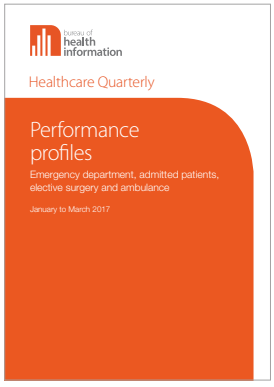
Every day around 25,000 people receive care in the NSW public hospital system and around 1,800 are transported to hospital by ambulance.

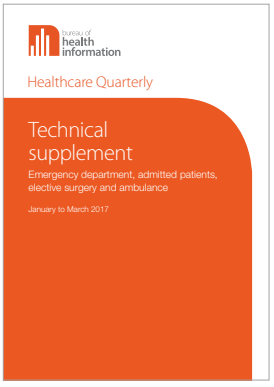
Healthcare Quarterly is published alongside three standalone modules that provide more detailed information about emergency department care, admitted patients and elective surgery, and ambulance services.





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**





All reports and profiles are available at **bhi.nsw.gov.au**

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

bureau of health information

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

bureau of health information

Healthcare Quarterly

Emergency department

Activity and performance

January to March 2017

BUREAU OF HEALTH INFORMATION
Level 11, 67 Albert Avenue
Chatswood NSW 2067
Australia
Telephone: +61 2 9464 4444
bhi.nsw.gov.au

State Health Publication Number: (BHI) 170341
ISSN: 2207-9556 (print); 2207-9564 (online)

Suggested citation:
Bureau of Health Information. *Healthcare Quarterly, Emergency department – Activity and performance, January to March 2017.* Sydney (NSW); BHI; 2017.

Please note there is the potential for minor revisions of data in this report. Please check the online version at **bhi.nsw.gov.au** for any amendments.

Published June 2017

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.

Table of contents

In the January to March 2017 quarter...

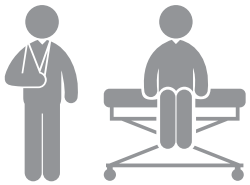
Emergency department

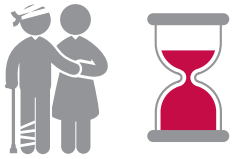
There were **654,189** emergency presentations

Highest ever for a January to March quarter!

UP 1.3%

8,106 more than same quarter last year





75.2% of patients' treatment **started on time**

DOWN 0.2

73.2% of all patients spent **four hours or less** in the emergency department

DOWN 1.1

Emergency department activity		January to March 2017	January to March 2016	Difference	% change
All arrivals at NSW EDs by ambulance		145,801	142,930	2,871	2.0%
All ED presentations		677,602	672,686	4,916	0.7%
Emergency presentations		654,189	646,083	8,106	1.3%
Emergency presentations by triage category					
Triage category	T1: Resuscitation	4,252	4,067	185	4.5%
	T2: Emergency	79,873	75,774	4,099	5.4%
	T3: Urgent	221,615	214,826	6,789	3.2%
	T4: Semi-urgent	277,964	280,450	-2,486	-0.9%
	T5: Non-urgent	70,485	70,966	-481	-0.7%
Admissions to hospital from NSW EDs		192,279	183,436	8,843	4.8%

Emergency department performance			January to March 2017	January to March 2016	Difference
Percentage of patients whose care was transferred within 30 minutes			91.5%	90.7%	+0.8 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	69 mins	68 mins	1 mins
	T4: Semi-urgent	Median	26 mins	26 mins	0 mins
		90th percentile	101 mins	101 mins	0 mins
	T5: Non-urgent	Median	23 mins	23 mins	0 mins
		90th percentile	104 mins	101 mins	3 mins
Percentage of patients whose treatment started on time	All patients		75.2%	75.4%	-0.2 percentage points
	T2: Emergency		66.1%	67.6%	-1.5 percentage points
	T3: Urgent		70.2%	69.9%	+0.3 percentage points
	T4: Semi-urgent		77.9%	77.7%	+0.2 percentage points
	T5: Non-urgent		93.1%	93.4%	-0.3 percentage points
Median time spent in the ED			2h 44m	2h 40m	4 mins
90th percentile time spent in the ED			7h 7m	6h 51m	16 mins
Patients who spent four hours or less in the ED			73.2%	74.3%	-1.1 percentage points

Emergency department activity and performance

Emergency department presentations

During the January to March 2017 quarter, a total of 677,602 people presented to a NSW public hospital emergency department (ED), an increase of 0.7% compared with the same quarter last year. Most presentations were classified as 'emergency' (654,189 patients or 96.5%) (Figure 1). The remaining 23,413 patients presented to ED for non-emergency reasons such as a planned return visit.

This quarter, the number of patients triaged to the most urgent categories was higher than in the same quarter last year. The largest increase was in triage category 3 (6,789 more patients; up 3.2%). The number of presentations in triage category 4 decreased (2,486 fewer patients; down 0.9%), and triage category 5 (481 fewer patients; down 0.7%) (Figure 1).

Over a five-year period, the number of patients who presented to an ED in the January to March quarter increased for triage categories 1–4 while the number in the least urgent category 5 decreased (down 8.1%) (Figure 2).

The number of ED patient presentations was higher this quarter than in the same quarter last year for 44 out of 75 NSW hospital EDs. Of these, 13 had an increase of more than 5%, including four that had an increase of more than 10%. Conversely, 29 hospitals had a decrease in the number of ED patient presentations this quarter, including nine that had a decrease of more than 5%.

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

This quarter, there were 145,801 ED patients who arrived by ambulance, an increase of 2.0% compared with the same quarter last year (Figure 1).

A small number of patients visit the ED for routine care, or as an entry point for planned admission to the hospital. The majority of ED visits however, are unplanned 'emergency' presentations.

Figure 1 Emergency department presentations and ambulance arrivals at NSW emergency departments, January to March 2017

	This quarter	Same quarter last year	Change since one year ago
All ED presentations	677,602	672,686	0.7%
Emergency presentations by triage category	654,189	646,083	1.3%
Triage 1: Resuscitation 0.6%	4,252	4,067	4.5%
Triage 2: Emergency 12.2%	79,873	75,774	5.4%
Triage 3: Urgent 33.9%	221,615	214,826	3.2%
Triage 4: Semi-urgent 42.5%	277,964	280,450	-0.9%
Triage 5: Non-urgent 10.8%	70,485	70,966	-0.7%
Ambulance arrivals	145,801	142,930	2.0%

Figure 2 Emergency presentations by triage category, January 2012 to March 2017

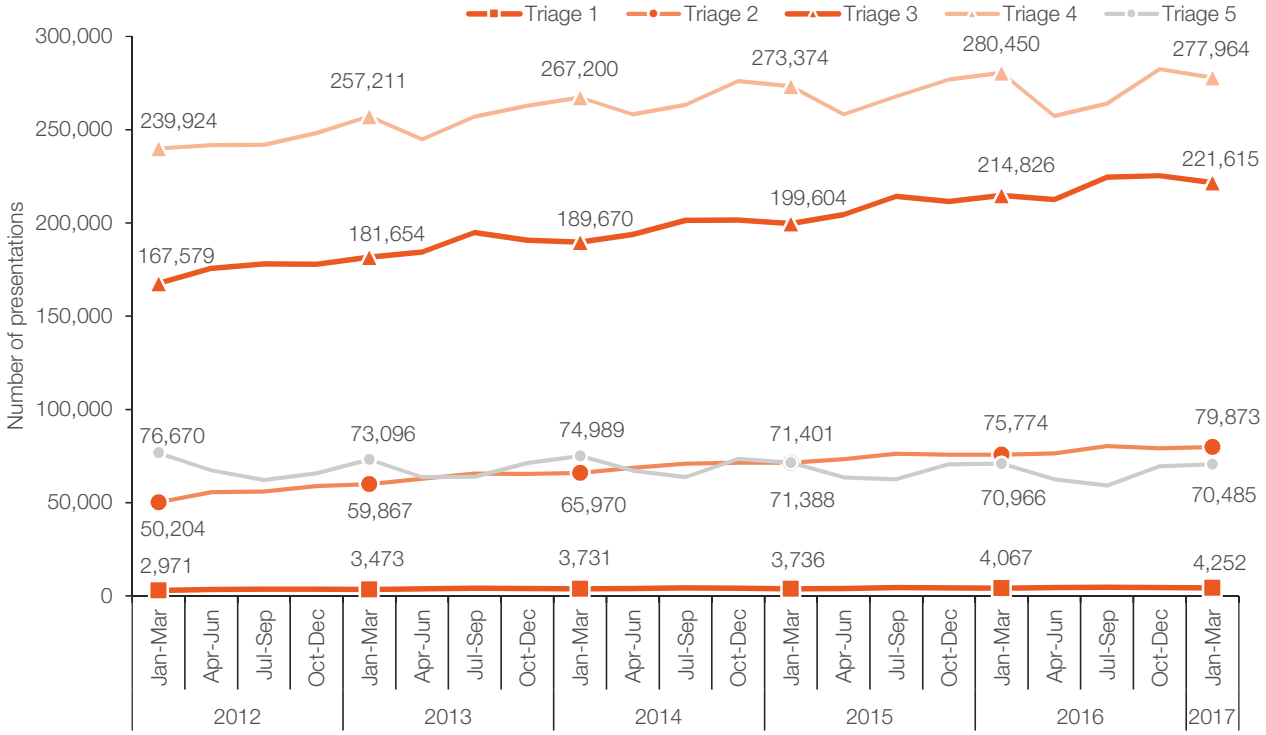
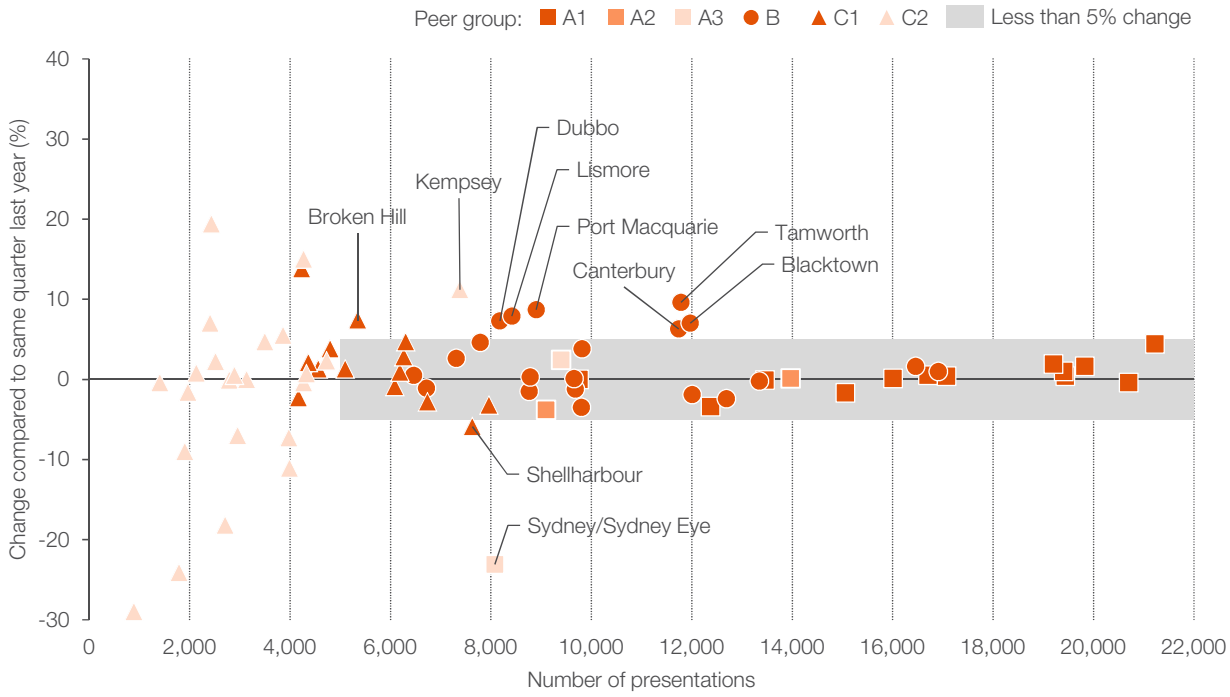


Figure 3 Change in number of emergency department presentations compared with the same quarter last year, hospitals by peer group, January to March 2017



Median time to treatment

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:

- Triage 1: Resuscitation (within two minutes)
- Triage 2: Emergency (within 10 minutes)
- Triage 3: Urgent (within 30 minutes)
- Triage 4: Semi-urgent (within 60 minutes)
- Triage 5: Non-urgent (within 120 minutes).

In the January to March 2017 quarter, the median time from arriving at the ED to starting treatment was unchanged from the same quarter last year for all triage categories. The 90th percentile time was higher for triage categories 2, 3, and 5 but was unchanged for triage category 4 (Figure 4).

For the longer timeframe between 2012 and 2017, the median time to treatment for January to March quarters decreased for triage categories 3, 4 and 5 while for triage category 2, the median time remained unchanged (Figure 5).

For the 90th percentile time to treatment, results for triage categories 3, 4 and 5 decreased over the past five years but increased slightly for triage category 2 (Figure 6).

Figure 4 Time from presentation to starting treatment, by triage category, January to March 2017

	This quarter	Same quarter last year	Change since one year ago
Triage 2 Emergency (e.g. chest pain, severe burns): 78,784 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): 215,790 patients			
Median time to start treatment	20m	20m	0m
90th percentile time to start treatment	1h 9m	1h 8m	1m
Triage 4 Semi-urgent (e.g. sprained ankle, earache): 257,983 patients			
Median time to start treatment	26m	26m	0m
90th percentile time to start treatment	1h 41m	1h 41m	0m
Triage 5 Non-urgent (e.g. small cuts or abrasions): 60,369 patients			
Median time to start treatment	23m	23m	0m
90th percentile time to start treatment	1h 44m	1h 41m	3m

Figure 5 Median time from presentation to starting treatment, by triage category, January 2012 to March 2017

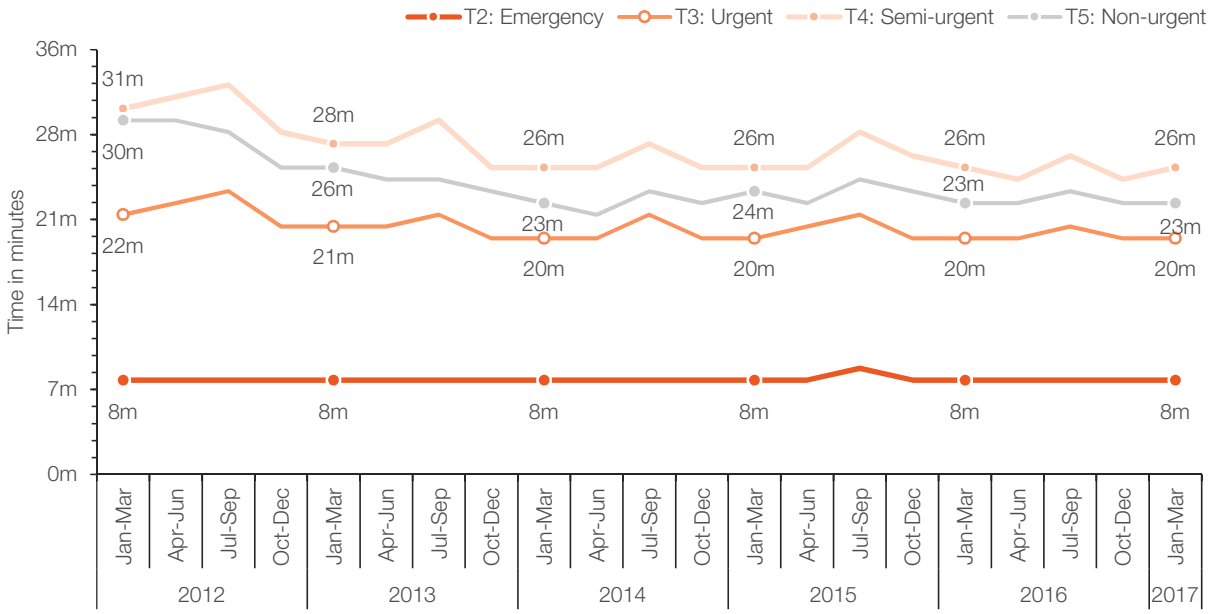
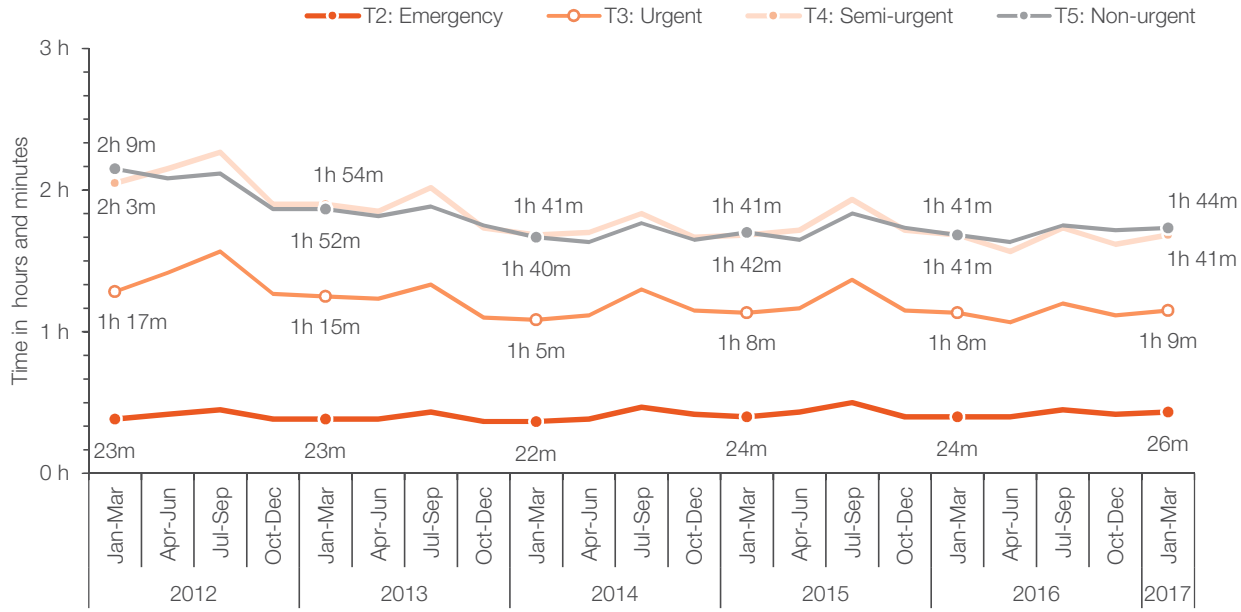


Figure 6 90th percentile time from presentation to starting treatment, by triage category, January 2012 to March 2017



Percentage of patients whose treatment started on time

During the January to March 2017 quarter, 75.2% of ED patients' treatment started within clinically recommended timeframes; a decrease of 0.2 percentage points compared with the same quarter last year.

Within triage categories, comparisons with the same quarter last year show the percentage of patients whose treatment started on time increased for triage categories 3 and 4, and decreased for categories 2 and 5 (Figure 7).

Over the past five years, the percentage of patients whose treatment started on time increased across most triage categories, but decreased for triage category 2. Compared with the same quarter in 2012, the largest increases were seen in triage categories 4 and 5 (5.4 and 4.6 percentage points, respectively) (Figure 8).

Figure 29 shows hospital results for this quarter on two axes: the percentage of patients whose treatment started on time (Y-axis), and the percentage point change since the same quarter last year (X-axis). For hospitals shown above the blue NSW line, a higher percentage of patients started treatment on time compared with the overall NSW result. For hospitals below this line, a lower percentage of patients' treatrment started on time compared with the overall NSW result. Hospitals shown to the left of the vertical '0' line had lower results, compared with the same quarter last year, while those shown to the right of the vertical line had higher results.

Hospitals labelled in Figure 9 are those that had an increase or a decrease of more than five percentage points compared with the same quarter last year.

The percentage of patients whose treatment started on time was higher this quarter in 38 out of 75 hospitals. For eight hospitals, the increase was more than five percentage points and of these, for four hospitals the increase was more than 10 percentage points.

The percentage of patients whose treatment started on time was lower this quarter in 37 hospitals. For seven hospitals, the decrease was more than five percentage points. Of these, for one hospital, the decrease was more than 10 percentage points (Figure 9).

Figure 7 Percentage of patients whose treatment started on time, by triage category, January to March 2017

	This quarter	Same quarter last year	Percentage point change since one year ago
All emergency presentations	75.2%	75.4%	-0.2
Triage category 2	Recommended: 10 minutes 66.1%	67.6%	-1.5
Triage category 3	Recommended: 30 minutes 70.2%	69.9%	0.3
Triage category 4	Recommended: 60 minutes 77.9%	77.7%	0.2
Triage category 5	Recommended: 120 minutes 93.1%	93.4%	-0.3

Figure 8 Percentage of patients whose treatment started on time, by triage category, January 2012 to March 2017

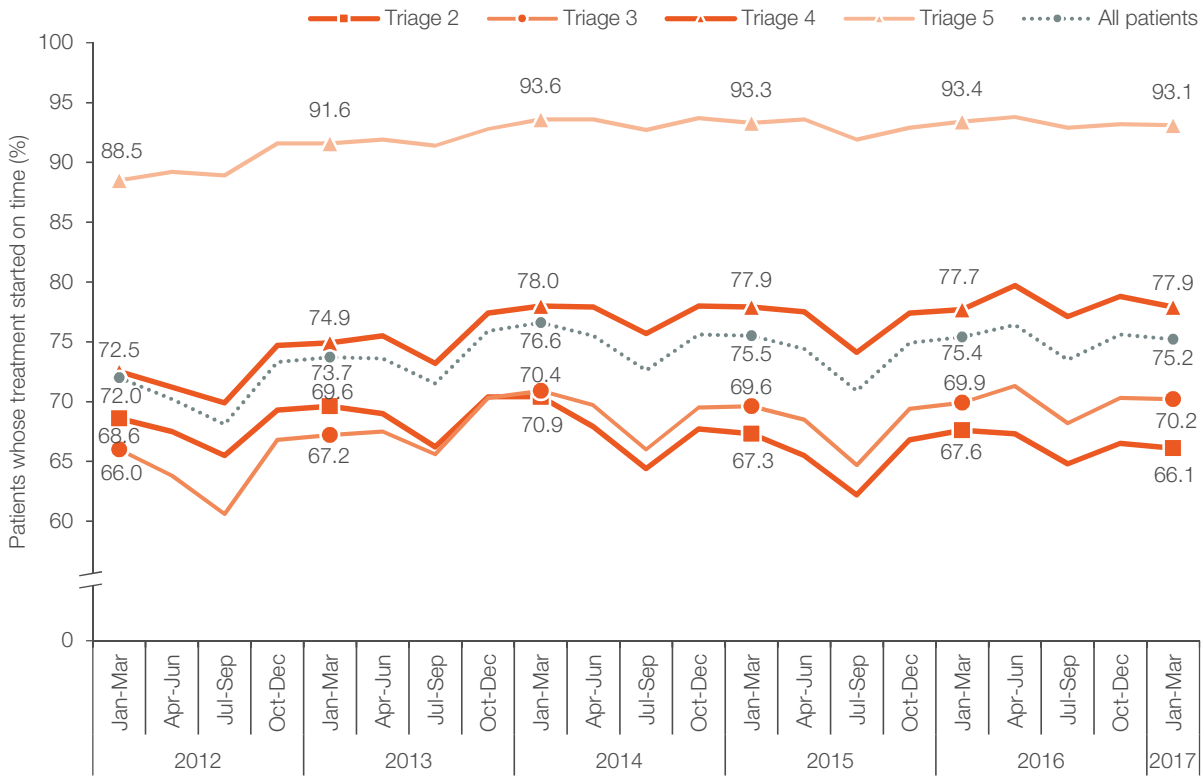
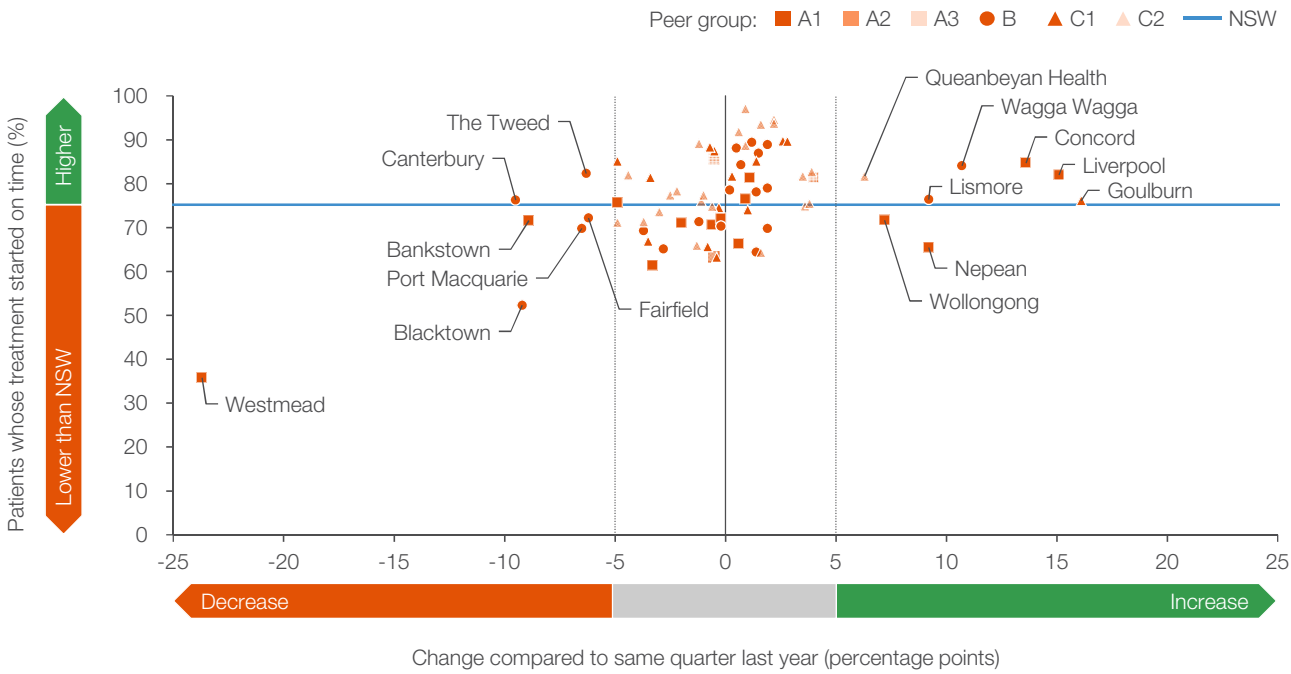


Figure 9 Percentage of patients whose treatment started on time, and percentage point change since same quarter last year, hospitals by peer group, January to March 2017



After leaving the emergency department

Following ED treatment, the majority of patients are either discharged home or admitted to hospital. Some patients choose not to wait for treatment and leave, and others are transferred to a different hospital. These categories are collectively referred to as the 'mode of separation'.

During the January to March 2017 quarter, 62.0% of patients were treated and discharged from the ED (420,302 in total; down 1.7% compared with the same quarter last year), and 28.4% of patients were treated and admitted to hospital (192,279 in total; up 4.8%).

The number of patients transferred to another hospital increased by 2.6% this quarter (13,953 in total) and the number who left without, or before completing, treatment increased by 3.0% (37,801 in total), compared with the same quarter last year (Figure 10).

Most patients in triage categories 1 and 2 were treated and admitted to hospital (Figure 11). In triage categories 3, 4 and 5 most patients were treated and discharged (Figure 12).

The number of patients who were treated and discharged, treated and admitted to hospital, and transferred to another hospital has increased over the past five years. The number of patients who left without, or before completing, treatment has decreased (Figure 13).

Figure 10 **Patients who presented to the emergency department, by mode of separation, January to March 2017**

	This quarter		Same quarter last year	Change since one year ago
Treated and discharged	62.0%	420,302	427,412	-1.7%
Treated and admitted to hospital	28.4%	192,279	183,436	4.8%
Left without, or before completing, treatment	5.6%	37,801	36,691	3.0%
Transferred to another hospital	2.1%	13,953	13,604	2.6%
Other	2.0%	13,267	11,543	14.9%

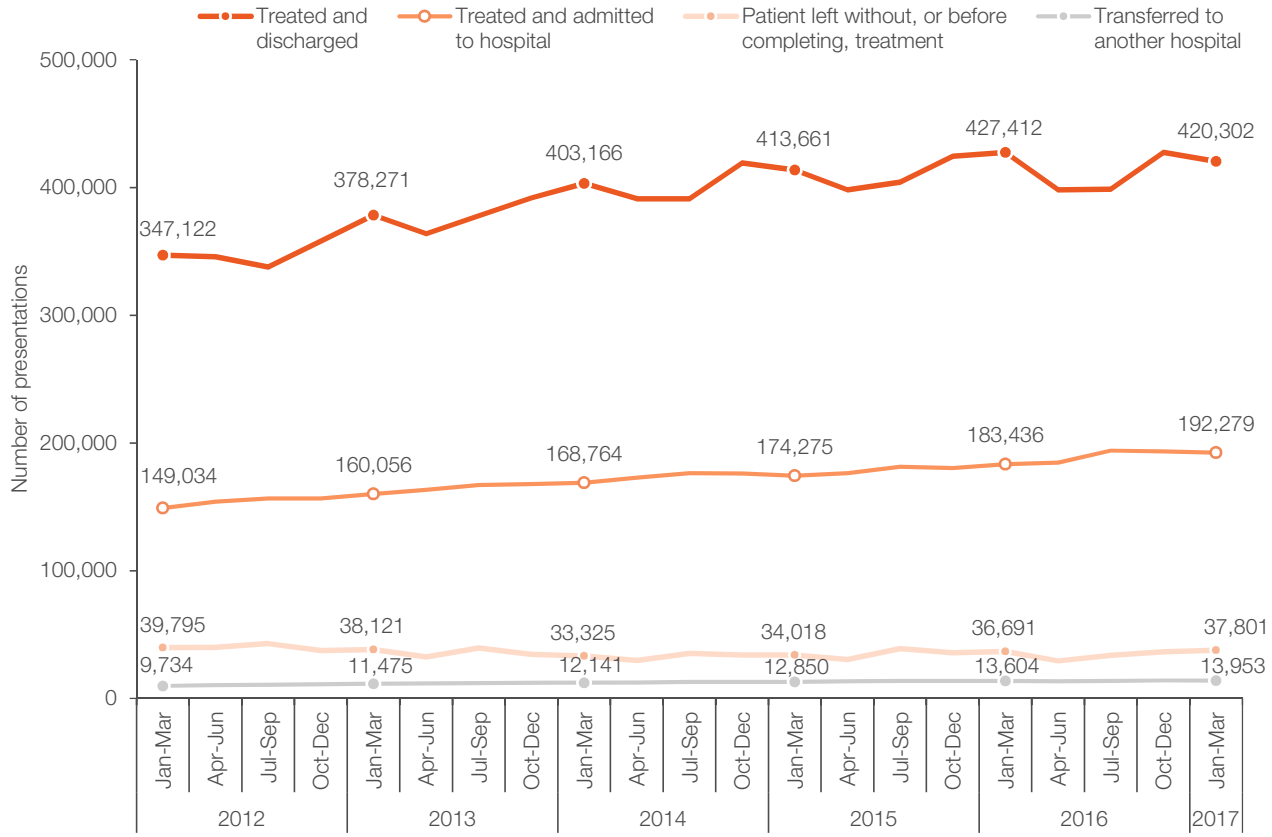
Figure 11 **Percentage of patients who were treated and admitted, by triage category, January to March 2017**

	This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	28.4%	27.3%	1.1
Triage 1	80.4%	81.2%	-0.8
Triage 2	58.7%	59.0%	-0.3
Triage 3	40.8%	40.1%	0.7
Triage 4	16.3%	15.4%	0.9
Triage 5	5.3%	4.8%	0.5

Figure 12 Percentage of patients who were treated and discharged, by triage category, January to March 2017

	This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	62.1%	63.6%	-1.5
Triage 1	8.9%	8.4%	0.5
Triage 2	33.9%	34.1%	-0.2
Triage 3	51.9%	52.7%	-0.8
Triage 4	73.4%	75.0%	-1.6
Triage 5	80.3%	81.4%	-1.1

Figure 13 Patients who presented to the emergency department, by mode of separation, January 2012 to March 2017



Median time patients spent in the emergency department

During the January to March 2017 quarter, the median time patients spent in the ED was two hours and 44 minutes, up four minutes compared with the same quarter last year. The 90th percentile time patients spent in the ED was seven hours and seven minutes, 16 minutes longer than the same quarter last year (Figure 14).

For the January to March 2017 quarter, the median time patients spent in the ED was longer across all modes of separation*, compared with the same quarter last year. For patients who were treated and discharged, the median time spent in the ED was two minutes longer and for those treated and admitted to hospital, the median time was seven minutes longer (Figure 15).

Despite a 22.0% increase in the overall number of presentations during the January to March quarters since 2012, the median time patients spent in the ED decreased from three hours and nine minutes in 2012 to two hours and 44 minutes this quarter.

Figure 15 shows the downward trend over the past five years in the median time patients spent in the ED across all modes of separation. For patients who were treated and admitted to hospital, the median time spent in the ED was four hours and 45 minutes this quarter, compared with six hours and 13 minutes in January to March 2012.

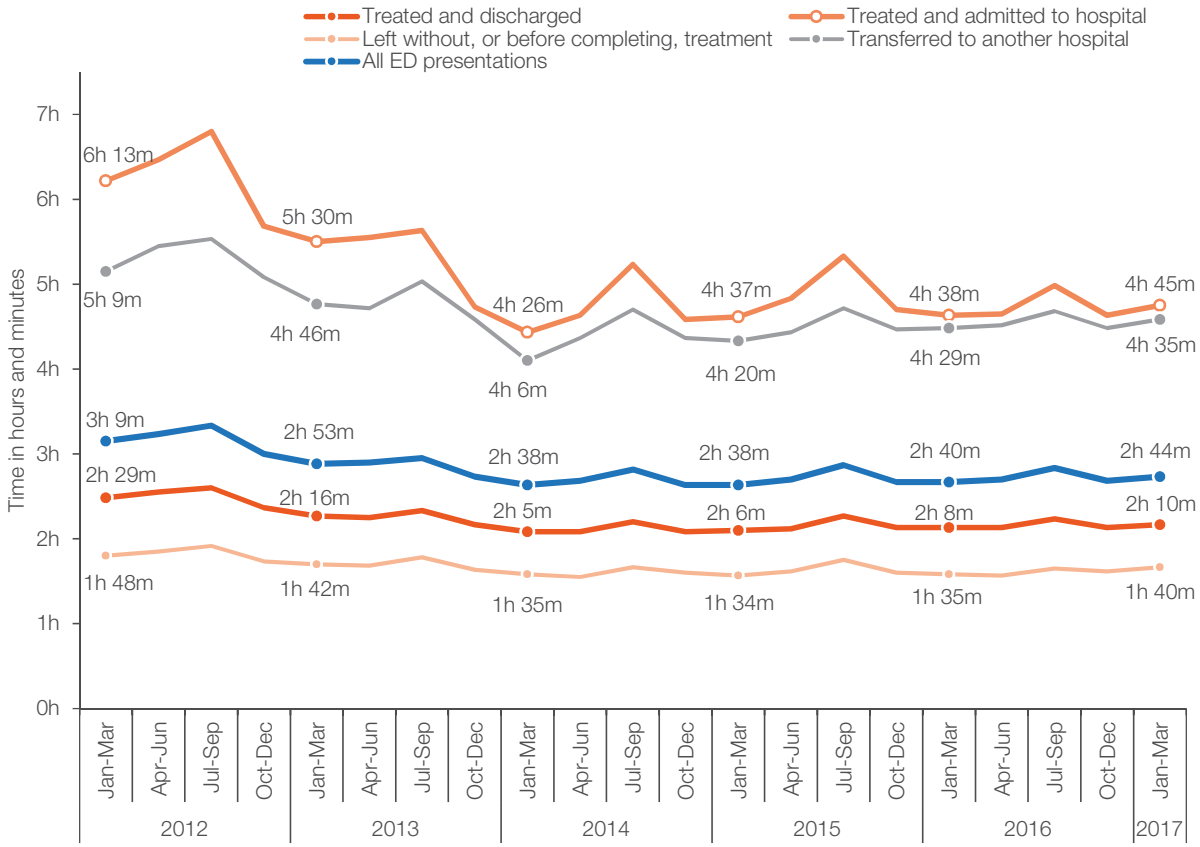
Figure 14 Time patients spent in the emergency department, January to March 2017

	This quarter	Same quarter last year	Change since one year ago
Median time spent in the ED	2h 44m	2h 40m	4m
90th percentile time spent in the ED	7h 7m	6h 51m	16m

* Mode of separation refers to the administrative code that describes where patients went at the conclusion of their emergency department visit. The main codes are: treated and discharged; treated and admitted to hospital; left without, or before completing, treatment; and transferred to another hospital.

Figure 15

Median time patients spent in the emergency department, by mode of separation, January 2012 to March 2017



Percentage of patient stays of four hours or less

In the January to March 2017 quarter, 73.2% of patients spent four hours or less in the ED, a decrease of 1.1 percentage points compared with the same quarter last year (Figures 16 and 17).

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.

Among patients who were treated and discharged this quarter, 86.0% spent four hours or less in the ED. Among patients who were treated and subsequently admitted to hospital, and those who were transferred to another hospital, less than half spent four hours or less in the ED. Of those who left without, or before completing, treatment, 90.4% spent four hours or less in the ED (Figure 16).

Figure 18 maps hospital results this quarter compared with the same quarter last year. Hospitals labelled are those that had a change of more than five percentage points in the proportion of patients who spent four hours or less in the ED, compared to the same quarter last year.

Due to differences in data definitions, period of reporting and the number of hospitals included, *Healthcare Quarterly* results for the percentage of patients who spent four hours or less in the ED are not directly comparable to figures reported by the NSW Ministry of Health or the Commonwealth. For more information refer to the technical supplements section of the BHI website at **bhi.nsw.gov.au**

Figure 16 Percentage of patients who spent four hours or less in the emergency department, by mode of separation, January to March 2017

	Number	This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	495,675	73.2%	74.3%	-1.1
Treated and discharged	361,555	86.0%	86.4%	-0.4
Treated and admitted	80,953	42.1%	43.4%	-1.3
Left without, or before completing, treatment	34,146	90.4%	91.5%	-1.1
Transferred to another hospital	6,216	44.6%	45.4%	-0.8

Figure 17 Percentage of patients who spent four hours or less in the emergency department, by mode of separation, January 2012 to March 2017

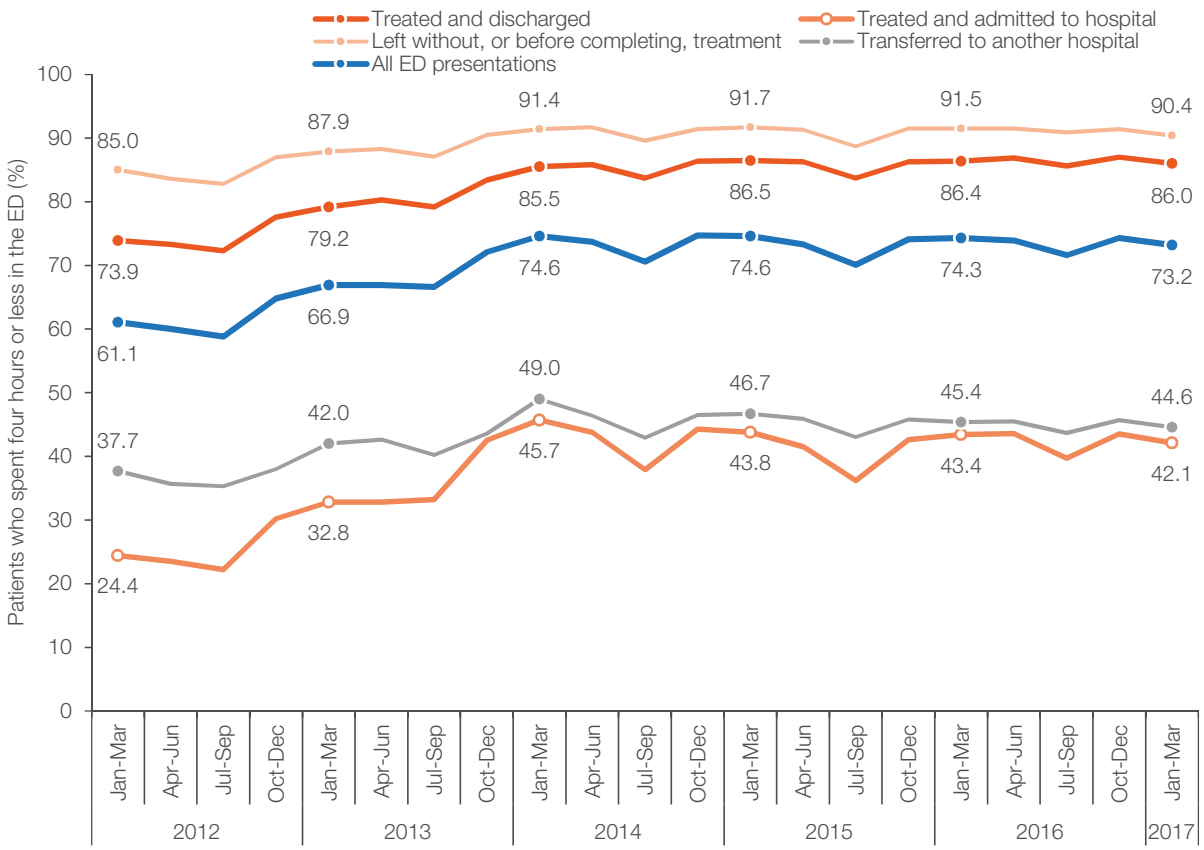
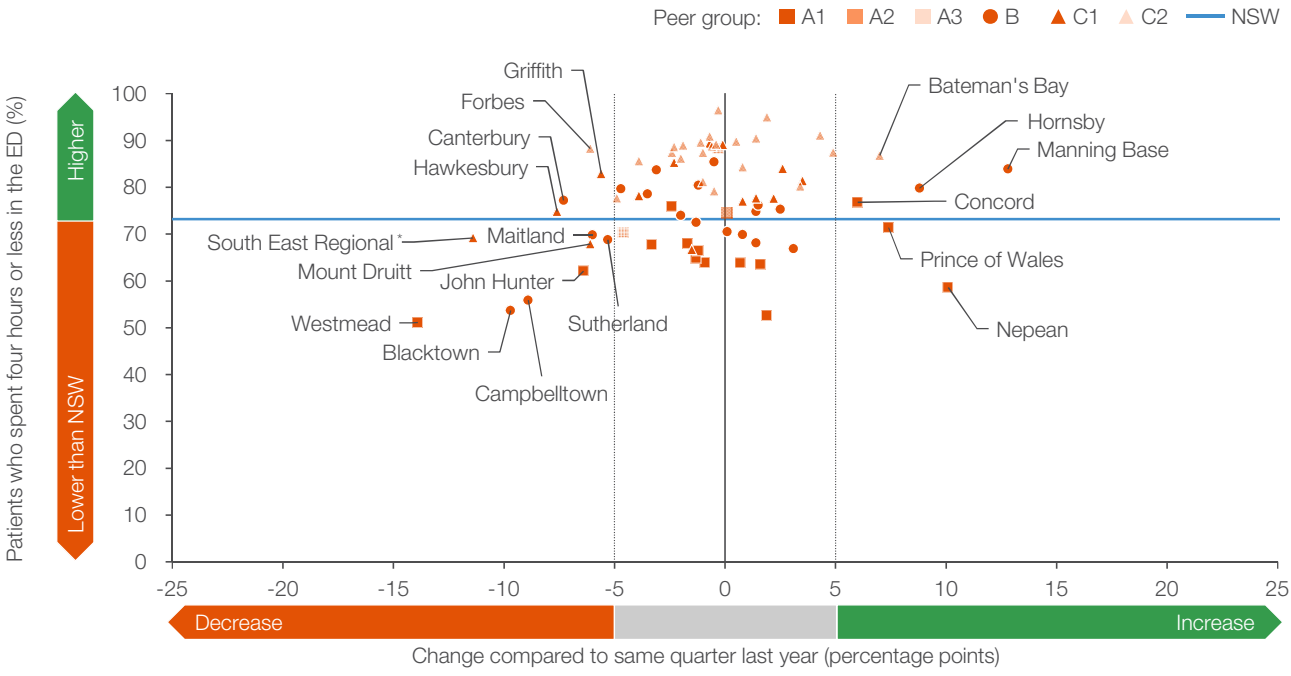


Figure 18 Percentage of patients who spent four hours or less in the emergency department, and percentage point change since same quarter last year, hospitals by peer group, January to March 2017



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

Percentage of patient stays of four hours or less – peer group variation

There is considerable variation between and within hospital peer groups in the percentage of patients who spent four hours or less in the ED. Peer group C2 hospitals have a higher percentage of patients who spent four hours or less in the ED compared with other peer group hospitals. Peer group A1 hospitals have a smaller percentage of patients who spent four hours or less in the ED (Figure 19).

Compared with the same quarter last year, the percentage of patients who spent four hours or less in the ED decreased in peer groups A1, B and C1 and was unchanged for peer group C2 (Figure 20).

Over the past five years, there has been an increase in the percentage of patients who spent four hours or less in the ED across most hospital peer groups. The only exception is peer group C2 (down 1.3 percentage points compared with the same quarter in 2012) (Figure 20).

Figure 19 Percentage of patients who spent four hours or less in the emergency department, by peer group, January to March 2017

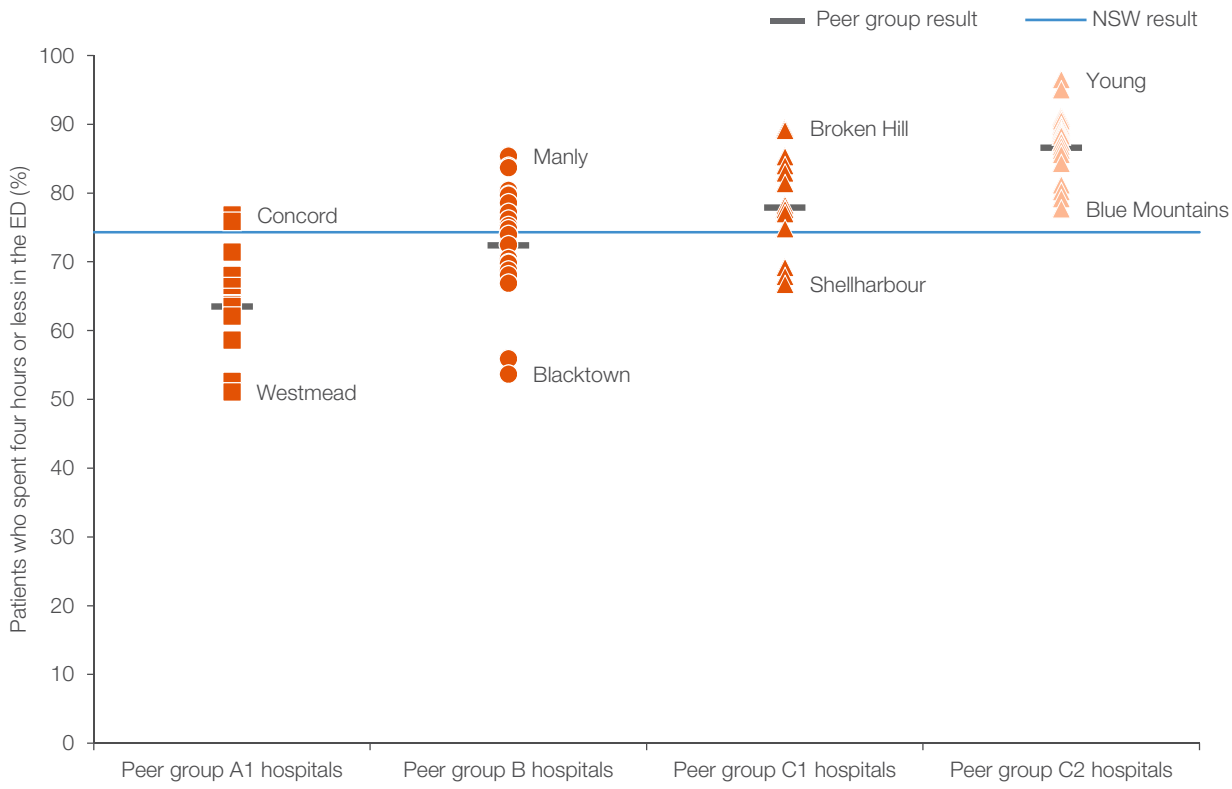
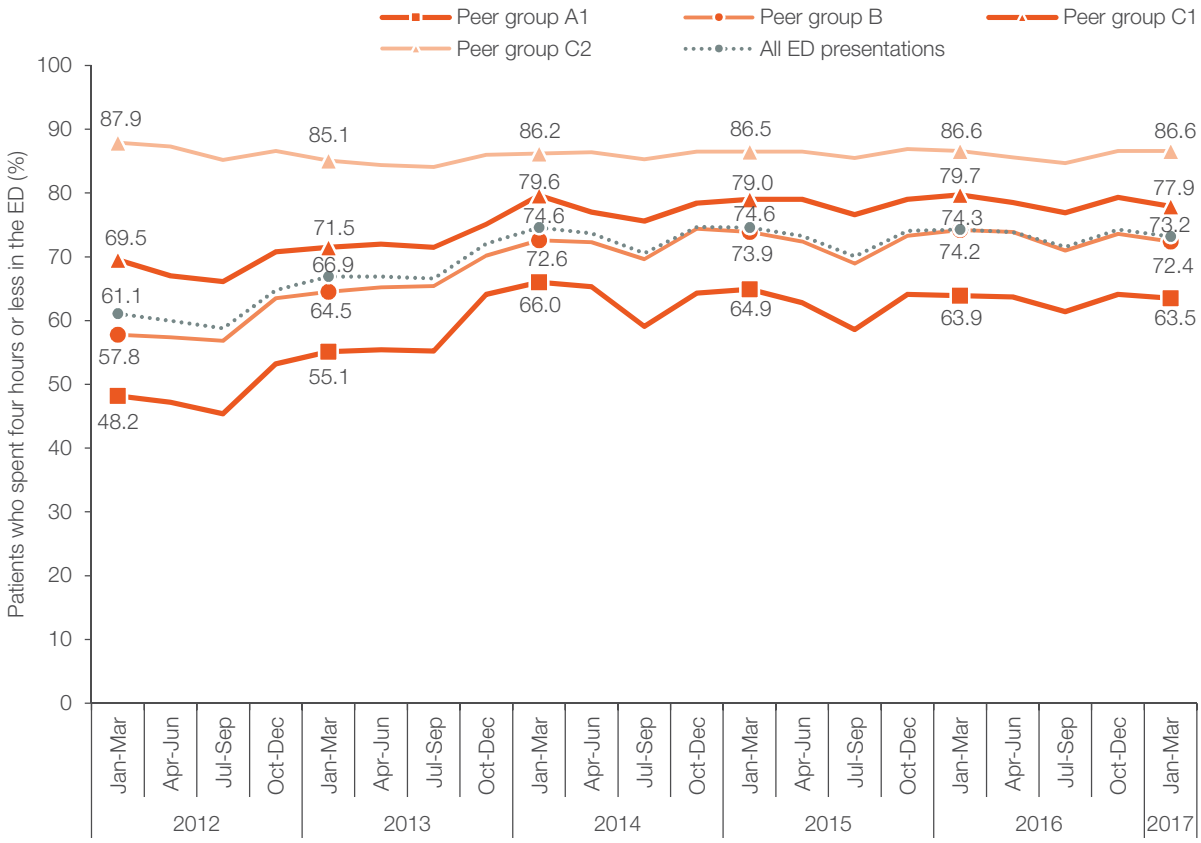


Figure 20

Percentage of patients who spent four hours or less in the emergency department, by peer group, January 2012 to March 2017



Transfer of care from the ambulance to the emergency department

During the January to March 2017 quarter, 145,801 patients arrived at NSW EDs by ambulance (up 2.0% compared with the same quarter last year). This quarter, 132,747 patient records (matched between ambulance service and ED records) were used to calculate transfer of care time (Figure 21).

The median and 90th percentile transfer of care times from ambulance to ED staff were one minute shorter this quarter compared with the same quarter last year (11 minutes and 27 minutes respectively) (Figure 21).

In NSW, transfer of care, from ambulance to ED staff, should have occurred within 30 minutes for 90% of patients. This quarter, 91.5% of patients arriving by ambulance had their care transferred within 30 minutes; 0.8 percentage points higher than in the same quarter last year (Figure 22).

Figure 23 shows variation between and within hospital peer groups in the percentage of patients who had their care transferred within 30 minutes this quarter. Peer group does not appear to be associated with marked differences in transfer of care.

Figure 21 Emergency department transfer of care time, January to March 2017

	This quarter	Same quarter last year	Change since one year ago
Emergency presentations	654,189	646,083	1.3%
Ambulance arrivals	132,747	127,349	4.2%
ED transfer of care time			
Median time	11m	12m	-1m
90th percentile time	27m	28m	-1m

Figure 22 Percentage of ambulance patients with transfer of care time within 30 minutes, April 2013 to March 2017

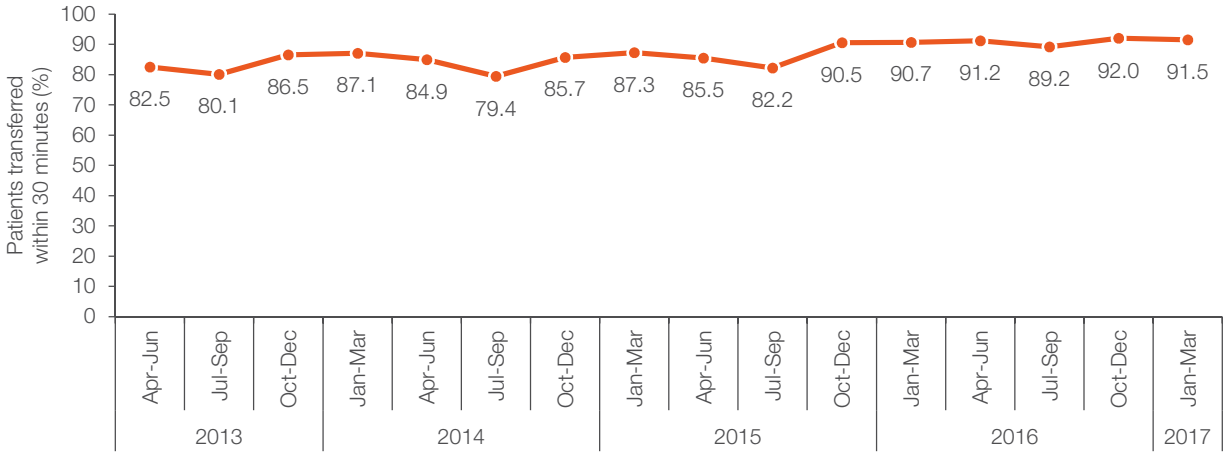
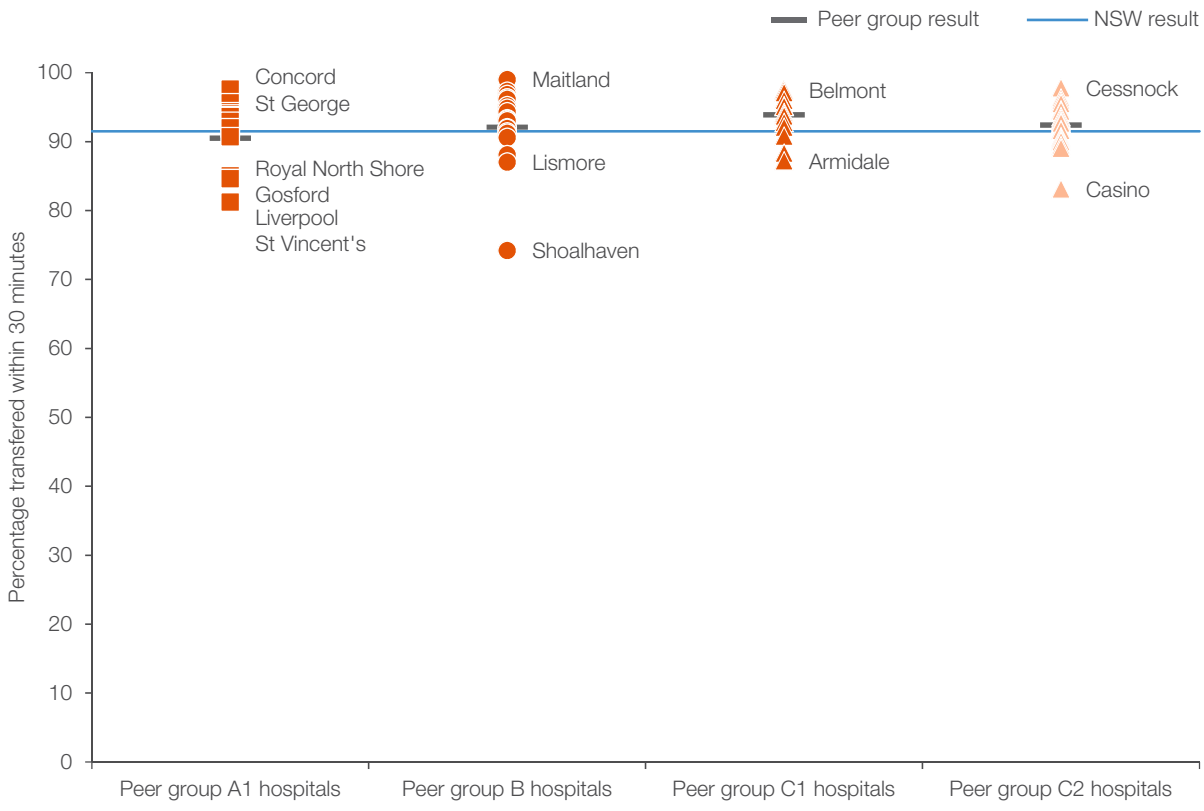


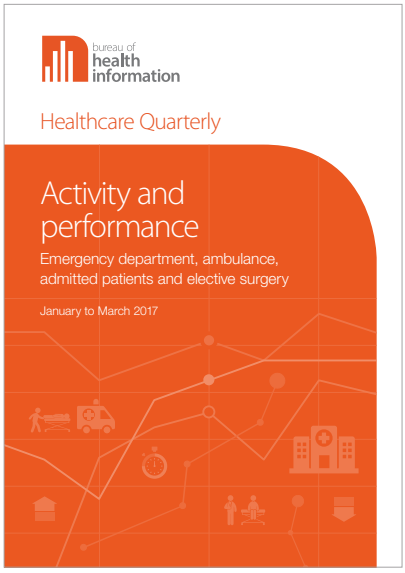
Figure 23 Percentage of ambulance patients whose care was transferred within 30 minutes, by peer group, January to March 2017



Healthcare Quarterly

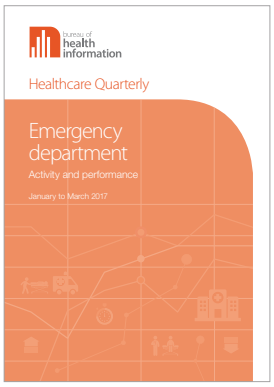
Healthcare Quarterly is a series of regular reports that describes the number and types of services provided to the people of NSW and the timeliness with which they are provided.

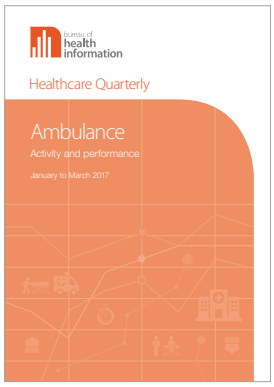
The reports feature key indicators of activity and performance across ambulance and public hospital services in NSW.



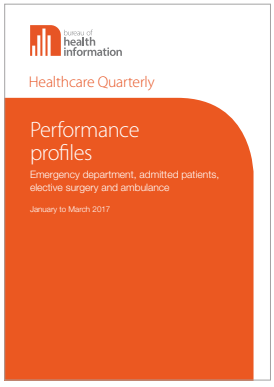
Every day around 25,000 people receive care in the NSW public hospital system and around 1,800 are transported to hospital by ambulance.

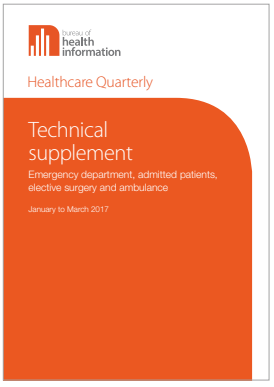
Healthcare Quarterly is published alongside three standalone modules that provide more detailed information about emergency department care, admitted patients and elective surgery, and ambulance services.





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**





All reports and profiles are available at **bhi.nsw.gov.au**

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

bureau of health information

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

bureau of health information

Healthcare Quarterly

Admitted patients and elective surgery

Activity and performance

January to March 2017

BUREAU OF HEALTH INFORMATION
Level 11, 67 Albert Avenue
Chatswood NSW 2067
Australia
Telephone: +61 2 9464 4444
bhi.nsw.gov.au

State Health Publication Number: (BHI) 170029
ISSN: 1838-3238

Suggested citation:
Bureau of Health Information. *Healthcare Quarterly – Admitted patients and elective surgery – Activity and performance, January to March 2017.* Sydney (NSW); BHI; 2017.

Please note there is the potential for minor revisions of data in this report.
Please check the online version at **bhi.nsw.gov.au** for any amendments.

Published June 2017

Hospital 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**

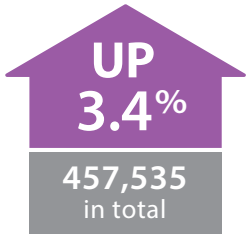
The conclusions in this report are those of BHI and no official endorsement by the NSW Minister for Health, the NSW Ministry of Health or any other NSW public health organisation is intended or should be inferred.

Table of contents

In the January to March 2017 quarter...

Admitted patients

There were **14,849** more acute admissions to hospital

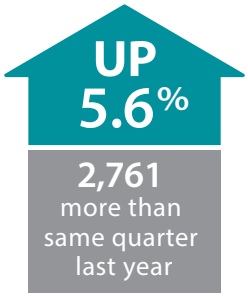


The average length of stay for patients admitted for acute overnight care was **4.9 days**

Admitted patient activity		January to March 2017	January to March 2016	Difference	% change
All admitted patient episodes		477,983	459,494	18,489	4.0%
All acute episodes		457,535	442,686	14,849	3.4%
Overnight episodes		245,195	237,852	7,343	3.1%
Same-day episodes		212,340	204,834	7,506	3.7%
Non-acute episodes		20,448	16,808	3,640	21.7%
Average length of stay (days)	All acute episodes	3.1	3.0	0.1	
	Acute overnight episodes	4.9	4.8	0.1	
	Non-acute episodes	22.1	15.4	6.7	
Hospital bed days	All bed days	1,853,263	1,600,674	252,589	15.8%
	Acute bed days	1,401,693	1,341,723	59,970	4.5%
	Non-acute bed days	451,570	258,951	192,619	74.4%
Babies born in NSW public hospitals		18,070	18,201	-131	-0.7%

Elective surgery

There were **51,830** elective surgical procedures performed



Almost all (97.1%) were performed within recommended time frames

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

10, 46 and 221 days for urgent, semi-urgent and non-urgent, respectively

Elective surgery activity		January to March 2017	January to March 2016	Difference	% change
Elective surgical procedures performed		51,830	49,069	2,761	5.6%
Urgency category	Urgent surgery	10,646	10,289	357	3.5%
	Semi-urgent surgery	16,492	15,415	1,077	7.0%
	Non-urgent surgery	21,915	20,744	1,171	5.6%
Patients on waiting list ready for elective surgery at end of quarter		74,855	74,250	605	0.8%
Urgency category	Urgent surgery	2,006	1,753	253	14.4%
	Semi-urgent surgery	11,803	11,297	506	4.5%
	Non-urgent surgery	61,046	61,200	-154	-0.3%

Elective surgery performance		January to March 2017	January to March 2016	Difference
Median waiting time (days)	Urgent	10 days	10 days	0 days
	Semi-urgent	46 days	47 days	-1 day
	Non-urgent	221 days	229 days	-8 days
Elective surgery procedures performed on time	All procedures	97.1%	97.0%	+0.1 percentage points
	Urgent surgery	99.7%	99.7%	unchanged
	Semi-urgent surgery	96.5%	96.6%	-0.1 percentage points
	Non-urgent surgery	96.3%	96.0%	+0.3 percentage points

Admitted patient activity and performance

Patients admitted to a public hospital

In the January to March 2017 quarter, there were 477,983 admitted patient episodes; up 4.0% compared with the same quarter last year (Figure 1). Most were acute admitted patient episodes (95.7%) and of these, 53.6% were for overnight care and 46.4% were for same-day care (Figure 2).

Admissions to hospital can be planned (arranged in advance) or unplanned (emergency hospital admissions or surgical procedures). This quarter, most acute same-day admitted patient episodes (71.5%) were planned. In contrast, most acute overnight episodes (85.7%) were unplanned [data not shown].

There has been a gradual increase over the past five years in admitted patient episodes and in acute admitted patient episodes (Figure 1). Since the January to March quarter in 2012, the number of acute overnight admitted patient episodes has increased by 11.3% and the number of same-day episodes increased by 19.3% (Figure 2).

Figure 3 shows differences in the proportion of acute admitted patient episodes that were same-day episodes this quarter across hospital peer groups. Peer group C2 (smaller district hospitals) overall had a higher percentage of same-day episodes compared with other peer groups. Peer group C2 also had the greatest variation – ranging across hospitals from 16.0% to 79.1% of all acute admitted patient episodes.

The number of babies born in NSW public hospitals (18,070) decreased by 0.7% this quarter compared with the same quarter last year (Figure 1).

Patients can have more than one admitted episode during the same hospitalisation. For example, a person may be admitted for acute care and then require an episode of rehabilitation or palliative care prior to being discharged.

Figure 1 All admitted patient episodes, acute admitted patient episodes and babies born, January 2012 to March 2017

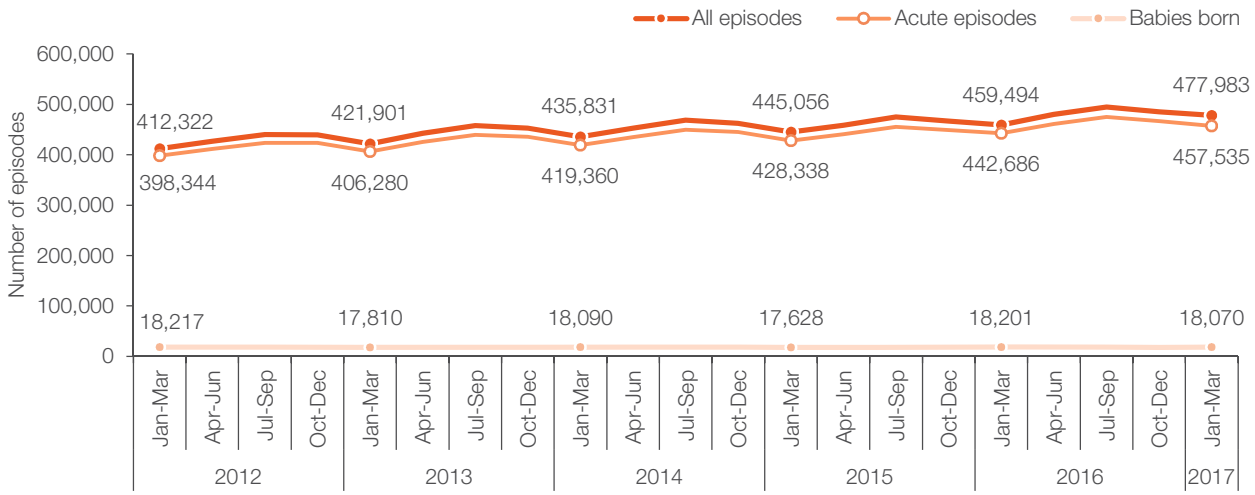


Figure 2 Overnight and same day acute admitted patient episodes, January 2012 to March 2017

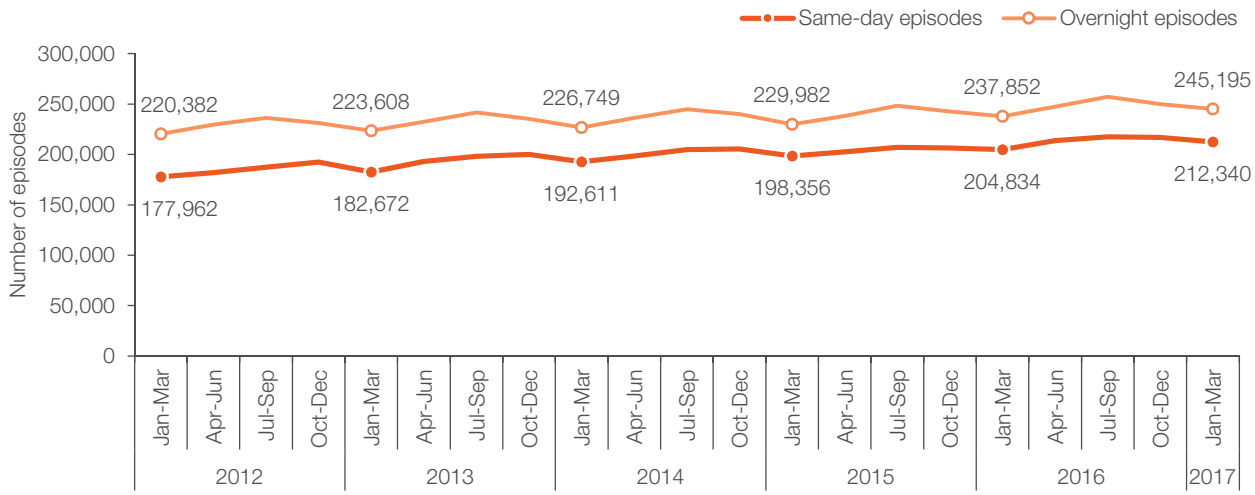
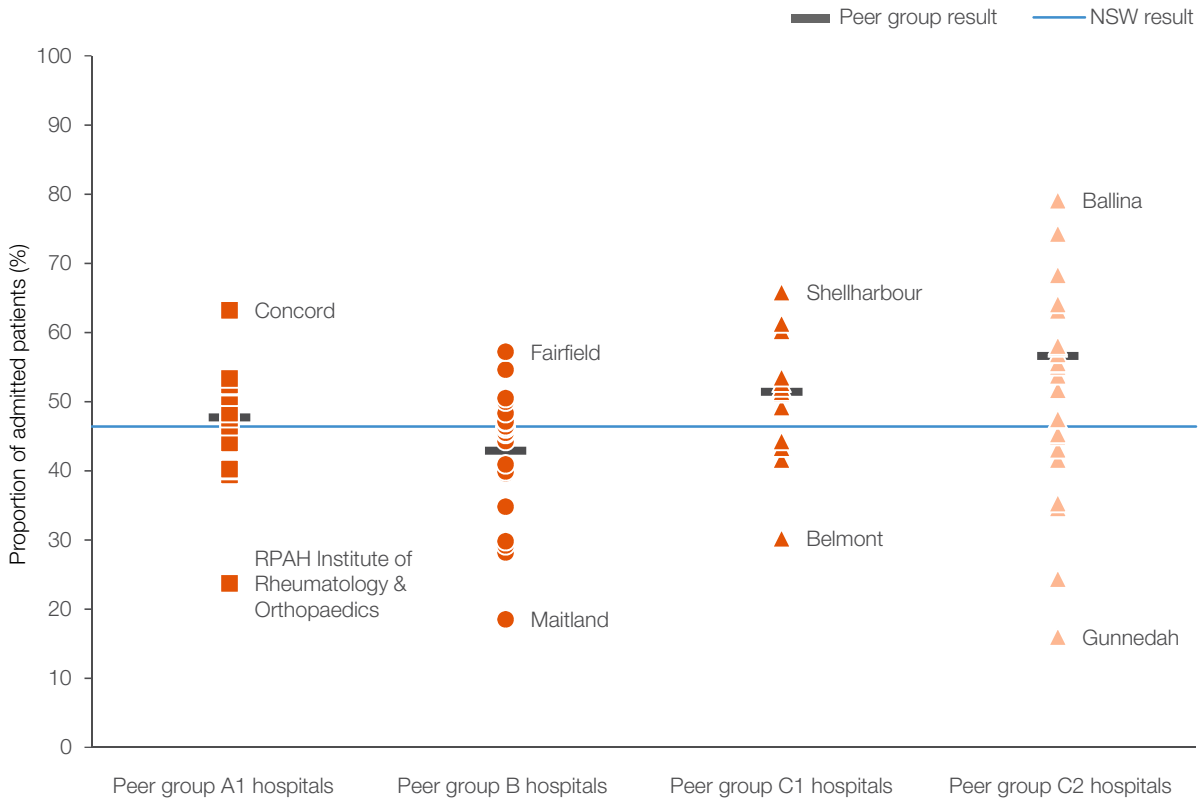


Figure 3 Same-day admitted patient episodes as percentage of all acute admitted patient episodes, by peer group, January to March 2017



Note: Same-day refers to patients who are admitted and discharged on the same day. Same-day episodes count as one bed day.

Bed days and length of stay in hospital

In the January to March 2017 quarter, there were 1,853,263 hospital bed days; up 15.8% compared with the same quarter last year.* The number of acute bed days this quarter was 4.5% higher than in the same quarter last year. The number of non-acute bed days was 74.4% higher than in the same quarter last year** (Figure 4).

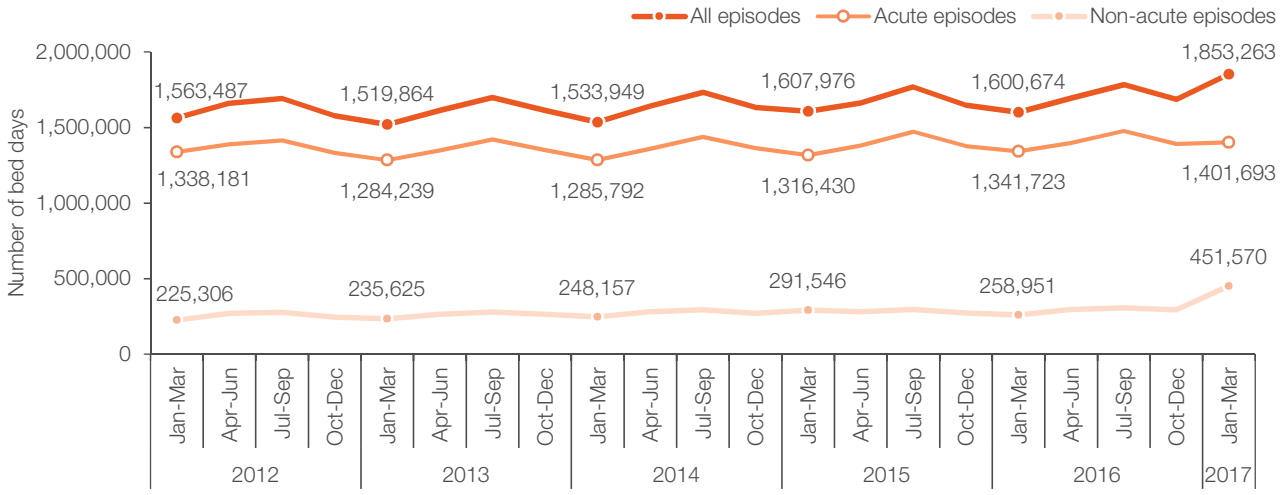
The total number of acute bed days this quarter represents a 4.7% increase compared with the same quarter in 2012 (Figure 5).

The average length of stay this quarter was 3.1 days for all acute admitted patient episodes and 4.9 days for all acute overnight episodes (both up 0.1 days compared with the same quarter last year). Since 2012, the average length of stay for all acute episodes has remained relatively stable for the January to March quarters (Figure 6).

Figure 4 **Total number of hospital bed days, by episode type, January to March 2017**

		This quarter	Same quarter last year	Change since one year ago
Total admitted patient episodes		477,983	459,494	4.0%
Acute	95.7%	457,535	442,686	3.4%
Non-acute	4.3%	20,448	16,808	21.7%
Total bed days		1,853,263	1,600,674	15.8%
Acute	75.6%	1,401,693	1,341,723	4.5%
Non-acute	24.4%	451,570	258,951	74.4%

Figure 5 **Total number of hospital bed days by episode type, January 2012 to March 2017**



* Bed days are calculated for all admitted patient episodes completed during the reference period. Total bed days for an overnight episode is the difference, in days, between the episode start date and the episode end date, minus the number of episode leave days recorded. Same-day episodes count as one bed day.

** The 74.4% 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.

There were hospital-level differences in the average length of stay for acute overnight episodes, even within peer groups. The greatest variation was in principal referral hospitals (peer group A), with an 8.2 day range (Figure 7).

Differences in case-mix of patients both between and within hospital peer groups may affect length of stay measures and have not been taken into account in these analyses.

Figure 6 Average length of stay, by type of admitted patient episode, January 2012 to March 2017

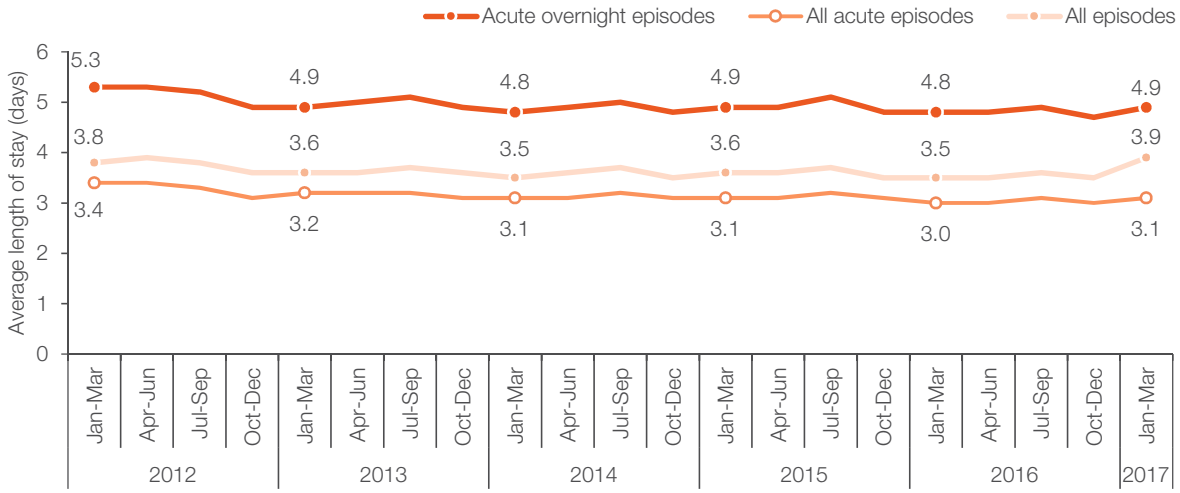
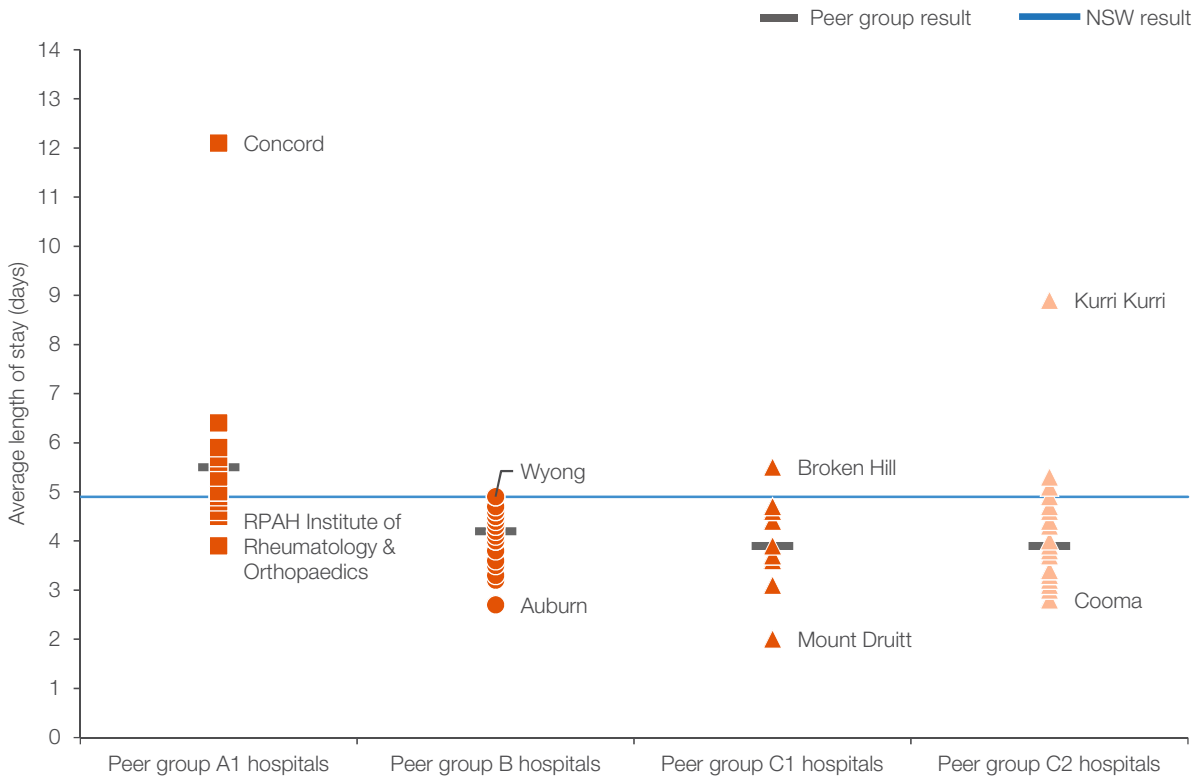


Figure 7 Average length of stay for acute overnight admitted patient episodes, by peer group, January to March 2017



Elective surgery activity and performance

Elective surgical procedures

In the January to March 2017 quarter, a total of 51,830 elective surgical procedures were performed. This was 2,761 (5.6%) more than in the same quarter last year. Of all the elective surgical procedures performed this quarter, 20.5% were categorised as urgent, 31.8% as semi-urgent, and 42.3% as non-urgent. A further 5.4% were categorised as staged (Figure 8).

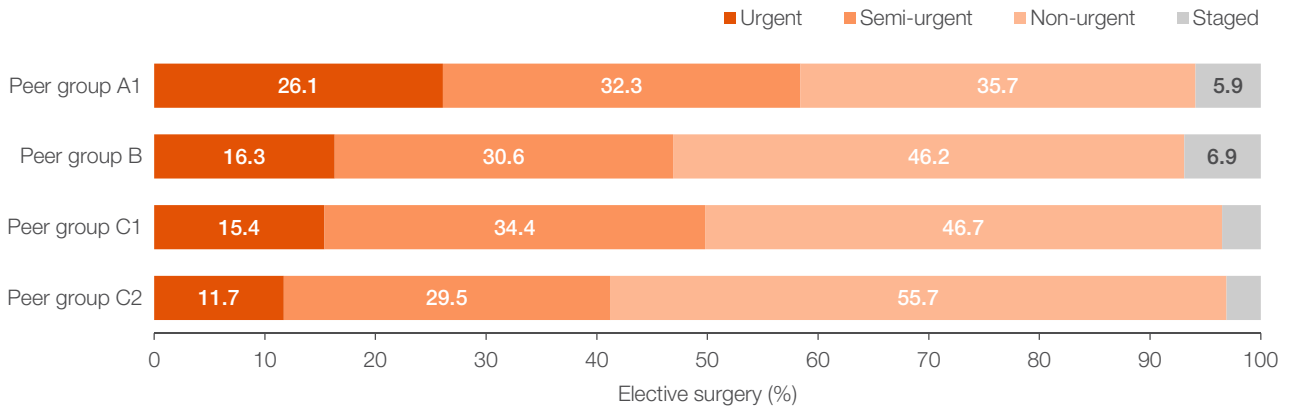
Compared with the same quarter last year, there was an increase in the number of urgent (up 3.5%), semi-urgent (up 7.0%) and non-urgent procedures (up 5.6%) performed (Figure 8).

There are three elective surgery urgency categories, each with a clinically recommended maximum time by which the procedure should be performed: urgent (within 30 days), semi-urgent (within 90 days) and non-urgent surgery (within 365 days).

Figure 8 Elective surgical procedures performed, by urgency category, January to March 2017

	This quarter	Same quarter last year	Change since one year ago
Total number of elective surgical procedures	51,830	49,069	5.6%
Urgent 20.5%	10,646	10,289	3.5%
Semi-urgent 31.8%	16,492	15,415	7.0%
Non-urgent 42.3%	21,915	20,744	5.6%
Staged* 5.4%	2,777	2,621	6.0%

Figure 9 Distribution of elective surgery, by urgency category and peer group, January to March 2017

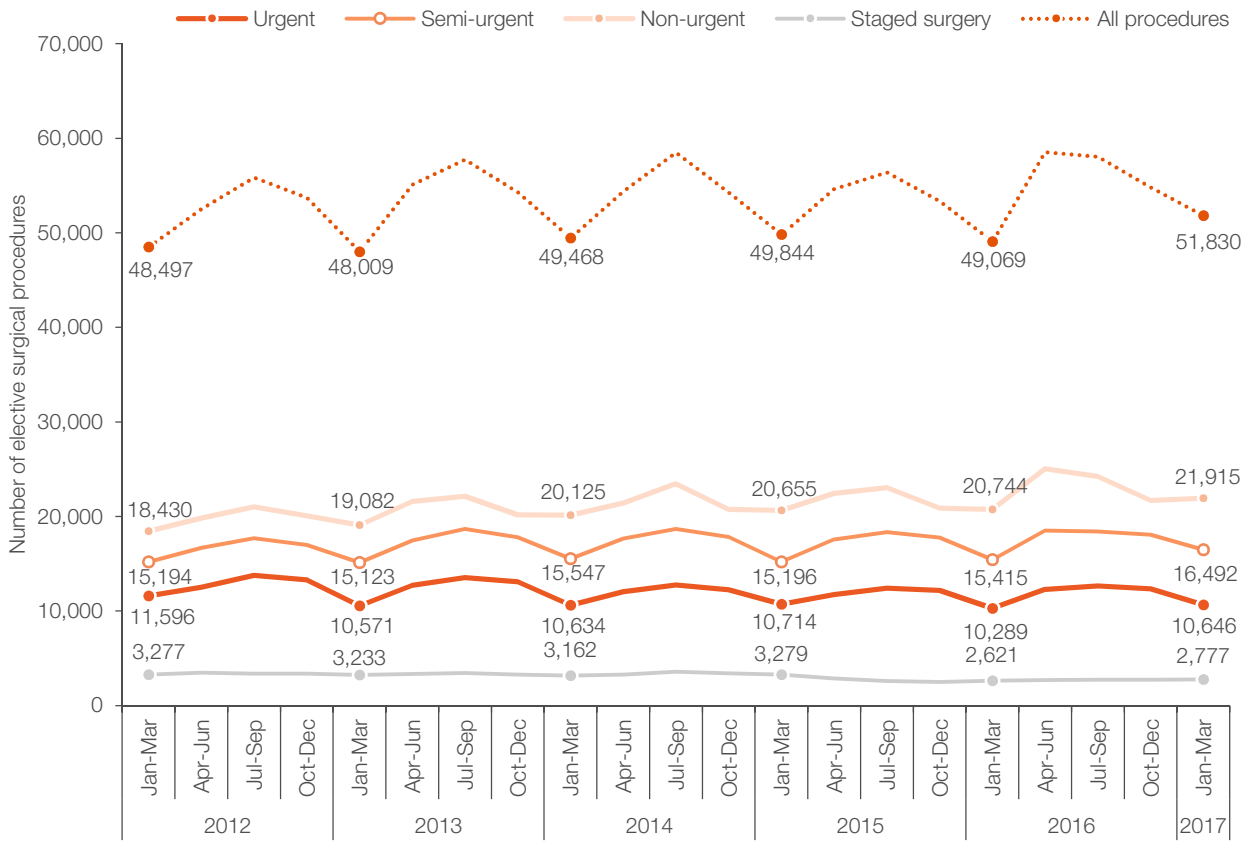


* Surgery that, for medical reasons, cannot take place before a certain amount of time has elapsed. BHI uses this term to define all patients that could be identified as being a staged patient for most of their time on the waiting list and all non-urgent cystoscopy patients.

Comparing across peer groups, principal referral hospitals (peer group A1) had the highest proportion of elective surgical procedures that were urgent and the lowest proportion that were non-urgent (Figure 9).

The number of elective surgical procedures performed in the January to March quarter has increased over the past five years. Compared with 2012, the number of procedures performed that were semi-urgent or non-urgent increased by 8.5% and 18.9%, respectively. In contrast, the number of urgent procedures decreased by 8.2% (Figure 10).

Figure 10 Elective surgical procedures performed, by urgency category, January 2012 to March 2017



Median waiting time for elective surgery

In the January to March 2017 quarter, median waiting times for elective surgery were 10 days for urgent procedures, 46 days for semi-urgent procedures and 221 days for non-urgent procedures. These median times were shorter or were unchanged compared with the same quarter last year. The one-year decrease was most pronounced in the non-urgent category (down eight days) (Figure 11).

Over a longer time horizon, median waiting times have fallen in all urgency categories over the past five years: a one day drop for urgent surgery (9.1% decrease), a five day drop for semi-urgent (9.8% decrease), and a 11 day drop for non-urgent surgery (4.7% decrease) (Figure 12).

These five-year decreases in median waiting times have occurred in the context of changes in the number of procedures performed (the number of urgent procedures is down 8.2%; semi-urgent up 8.5%; and non-urgent up 18.9%) (page 12).

There has also been a downward trend in the 90th percentile waiting times for elective surgery across all urgency categories since 2012 (Figure 13).

Figure 11 Waiting times for elective surgery, by urgency category, January to March 2017

	This quarter	Same quarter last year	Change since one year ago
Urgent: 10,646 patients			
Median time to receive surgery	10 days	10 days	0 days
90th percentile time to receive surgery	26 days	26 days	0 days
Semi-urgent: 16,492 patients			
Median time to receive surgery	46 days	47 days	-1 day
90th percentile time to receive surgery	84 days	84 days	0 days
Non-urgent: 21,915 patients			
Median time to receive surgery	221 days	229 days	-8 days
90th percentile time to receive surgery	356 days	356 days	0 days

Figure 12 Median waiting time for elective surgery, by urgency category, January 2012 to March 2017

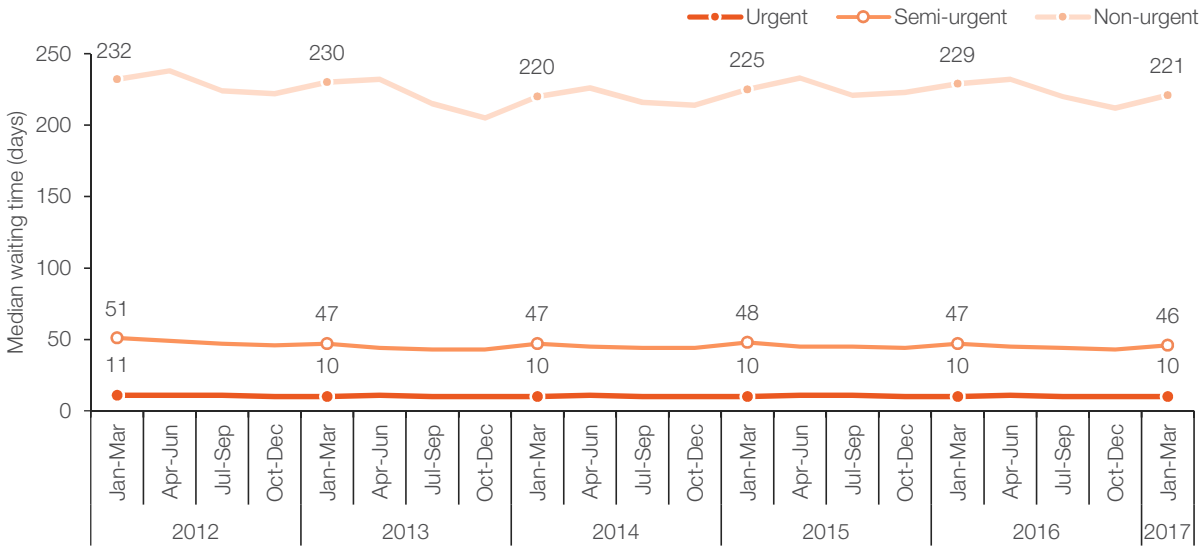
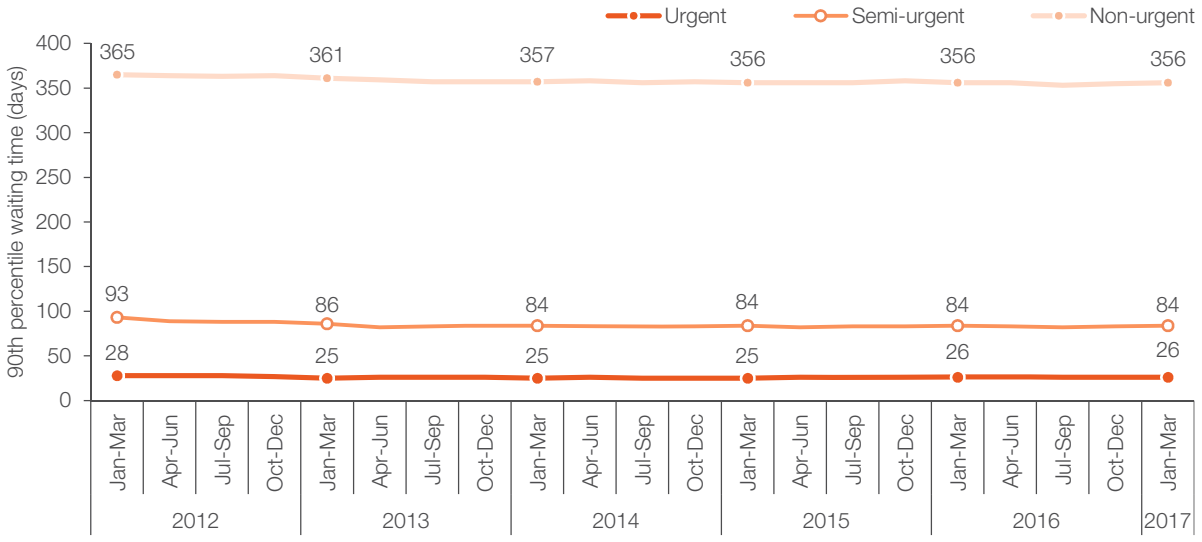


Figure 13 90th percentile waiting time for elective surgery, by urgency category, January 2012 to March 2017



Percentage of elective surgery on time

Most elective surgical procedures (97.1%) were performed on time this quarter – 99.7% of urgent surgery, 96.5% of semi-urgent surgery and 96.3% of non-urgent surgery (Figure 14). Results for the January to March quarter have remained fairly stable since 2014 (Figure 15).

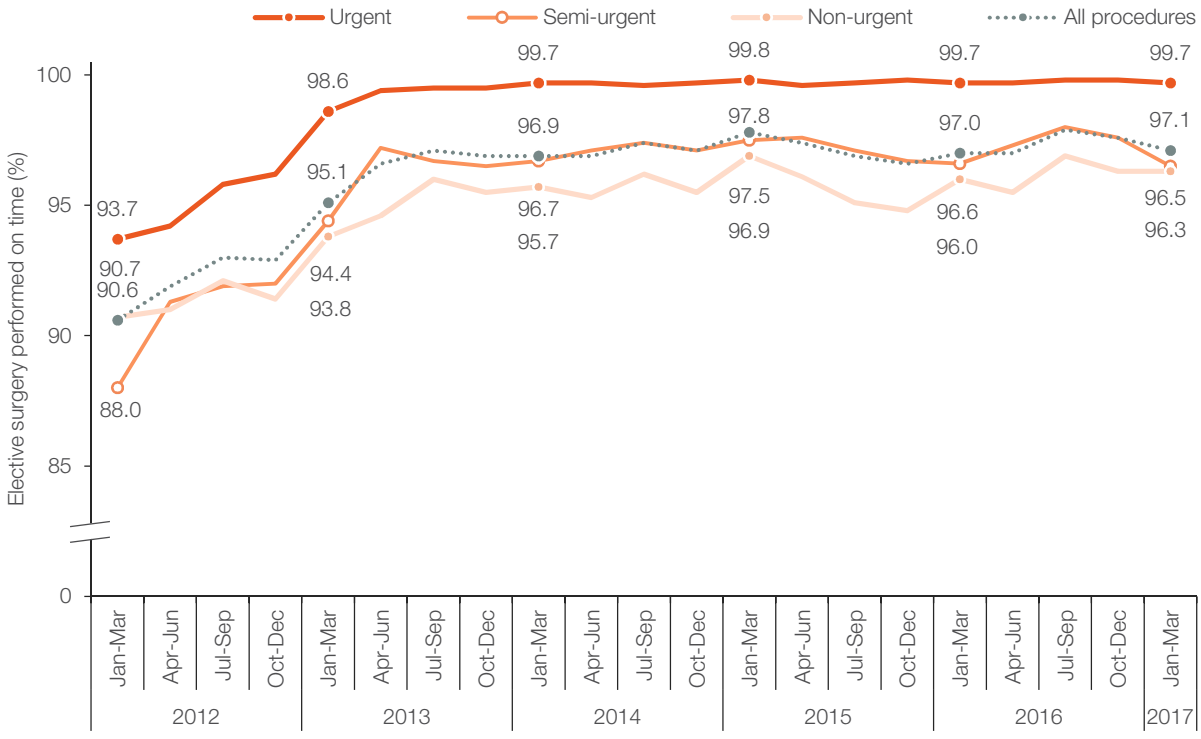
Figure 16 maps hospital results for this quarter on two axes: the percentage of elective surgery performed on time (Y-axis), and the percentage point change since the same quarter last year (X-axis).

For hospitals shown above the blue NSW line, a higher percentage of procedures were performed on time this quarter compared with the overall NSW result. For hospitals below this line, a lower percentage of procedures were performed on time. Hospitals shown to the left of the vertical '0' line had lower results, compared with the same quarter last year, while those shown to the right of the vertical line had higher results.

Figure 14 **Percentage of elective surgical procedures performed on time, by urgency, January to March 2017**

		This quarter	Same quarter last year	Percentage point change since one year ago
All procedures		97.1%	97.0%	0.1
Urgent	Recommended: 30 days	99.7%	99.7%	unchanged
Semi-urgent	Recommended: 90 days	96.5%	96.6%	-0.1
Non-urgent	Recommended: 365 days	96.3%	96.0%	0.3

Figure 15 **Percentage of elective surgical procedures performed on time, by urgency, January 2012 to March 2017**



Hospitals in the upper right quadrant achieved higher results than NSW overall, and an increase in the percentage of elective surgical procedures performed on time this quarter, compared with the same quarter last year. Hospitals in the upper left quadrant achieved results higher than NSW this quarter and a decrease in the percentage of procedures performed on time.

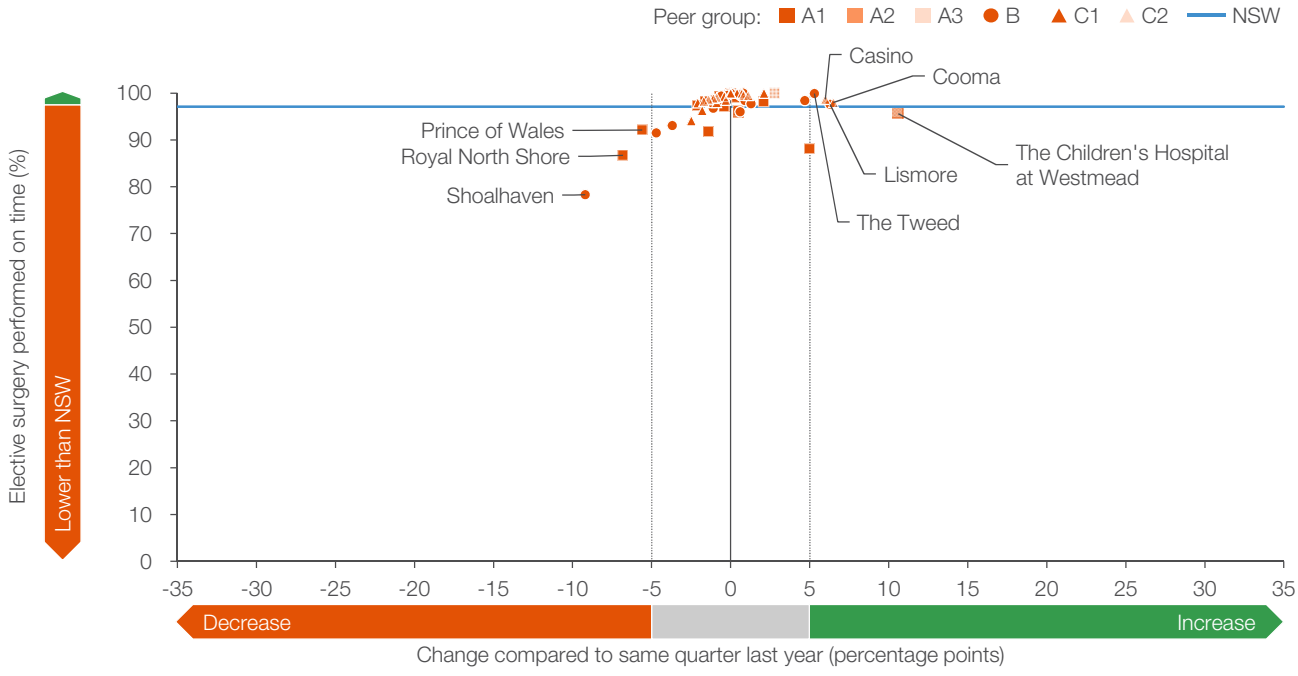
Hospitals in the lower right quadrant had results that were lower than NSW overall, and an increase in the percentage of procedures performed on time this quarter, compared with the same quarter last year. Hospitals in the lower left quadrant had results that were lower than NSW and a decrease in the percentage of procedures performed on time, compared with the same quarter last year.

Hospitals identified in Figure 16 are those for which the proportion of procedures performed on time this quarter had changed by more than five percentage points, compared with the same quarter last year.

Across hospitals, the percentage of elective surgical procedures performed on time increased in 24 out of 78 hospitals. For five hospitals, the increase was more than five percentage points and for one of these, the increase was more than 10 percentage points (Figure 16).

The percentage of procedures performed on time decreased in 28 hospitals. For three hospitals, the decrease was more than five percentage points (Figure 16).

Figure 16 Percentage of elective surgical procedures performed on time and percentage point change since same quarter last year, hospitals by peer group, January to March 2017



Median waiting time for specialties and specific procedures

In the January to March 2017 quarter, the longest specialty median waiting times were for ophthalmological surgery (206 days), ear, nose and throat surgery (192 days), and orthopaedic surgery (128 days). Medical (non-specialist) surgery had the shortest median waiting time (19 days). In absolute terms the most marked fall in median waiting times was seen in ophthalmology (down 17 days; a 7.6% decrease compared to same quarter last year). In relative terms, the most marked fall was seen in plastic surgery (down 5 days; an 11.9% decrease) (Figure 17).

Figure 17 Median waiting time for patients who received elective surgery, by specialty, January to March 2017

	Number of procedures	This quarter	Same quarter last year	Change since one year ago
General surgery	12,834	42 days	40 days	2 days
Orthopaedic surgery	8,387	128 days	142 days	-14 days
Urology	7,260	36 days	39 days	-3 days
Ophthalmology	6,947	206 days	223 days	-17 days
Gynaecology	6,263	39 days	41 days	-2 days
Ear, nose and throat surgery	3,819	192 days	183 days	9 days
Plastic surgery	2,252	37 days	42 days	-5 days
Vascular surgery	1,642	22 days	22 days	0 days
Neurosurgery	1,067	50 days	55 days	-5 days
Cardiothoracic surgery	858	28 days	27 days	1 day
Medical	501	19 days	18 days	1 day

Across common surgical procedures, the longest median waiting times were for septoplasty (324 days), and total knee replacement (291 days). Other-general (26 days) and cystoscopy (30 days) had the shortest median waiting times. In absolute terms, the most marked fall was seen in cataract extractions (down 23 days; a 9.1% decrease) while in relative terms, the most marked fall was seen in prostatectomy (down 10 days; a 13.2% decrease) (Figure 18).

Figure 18 Median waiting time for patients who received elective surgery, by common procedure, January to March 2017

	Number of procedures	This quarter	Same quarter last year	Change since one year ago
Cataract extraction	5,488	230 days	253 days	-23 days
Cystoscopy	3,111	30 days	30 days	0 days
Hysteroscopy	2,089	34 days	36 days	-2 days
Total knee replacement	1,620	291 days	301 days	-10 days
Cholecystectomy	1,574	56 days	62 days	-6 days
Other - General	1,503	26 days	26 days	0 days
Inguinal herniorrhaphy	1,460	81 days	76 days	5 days
Tonsillectomy	1,339	279 days	277 days	3 days
Total hip replacement	903	223 days	221 days	3 days
Prostatectomy	625	66 days	76 days	-10 days
Abdominal hysterectomy	540	60 days	64 days	-5 days
Septoplasty	366	324 days	328 days	-4 days
Varicose veins stripping and ligation	364	136 days	134 days	2 days
Haemorrhoidectomy	317	77 days	76 days	1 day
Coronary artery bypass graft	174	42 days	28 days	14 days
Myringoplasty / Tympanoplasty	76	288 days	308 days	-20 days
Myringotomy	58	78 days	70 days	8 days

Percentage of elective surgery for specific procedures on time

The percentage of elective surgical procedures performed on time reached almost 100% this quarter across several specialty groups.

Ophthalmological surgery and medical (non-specialist) surgery had the highest percentages of patients who received surgery on time (99.3% and 98.5% respectively). Ear, nose and throat surgery (93.7%) and orthopaedic surgery (95.6%) had the lowest percentages (Figure 19).

Cardiothoracic surgery had the largest increase in the percentage of patients who received surgery on time this quarter (up 2.2 percentage points), while medical surgery had the largest percentage point decrease (down 1.0 percentage point), compared with the same quarter last year.

Figure 19 **Percentage of elective surgical procedures performed on time, by specialty, January to March 2017**

	Number of procedures	Percentage on time	Same quarter last year	Percentage point change since one year ago
General surgery	12,834	97.8%	97.6%	0.2
Orthopaedic surgery	8,387	95.6%	95.9%	-0.3
Urology	7,260	95.9%	96.6%	-0.7
Ophthalmology	6,947	99.3%	98.6%	0.7
Gynaecology	6,263	98.2%	98.4%	-0.2
Ear, nose and throat surgery	3,819	93.7%	92.1%	1.6
Plastic surgery	2,252	96.3%	97.2%	-0.9
Vascular surgery	1,642	98.3%	98.2%	0.1
Neurosurgery	1,067	96.9%	97.0%	-0.1
Cardiothoracic surgery	858	97.8%	95.6%	2.2
Medical	501	98.5%	99.5%	-1.0

Among common surgical procedures, cataract extraction and hysteroscopy had the highest percentage performed on time (99.4% and 98.6% respectively), while myringoplasty/tympanoplasty (89.3%) and myringotomy (89.7%) had the lowest.

Myringoplasty/Tympanoplasty had the largest increase in the percentage of patients who received surgery on time this quarter (up 6.7 percentage points), while myringotomy had the largest decrease (down 8.3 percentage points) compared with the same quarter last year (Figure 20).

Figure 20 Percentage of elective surgical procedures performed on time, by common procedure, January to March 2017

	Number of procedures	Percentage on time	Same quarter last year	Percentage point change since one year ago
Cataract extraction	5,488	99.4%	99.0%	0.4
Cystoscopy	3,111	95.8%	97.1%	-1.3
Hysteroscopy	2,089	98.6%	98.9%	-0.3
Total knee replacement	1,620	93.0%	93.0%	unchanged
Cholecystectomy	1,574	96.2%	97.7%	-1.5
Other - General	1,503	97.9%	97.5%	0.4
Inguinal herniorrhaphy	1,460	96.5%	97.4%	-0.9
Tonsillectomy	1,339	93.7%	92.5%	1.2
Total hip replacement	903	95.0%	95.5%	-0.5
Prostatectomy	625	91.7%	94.5%	-2.8
Abdominal hysterectomy	540	96.8%	96.2%	0.6
Septoplasty	366	92.1%	90.1%	2.0
Varicose veins stripping and ligation	364	94.8%	95.5%	-0.7
Haemorrhoidectomy	317	97.1%	94.5%	2.6
Coronary artery bypass graft	174	97.7%	96.5%	1.2
Myringoplasty / Tympanoplasty	76	89.3%	82.6%	6.7
Myringotomy	58	89.7%	98.0%	-8.3

End of quarter elective surgery waiting list

At the end of March 2017, there were 74,855 patients who were ready for surgery and on the elective surgery waiting list. Of these, 2.7% were waiting for urgent surgery, 15.8% were waiting for semi-urgent surgery and 81.6% were waiting for non-urgent surgery (Figure 21).

The waiting list is dynamic and this statistic provides a snapshot of the list on a single day. Among the patients on the list on 31 March 2017, there were 16,983 (22.7%) who had been waiting for 30 days or less.

Compared with the last day of the same quarter last year, there was an increase in the number of patients on the waiting list for urgent and semi-urgent categories (2,006; up 14.4% and 11,803; up 4.5%, respectively). There was a decrease in the number of patients waiting for non-urgent surgery (61,046; down 0.3%) (Figure 21).

At the end of the quarter, there were 13,362 patients 'not ready for surgery'* and on the elective surgery waiting list, up 2.8% compared with the same quarter last year (Figure 21).

Orthopaedic surgery and ophthalmological surgery were the specialties for which the largest proportion of patients were waiting at the end of the quarter. Together, these specialties represented 48.3% of all patients on the elective surgery waiting list (Figure 22).

Cataract extraction which is the highest volume procedure, had most patients on the waiting list at the end of the quarter (14,802 patients) – 1.9% fewer than in the same quarter last year. Procedures with relatively few patients on the waiting list at the end of the quarter were coronary artery bypass graft (78 patients) and myringotomy (88 patients) (Figure 23).

At the end of the quarter, there were 316 patients still waiting for surgery after more than 12 months on the waiting list; a decrease of 284 patients (47.3%) compared with the same quarter last year. Almost half of these patients (132 patients; 41.8%) were waiting for orthopaedic surgery. Compared with the same quarter last year, fewer patients had been waiting for general surgery for more than 12 months (from 121 to 42 patients) (Figures 21 and 22).

Figure 21 Elective surgery waiting list, by urgency category, as at 31 March 2017

	This quarter	Same quarter last year	Change since one year ago
Patients ready for surgery on waiting list as at 31 March 2017	74,855	74,250	0.8%
Urgent 2.7%	2,006	1,753	14.4%
Semi-urgent 15.8%	11,803	11,297	4.5%
Non-urgent 81.6%	61,046	61,200	-0.3%
Patients not ready for surgery on waiting list at the end of quarter	13,362	12,999	2.8%

* These patients are either staged patients (whose medical condition does not require, or is not amenable to, surgery until a future date) or deferred patients (who for personal reasons are not yet prepared to be admitted to hospital).

Figure 22 **Patients waiting for elective surgery and patients still waiting after more than 12 months on the waiting list at the end of the quarter, by specialty, as at 31 March 2017**

	Patients on waiting list at end of quarter			Patients still waiting after more than 12 months	
	This quarter	Same quarter last year	Change since one year ago	This quarter	Same quarter last year
All specialties	**74,855**	**74,250**	**0.8%**	**316**	**600**
Orthopaedic surgery	18,955	19,033	-0.4%	132	192
Ophthalmology	17,186	17,267	-0.5%	24	24
General surgery	12,511	12,539	-0.2%	42	121
Ear, nose and throat surgery	10,401	9,983	4.2%	58	133
Gynaecology	6,092	6,250	-2.5%	13	33
Urology	4,322	3,842	12.5%	7	24
Plastic surgery	2,376	2,478	-4.1%	18	37
Neurosurgery	1,291	1,237	4.4%	18	30
Vascular surgery	1,077	1,071	0.6%	<5	<5
Cardiothoracic surgery	365	321	13.7%	0	<5
Medical	279	229	21.8%	0	0

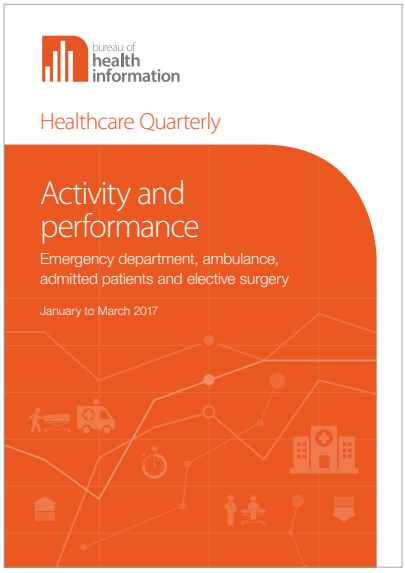
Figure 23 **Patients waiting for elective surgery and patients still waiting after more than 12 months on the waiting list at the end of the quarter, by common procedure, as at 31 March 2017**

	Patients on waiting list at end of quarter			Patients still waiting after more than 12 months	
	This quarter	Same quarter last year	Change since one year ago	This quarter	Same quarter last year
Cataract extraction	14,802	15,081	-1.9%	16	16
Total knee replacement	5,653	5,592	1.1%	38	35
Tonsillectomy	4,199	3,883	8.1%	16	24
Total hip replacement	2,548	2,514	1.4%	20	20
Inguinal herniorrhaphy	2,263	2,213	2.3%	8	29
Hysteroscopy	1,589	1,561	1.8%	<5	<5
Cholecystectomy	1,542	1,684	-8.4%	0	<5
Septoplasty	1,475	1,323	11.5%	14	37
Cystoscopy	1,162	1,105	5.2%	0	0
Other - General	1,065	1,266	-15.9%	<5	21
Abdominal hysterectomy	821	836	-1.8%	<5	11
Prostatectomy	767	622	23.3%	<5	<5
Varicose veins stripping and ligation	678	740	-8.4%	<5	6
Haemorrhoidectomy	425	403	5.5%	<5	11
Myringoplasty / Tympanoplasty	364	319	14.1%	<5	10
Myringotomy	88	134	-34.3%	0	0
Coronary artery bypass graft	78	64	21.9%	0	0

Healthcare Quarterly

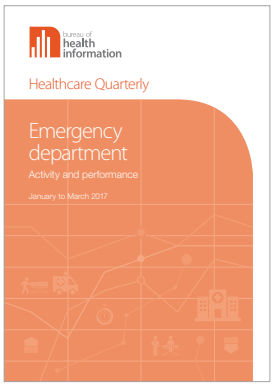
Healthcare Quarterly is a series of regular reports that describes the number and types of services provided to the people of NSW and the timeliness with which they are provided.

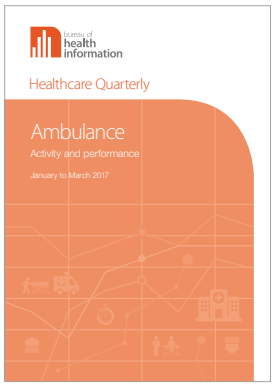
The reports feature key indicators of activity and performance across ambulance and public hospital services in NSW.



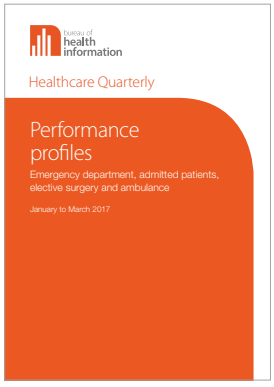
Every day around 25,000 people receive care in the NSW public hospital system and around 1,800 are transported to hospital by ambulance.

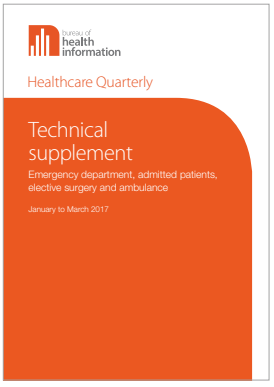
Healthcare Quarterly is published alongside three standalone modules that provide more detailed information about emergency department care, admitted patients and elective surgery, and ambulance services.





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**





All reports and profiles are available at **bhi.nsw.gov.au**

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

bureau of health information

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