

Healthcare Quarterly

# Activity and performance

Emergency department, ambulance, admitted patients and elective surgery

January to March 2019



## **BUREAU OF HEALTH INFORMATION**

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

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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 or errata.

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*Healthcare Quarterly* reports present data at the point in time when data become available to BHI. Subsequent changes in data coverage and analytic methods, and updates to databases mean that figures published in this document are superseded by subsequent reports.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 interactive data portal, Healthcare Observer, at **bhi.nsw.gov.au/healthcare\_observer**

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

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The *Supplementary results* provide additional findings to the *Healthcare Quarterly* report for emergency departments, ambulance services, admitted patients and elective surgeries. Full results for *Healthcare Quarterly* are available through BHI's interactive data portal, Healthcare Observer. Results are reported at a state, local health district, hospital peer group and individual hospital level for public hospitals and at a state level and by statistical area level 3 (SA3) for ambulance services.

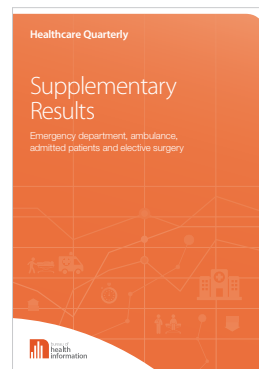
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# A guide to Healthcare Quarterly

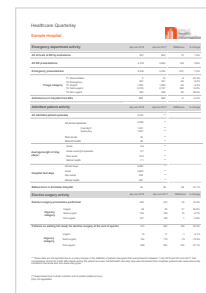
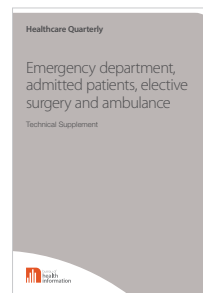
*Healthcare Quarterly* reports on activity and performance in public hospitals and ambulance services across NSW.



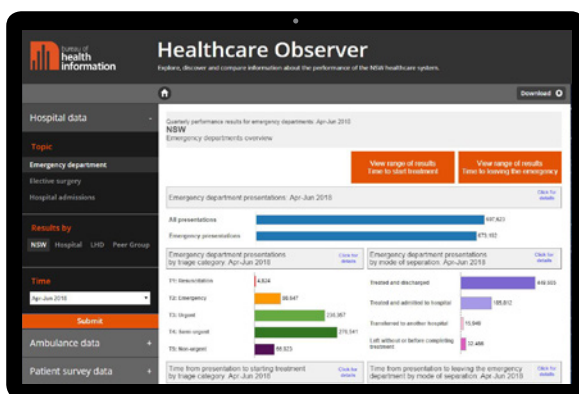
This *Healthcare Quarterly* shows how public hospitals and ambulance services performed in the January to March 2019 quarter. The key measures focus on the timeliness of services delivered to people across NSW.



The Supplementary Results provide additional findings to the *Healthcare Quarterly* report for emergency departments, ambulance services, admitted patients and elective surgeries.



The Technical Supplement describes the data, methods and technical terms used to calculate activity and performance measures. Profiles report activity and performance at hospital, peer group and local health district level.



Full results are available from BHI's interactive data portal Healthcare Observer, at [bhi.nsw.gov.au/healthcare\\_observer](http://bhi.nsw.gov.au/healthcare_observer)



All reports and profiles are available at [bhi.nsw.gov.au](http://bhi.nsw.gov.au)

# 10 key findings

January to March 2019

- 1 There were 756,259 emergency department attendances in the January to March 2019 quarter, up 5.9% compared with the same quarter last year.** The number of attendances was higher in 68 emergency departments. Attendances were up more than 10% in 15 hospitals.
- 2 About seven in 10 (71.9%) emergency department patients were treated within clinically recommended timeframes.** This was 4.3 percentage points lower than the same quarter last year (76.2%).
- 3 About seven in 10 (70.6%) patients spent four hours or less in the emergency department, down 3.8 percentage points.** The median time patients spent in the emergency department was 2 hours and 54 minutes, up 12 minutes.
- 4 The percentage of patients who had their care transferred from paramedics to hospital staff within 30 minutes was 88.8%, down 3.3 percentage points.** The number of arrivals to emergency departments by ambulance was up 10.0% (15,490) to 170,366 arrivals. Arrivals by ambulance were up more than 10% in 26 hospitals.
- 5 The number of ambulance responses, where a vehicle was dispatched, was up 10.2% (28,359) to 307,749 compared with the same quarter last year.** Cases classified as emergencies (priority 1) were up 10.7% (13,118) to 136,268 responses.
- 6 Paramedics reached six in 10 (59.9%) emergency (priority 1) cases within 15 minutes, down 2.7 percentage points.** The percentage of urgent (priority 2) cases reached within 30 minutes was down 5.2 percentage points to 68.0%.
- 7 The median response time for life-threatening (priority 1A) cases remained stable at 7.5 minutes.** The number of responses to life-threatening cases was up 18.7% (1,006) to 6,380 responses. Paramedics reached 71.6% of cases within 10 minutes, down 1.5 percentage points.
- 8 There were 469,631 admitted patient episodes in the January to March 2019 quarter, up 2.4% (10,942) compared with the same quarter last year.** Of these episodes, 93.9% were acute, 3.6% were non-acute and 2.4% involved treatment for mental health.
- 9 The number of elective surgical procedures performed in the January to March 2019 quarter was up 0.8% to 53,133 procedures.** The number of urgent and semi-urgent procedures were down 0.9% and 0.7% respectively, while the number of non-urgent procedures were up 1.9% to 22,465 surgeries.
- 10 The median waiting times for elective surgery were 10 days for urgent procedures (unchanged), 47 days for semi-urgent procedures (unchanged) and 231 days for non-urgent surgeries (up five days).** Most (96.4%) elective surgical procedures were performed within clinically recommended timeframes.

# Healthcare Quarterly – Activity

Emergency department activity		January to March 2019	January to March 2018	Difference	% change
All arrivals at NSW EDs by ambulance		170,366	154,876	15,490	10.0%
All ED attendances		756,259	714,012	42,247	5.9%
Emergency presentations		731,235	688,024	43,211	6.3%
Emergency presentations by triage category					
Triage category	T1: Resuscitation	5,020	4,616	404	8.8%
	T2: Emergency	94,274	87,327	6,947	8.0%
	T3: Urgent	256,164	234,956	21,208	9.0%
	T4: Semi-urgent	304,213	287,712	16,501	5.7%
	T5: Non-urgent	71,564	73,413	-1,849	-2.5%
Admissions to hospital from NSW EDs		191,590	181,224	10,366	5.7%

Ambulance activity		January to March 2019	January to March 2018	Difference	% change
Calls		309,011	284,412	24,599	8.6%
Responses		307,749	279,390	28,359	10.2%
Priority category	P1: Emergency	136,268	123,150	13,118	10.7%
	P1A: Highest priority	6,380	5,374	1,006	18.7%
	P2: Urgent	148,355	134,018	14,337	10.7%
	P3: Time-critical	14,402	14,010	392	2.8%
	P4-9: Non-emergency	8,718	8,203	515	6.3%
Incidents		238,771	222,065	16,706	7.5%
Patient transports		183,604	167,896	15,708	9.4%

Admitted patient activity		January to March 2019	January to March 2018	Difference	% change
All admitted patient episodes		469,631	458,689	10,942	2.4%
All acute episodes		441,175	431,232	9,943	2.3%
Overnight episodes		237,365	232,246	5,119	2.2%
Same-day episodes		203,810	198,986	4,824	2.4%
Non-acute episodes		17,004	16,021	983	6.1%
Mental health episodes		11,452	11,436	16	0.1%
Average length of stay (days)	All episodes	3.5	3.5	0.0	
	Acute episodes	2.9	2.8	0.1	
	Non-acute episodes	12.3	12.3	0	
	Mental health episodes	16.6	16	0.6	
Hospital bed days	All bed days	1,659,558	1,588,418	71,140	4.5%
	Acute bed days	1,259,977	1,208,910	51,067	4.2%
	Non-acute bed days	209,900	196,912	12,988	6.6%
	Mental health bed days	189,681	182,596	7,085	3.9%
Babies born in NSW public hospitals		18,006	18,133	-127	-0.7%

Elective surgery activity		January to March 2019	January to March 2018	Difference	% change
Elective surgical procedures performed		53,133	52,715	418	0.8%
Urgency category	Urgent surgery	10,632	10,731	-99	-0.9%
	Semi-urgent surgery	17,041	17,156	-115	-0.7%
	Non-urgent surgery	22,465	22,054	411	1.9%
Patients on waiting list ready for elective surgery at end of quarter		83,625	77,451	6,174	8.0%
Urgency category	Urgent surgery	2,031	1,806	225	12.5%
	Semi-urgent surgery	12,776	12,503	273	2.2%
	Non-urgent surgery	68,818	63,142	5,676	9.0%

Notes: Ambulance activity data do not include outage estimates. Data drawn on: 1 May 2019 (Emergency department), 8 April 2019 (Ambulance), 24 April 2019 (Admitted patients), 15 April 2019 (Elective surgery).

# Healthcare Quarterly – Performance

Emergency department performance		January to March 2019	January to March 2018	Difference	
Percentage of patients transferred from ambulance to ED within 30 minutes		88.8%	92.1%	-3.3 percentage points	
Time to treatment by triage category	T2: Emergency	Median	9 mins	8 mins	1 mins
		90th percentile	28 mins	23 mins	5 mins
	T3: Urgent	Median	21 mins	20 mins	1 mins
		90th percentile	78 mins	65 mins	13 mins
	T4: Semi-urgent	Median	28 mins	25 mins	3 mins
		90th percentile	112 mins	98 mins	14 mins
	T5: Non-urgent	Median	24 mins	21 mins	3 mins
		90th percentile	109 mins	97 mins	12 mins
All patients		71.9%	76.2%	-4.3 percentage points	
Percentage of patients whose treatment started on time	T2: Emergency (Recommended: 80% in 10 minutes)	63.1%	68.5%	-5.4 percentage points	
	T3: Urgent (Recommended: 75% in 30 minutes)	66.6%	71.2%	-4.6 percentage points	
	T4: Semi-urgent (Recommended: 70% in 60 minutes)	75.0%	78.7%	-3.7 percentage points	
	T5: Non-urgent (Recommended: 70% in 120 minutes)	92.0%	93.8%	-1.8 percentage points	
Median time spent in the ED		2h 54m	2h 42m	12 mins	
90th percentile time spent in the ED		7h 34m	6h 49m	45 mins	
Percentage of patients who spent four hours or less in the ED		70.6%	74.4%	-3.8 percentage points	

Ambulance performance		January to March 2019	January to March 2018	Difference
Call to ambulance arrival time				
Percentage of P1 call to ambulance arrival within 15 minutes		59.9%	62.6%	-2.7 percentage points
Percentage of P1 call to ambulance arrival within 30 minutes		93.4%	94.6%	-1.2 percentage points
Percentage of P2 call to ambulance arrival within 30 minutes		68.0%	73.2%	-5.2 percentage points
Percentage of P2 call to ambulance arrival within 60 minutes		91.8%	94.4%	-2.6 percentage points
Response time				
Percentage of P1A responses within 10 minutes		71.6%	73.1%	-1.5 percentage points

Elective surgery performance		January to March 2019	January to March 2018	Difference
Median waiting time (days)	Urgent surgery	10 days	10 days	0 days
	Semi-urgent surgery	47 days	47 days	0 days
	Non-urgent surgery	231 days	226 days	5 days
All surgeries		96.4%	96.5%	-0.1 percentage points
Elective surgeries performed on time	Urgent surgery (Recommended: 30 days)	99.9%	99.6%	+0.3 percentage points
	Semi-urgent surgery (Recommended: 90 days)	95.8%	95.9%	-0.1 percentage points
	Non-urgent surgery (Recommended: 365 days)	95.2%	95.5%	-0.3 percentage points

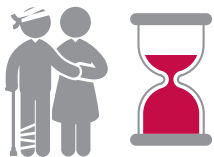
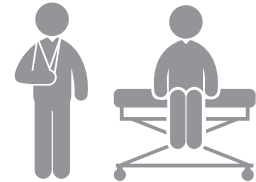
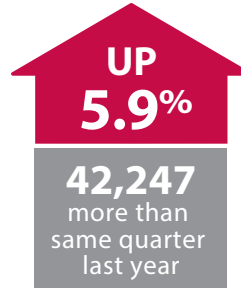
Notes: Data drawn on: 1 May 2019 (Emergency department), 8 April 2019 (Ambulance), 15 April 2019 (Elective surgery).

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

In the January to March 2019 quarter...

## Emergency department

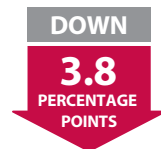
There were **756,259** emergency department attendances



**71.9%** of patients' treatment started on time



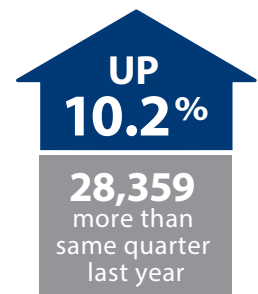
**70.6%** of patients spent **four hours or less** in the emergency department



## Ambulance



There were **307,749** ambulance responses



**93.4%** of priority 1 cases had a call to ambulance arrival time of 30 minutes or less



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





## Admitted patients

There were **469,631** admitted patient episodes of care



**53.8%** of acute admitted patient episodes were for overnight stays



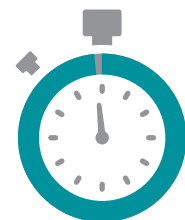
## Elective surgery

There were **53,133** elective surgical procedures performed



Almost all (96.4%) were performed within recommended time frames

Median waiting times were unchanged for urgent (10 days) and semi-urgent (47 days) surgeries, but increased by five days to 231 days for non-urgent surgeries.



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

# About this report

## The data

*Healthcare Quarterly* draws on four main data sources:

- **Emergency Department Data Collection (EDDC)**  
– data drawn from the Health Information Exchange (HIE) on 1 May 2019
- **NSW Ambulance Computer Aided Dispatch (CAD) system** – provided on 8 April 2019
- **Admitted Patient Data Collection (APDC)**  
– data drawn from the HIE on 24 April 2019
- **Waiting List Collection Online System (WLCOS)**  
– data drawn on 15 April 2019

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

## The analyses

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

For ambulance analyses, results are reported by statistical area level 3 (SA3). SA3s are geographical areas created under the Australian Bureau of Statistics' geographical regional framework and used for data analysis.

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

Data analyses are conducted in SAS 9.4. Codes that form the basis of routine reporting are written by two data analysts independently and only accepted when matching results are achieved. The indicator development process for ambulance reporting is detailed in an edition of *Spotlight on Measurement*, and the subsequent change to reporting ambulance activity and performance by statistical geographic areas is detailed in this report's Technical Supplement – available from [bhi.nsw.gov.au](http://bhi.nsw.gov.au).

## The measures

*Healthcare Quarterly* uses seven 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 more than five 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 are reported at NSW level and by SA3. Results for two SA3s, Blue Mountains – South and Illawarra Catchment Reserve, have been suppressed in this report because the estimated resident population is less than 1,000. SA3s with very few incidents (<10 incidents) in a quarter are also suppressed.

*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.
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.
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 activity and performance

# Emergency presentations

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

There were 756,259 ED attendances in the January to March 2019 quarter, up 5.9% compared with the same quarter last year. The number of ambulance arrivals was up 15,490 (10.0%) to 170,366 (Figure 1).

Across triage categories, emergency (triage 2) and urgent (triage 3) saw the largest change in presentations, up by 6,947 to 94,274 presentations and by 21,208 to 256,164 presentations respectively (Figure 1).

## Changes to Northern Sydney LHD

Emergency department (ED) performance results for Northern Beaches Hospital and Northern Sydney LHD should be interpreted with caution because of challenges experienced in the implementation of a new information system at Northern Beaches ED following its opening on 30 October 2018. Further details are available in this report's Technical Supplement, which can be accessed at [bhi.nsw.gov.au](http://bhi.nsw.gov.au).

On 30 October 2018, services at Manly and Mona Vale hospitals were transferred to Northern Beaches Hospital. Emergency care continues to be provided at Mona Vale Hospital through its Urgent Care Centre. BHI does not report on Urgent Care Centres. *Healthcare Quarterly* only includes data relating to publicly contracted services at Northern Beaches Hospital.

Figure 1 Patient presentations and ambulance arrivals at NSW emergency departments, January to March 2019

	This quarter	Same quarter last year	Change since one year ago
All ED attendances	756,259	714,012	5.9%
Emergency presentations by triage category	731,235	688,024	6.3%
Triage 1: Resuscitation	5,020	4,616	8.8%
Triage 2: Emergency	94,274	87,327	8.0%
Triage 3: Urgent	256,164	234,956	9.0%
Triage 4: Semi-urgent	304,213	287,712	5.7%
Triage 5: Non-urgent	71,564	73,413	-2.5%
Ambulance arrivals	170,366	154,876	10.0%

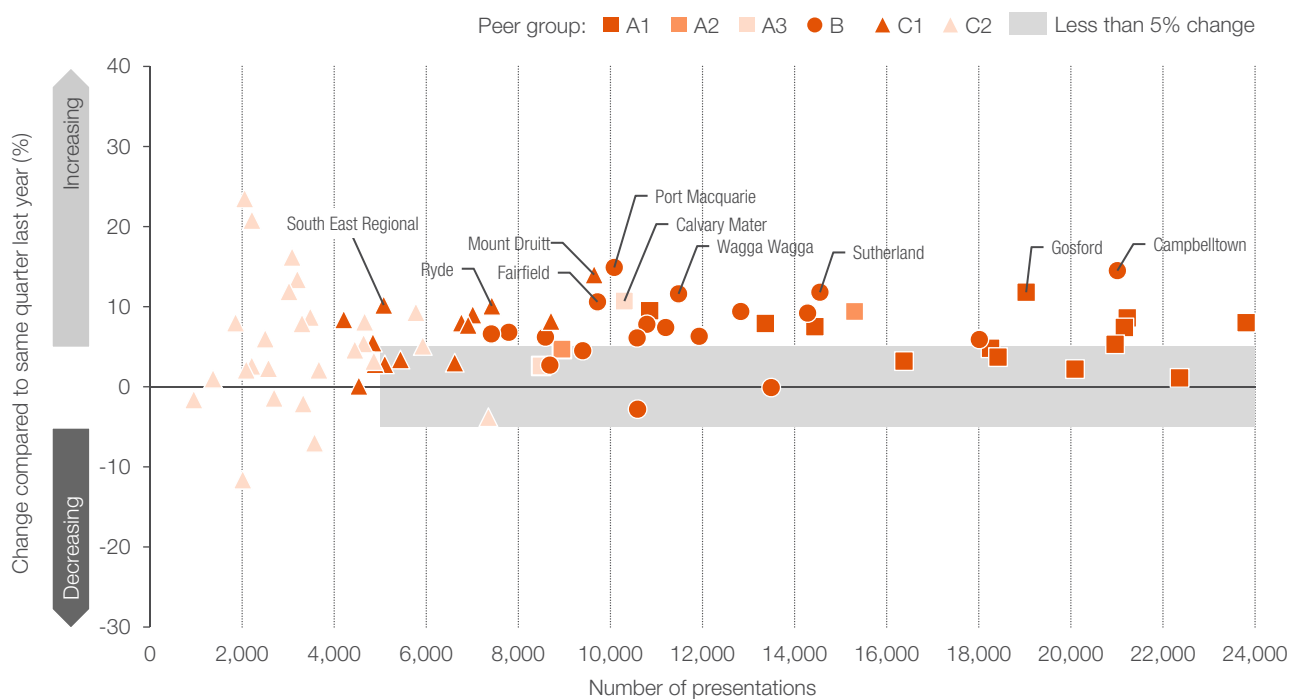
Most attendances (96.7%) were classified as emergency presentations (Figure 1). The remaining 25,024 attendances to EDs were for non-emergency reasons such as a planned return visit.

Compared with the same quarter last year, the number of ED attendances was higher this quarter in 68 out of 77 public hospital EDs in NSW. Hospitals identified in Figure 2 had more than 5,000 ED attendances this quarter and more than a 10% change in the number of attendances compared with the same quarter last year.

### Hospitals with >10% change in the number of ED attendances, compared with same quarter last year

Hospital	Peer group	All presentations	Change (%)
Forbes	C2	2055	23.5
Young	C2	2213	20.8
Singleton	C2	3086	16.2
Port Macquarie	B	10083	14.9
Campbelltown	B	21010	14.5
Mount Druitt	C1	9646	14.0
Moruya	C2	3199	13.4
Mudgee	C2	3019	11.9
Sutherland	B	14550	11.8
Gosford	A1	19029	11.8
Wagga Wagga	B	11479	11.6
Calvary Mater	A3	10302	10.7
Fairfield	B	9718	10.6
South East Regional	C1	5075	10.2
Ryde	C1	7423	10.1
Moree	C2	2013	-11.6

Figure 2 Change in number of emergency department attendances compared with the same quarter last year, hospitals by peer group, January to March 2019



# Time to treatment in the emergency department

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

In the January to March 2019 quarter, 71.9% of ED patients' treatment started within clinically

recommended timeframes, 4.3 percentage points lower than the same quarter last year.

The percentage of patients starting treatment on time was lower across triage categories 2 to 5 (Figure 3).

The median time to treatment and 90th percentile time to treatment were longer across triage categories 2 to 5 (Figure 3).

Figure 3 Percentage of patients whose treatment started on time, by triage category, January to March 2019

	This quarter	Same quarter last year	Percentage point change since one year ago
All emergency presentations	71.9%	76.2%	-4.3
Triage category 2	<b>Recommended: 80% in 10 minutes</b> 63.1%	68.5%	-5.4
Triage category 3	<b>Recommended: 75% in 30 minutes</b> 66.6%	71.2%	-4.6
Triage category 4	<b>Recommended: 70% in 60 minutes</b> 75.0%	78.7%	-3.7
Triage category 5	<b>Recommended: 70% in 120 minutes</b> 92.0%	93.8%	-1.8

	This quarter	Same quarter last year	Change since one year ago
Triage 2 Emergency (e.g. chest pain, severe burns): 92,983 presentations			
Median time to start treatment	9m	8m	1m
90th percentile time to start treatment	28m	23m	5m
Triage 3 Urgent (e.g. moderate blood loss, dehydration): 248,375 presentations			
Median time to start treatment	21m	20m	1m
90th percentile time to start treatment	1h 18m	1h 5m	13m
Triage 4 Semi-urgent (e.g. sprained ankle, earache): 280,433 presentations			
Median time to start treatment	28m	25m	3m
90th percentile time to start treatment	1h 52m	1h 38m	14m
Triage 5 Non-urgent (e.g. small cuts or abrasions): 61,333 presentations			
Median time to start treatment	24m	21m	3m
90th percentile time to start treatment	1h 49m	1h 37m	12m

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



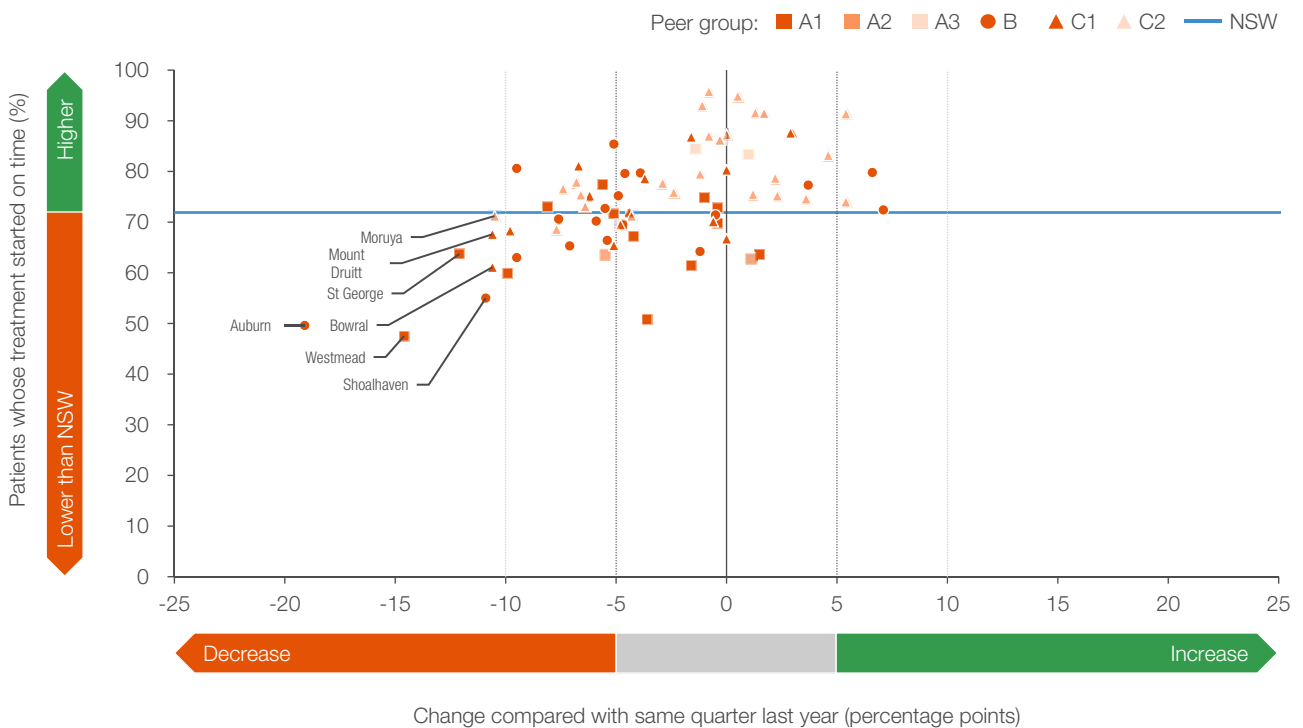
Seven hospitals saw a change of more than 10 percentage points in patients whose treatment started on time.

Figure 4 maps hospital results this quarter compared with the same quarter last year. Hospitals labelled had a decrease of more than 10 percentage points in patients whose treatment started on time, compared with the same quarter last year.

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

Hospital	Peer group	Emergency visits treated on time (%)	Percentage point change
Moruya	C2	71.2	-10.5
Bowral	C1	61.1	-10.6
Mount Druitt	C1	67.6	-10.6
Shoalhaven	B	55.0	-10.9
St George	A1	63.7	-12.1
Westmead	A1	47.5	-14.6
Auburn	B	49.6	-19.1

Figure 4 Percentage of patients whose treatment started on time, and percentage point change compared with same quarter last year, hospitals by peer group, January to March 2019



## Time spent in the emergency department






Following treatment in the ED, 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. Collectively, these categories are referred to as the 'mode of separation'.

About seven in 10 (70.6%) patients spent four hours or less in the ED during the January to March 2019 quarter, 3.8 percentage points lower than the same quarter last year (Figure 5).

Patients who require admission to hospital from the ED or who are transferred to another hospital usually have more complex health needs than those who are treated and discharged, and therefore often spend longer periods in the ED. Less than half of these patients left within four hours (Figure 5).

The percentage of patients spending four hours or less in the ED was lower across all modes of separation, particularly for those who were treated and admitted which was down 6.2 percentage points to 39.4% (Figure 5).

Figure 5 Percentage of patients who spent four hours or less in the emergency department, by mode of separation, January to March 2019

	Number		This quarter	Same quarter last year	January to March 2018
All ED attendances	533,677		70.6%	74.4%	-3.8
Treated and discharged	394,807		81.5%	84.7%	-3.2
Treated and admitted	75,434		39.4%	45.6%	-6.2
Left without, or before completing, treatment	43,185		85.7%	88.8%	-3.1
Transferred to another hospital	7,596		46.0%	47.9%	-1.9

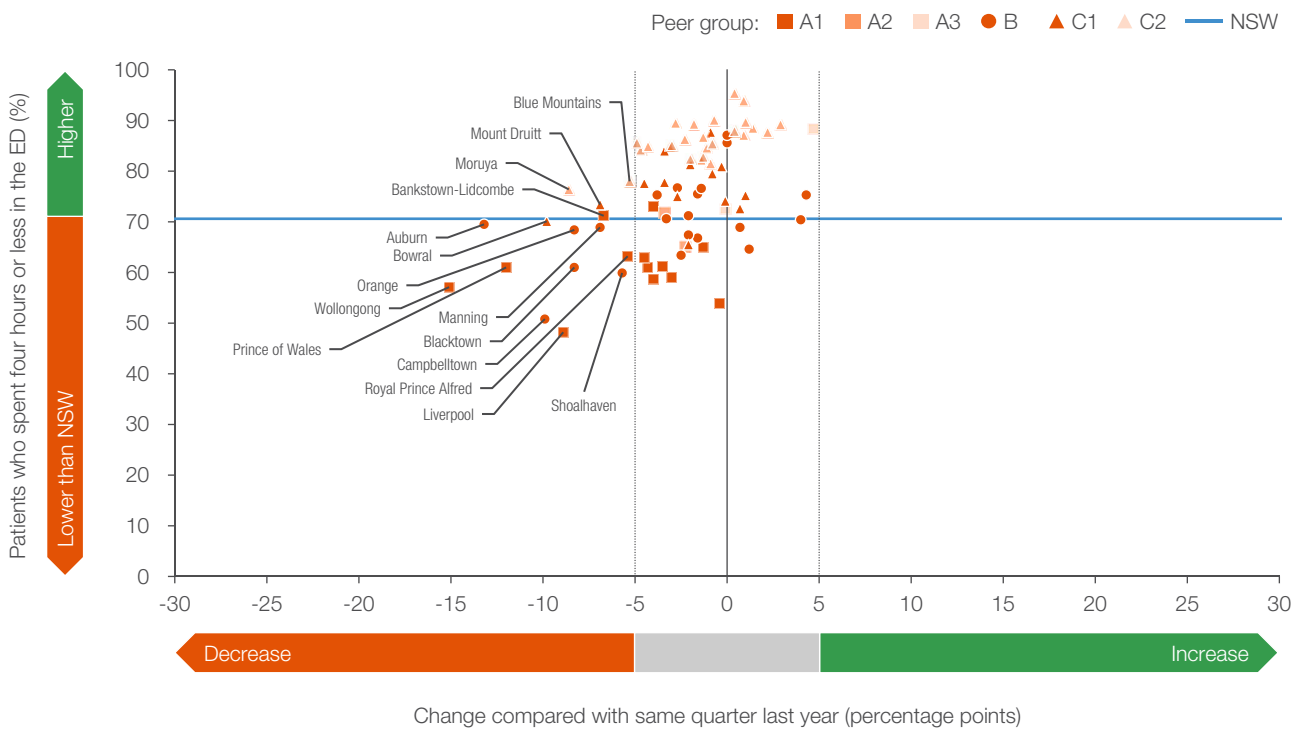
Compared with the same quarter last year:

- In 15 hospitals, the percentage of patients who spent four hours or less in the ED was higher.
- In 61 hospitals, there was a drop in the proportion of patients who spent four hours or less in the ED. Wollongong (15.1%), Auburn (13.2%) and Prince of Wales (12.0%) had a change of more than 10 percentage points (Figure 6).

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

Hospital	Peer group	Left ED within four hours (%)	Percentage point change
Prince of Wales	A1	61.0	-12.0
Auburn	B	69.5	-13.2
Wollongong	A1	57.1	-15.1

Figure 6 Percentage of patients who spent four hours or less in the emergency department, and percentage point change since same quarter last year, hospitals by peer group, January to March 2019



# Transfer of care

In NSW, transfer of care should occur within 30 minutes for at least 90% of patients. In the January to March 2019 quarter, 88.8% of patients who arrived by ambulance had their care transferred within 30 minutes, down 3.3 percentage points from the same quarter last year (Figure 7).

The median time for patient care to be transferred from paramedics to ED staff in the January to March 2019 quarter was 12 minutes; one minute longer than the same quarter last year (Figure 7).

Compared with the same quarter last year, the number of ambulance arrivals (used to calculate transfer of care time) in January to March 2019 was up 11.7% to 152,007 arrivals (Figure 7).

The number of ambulance arrivals in 26 hospitals was up by more than 10%. The change was more than 20% in seven hospitals: Mount Druitt (28.4%), Moruya (26.7%), Cessnock (25.0%), Shellharbour (22.3%), Auburn (21.6%), Milton (21.1%), and Campbelltown (20.7%).

Figure 8 shows variation between and within hospital peer groups in the percentage of patients who had their care transferred within 30 minutes.

Figure 7 **Emergency presentations, ambulance arrivals and transfer of care time, January to March 2019**

	This quarter	Same quarter last year	Change since one year ago
Emergency presentations	731,235	688,024	6.3%
Ambulance arrivals (number used to calculate transfer of care time)	152,007	136,045	11.7%
ED transfer of care time			
Median time	12m	11m	1m
90th percentile time	32m	26m	6m
Percentage of patients transferred from ambulance to ED within 30 minutes	88.8%	92.1%	-3.3 percentage points

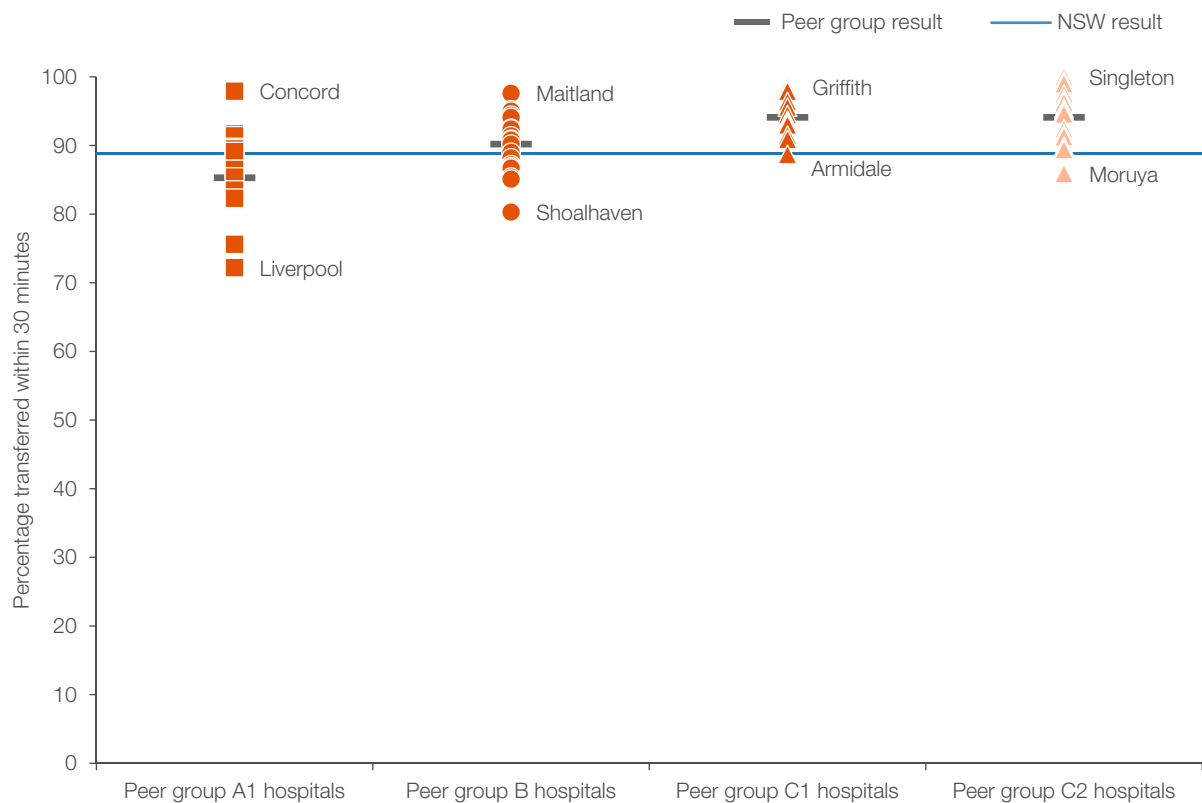
Note: Transfer of care time requires matched records between ambulance service and ED data.

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

Hospital	Peer group	Ambulance arrivals	Change (%)
Mount Druitt	C1	1365	28.4
Moruya	C2	778	26.7
Cessnock	C2	649	25.0
Shellharbour	C1	2144	22.3
Auburn	B	1397	21.6
Milton	C2	637	21.1
Campbelltown	B	5884	20.7
Hawkesbury	C1	1238	18.1
Griffith	C1	992	18.1
Dubbo	B	2244	16.3
Bowral	C1	1193	16.3
Tamworth	B	2264	14.9
Coffs Harbour	B	2742	14.7

Hospital	Peer group	Ambulance arrivals	Change (%)
Fairfield	B	2036	14.7
Blue Mountains	C2	1088	13.8
Maitland	B	2530	13.2
Wagga Wagga	B	2876	13.0
Bankstown-Lidcombe	A1	4546	12.7
Bathurst	C1	1160	12.7
Shoalhaven	B	3059	11.9
Grafton	C1	882	11.5
Gosford	A1	5618	11.3
Orange	B	1823	11.2
Blacktown	B	4687	10.9
St Vincent's	A1	4184	10.2
Kempsey	C2	980	10.2

Figure 8 Percentage of patients transported to the ED by ambulance whose care was transferred within 30 minutes, by peer group, January to March 2019







# Ambulance activity and performance

# Ambulance activity and performance

## Activity

Ambulance activity can be quantified in terms of calls, incidents, responses and patient transports (Table 2). In the January to March 2019 quarter, there were 309,011 calls and 238,771 incidents; up 8.6% and 7.5% respectively compared with the same quarter the previous year. There were 307,749 responses (up 10.2%) with most categorised as emergency – priority 1 (P1: 44.3%) and urgent – priority 2 (P2: 48.2%) (Figure 9).

## Call to ambulance arrival time






Call to ambulance arrival time covers the period from when a Triple Zero (000) call is first answered in the ambulance control centre (phone pick-up), to the time the first ambulance arrives at the scene (Figure 10).

The percentage of P1 call to ambulance arrival times within 15 minutes was 59.9% in January to March 2019, down 2.7 percentage points compared with the same quarter in 2018. The percentage of P2 call to ambulance arrival times within 30 minutes was 68.0%, down 5.2 percentage points (Figure 10).

Table 2 Definition of calls, incidents, responses and patient transports

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

Figure 9 Ambulance calls, incidents, responses and transports, NSW, January to March 2019

		This quarter	Same quarter last year	Change since one year ago
Calls		309,011	284,412	8.6%
Incidents		238,771	222,065	7.5%
All responses		307,749	279,390	10.2%
P1: Emergency	 44.3%	136,268	123,150	10.7%
P1A: Highest priority	 4.7%	6,380	5,374	18.7%
P2: Urgent	 48.2%	148,355	134,018	10.7%
P3: Time-critical	 4.7%	14,402	14,010	2.8%
P4-9: Non-emergency	 2.8%	8,718	8,203	6.3%
Patient transports		183,604	167,896	9.4%

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



## Response time

In NSW, ambulance response time refers to the period from the placement of a Triple Zero (000) call 'in queue' for an ambulance dispatch until the first vehicle arrives at the scene (Figure 11).

In the January to March 2019 quarter, median response times for the high volume response categories were 11.5 minutes for emergency – priority 1 (P1) cases and 19.9 minutes for urgent – priority 2 (P2) cases (Figure 11).

Within the 136,268 P1 responses, there were 6,380 of the highest priority 1A (P1A) cases, up 18.7% compared with the same quarter last year (Figure 9). The median response time for P1A cases was 7.5 minutes (Figure 11).

In NSW, the benchmark for the median P1A response time is 10 minutes. The percentage of P1A responses within 10 minutes in January to March 2019 was 71.6%, down 1.5 percentage points compared with the same quarter in 2018 (Figure 11).

Figure 10 Call to ambulance arrival time, by priority category, NSW, January to March 2019

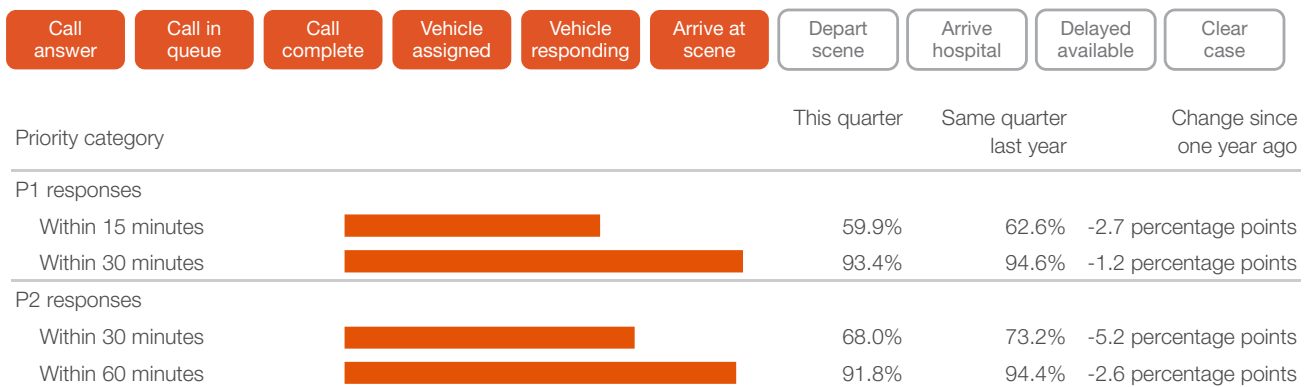
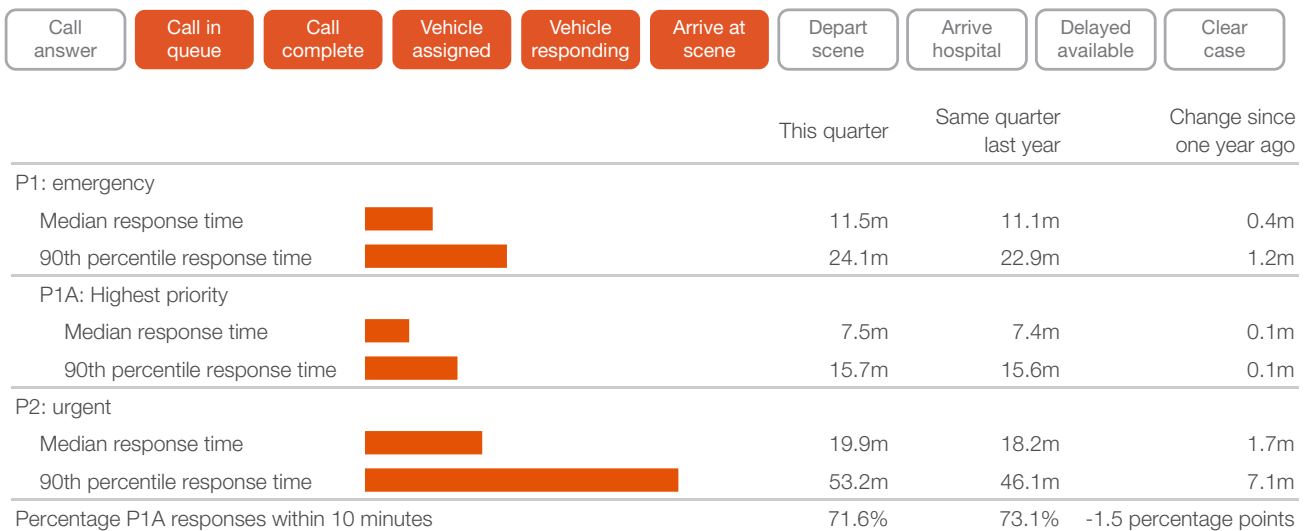


Figure 11 Ambulance response time by priority category, NSW, January to March 2019



# Ambulance activity

## Regional, rural and remote NSW

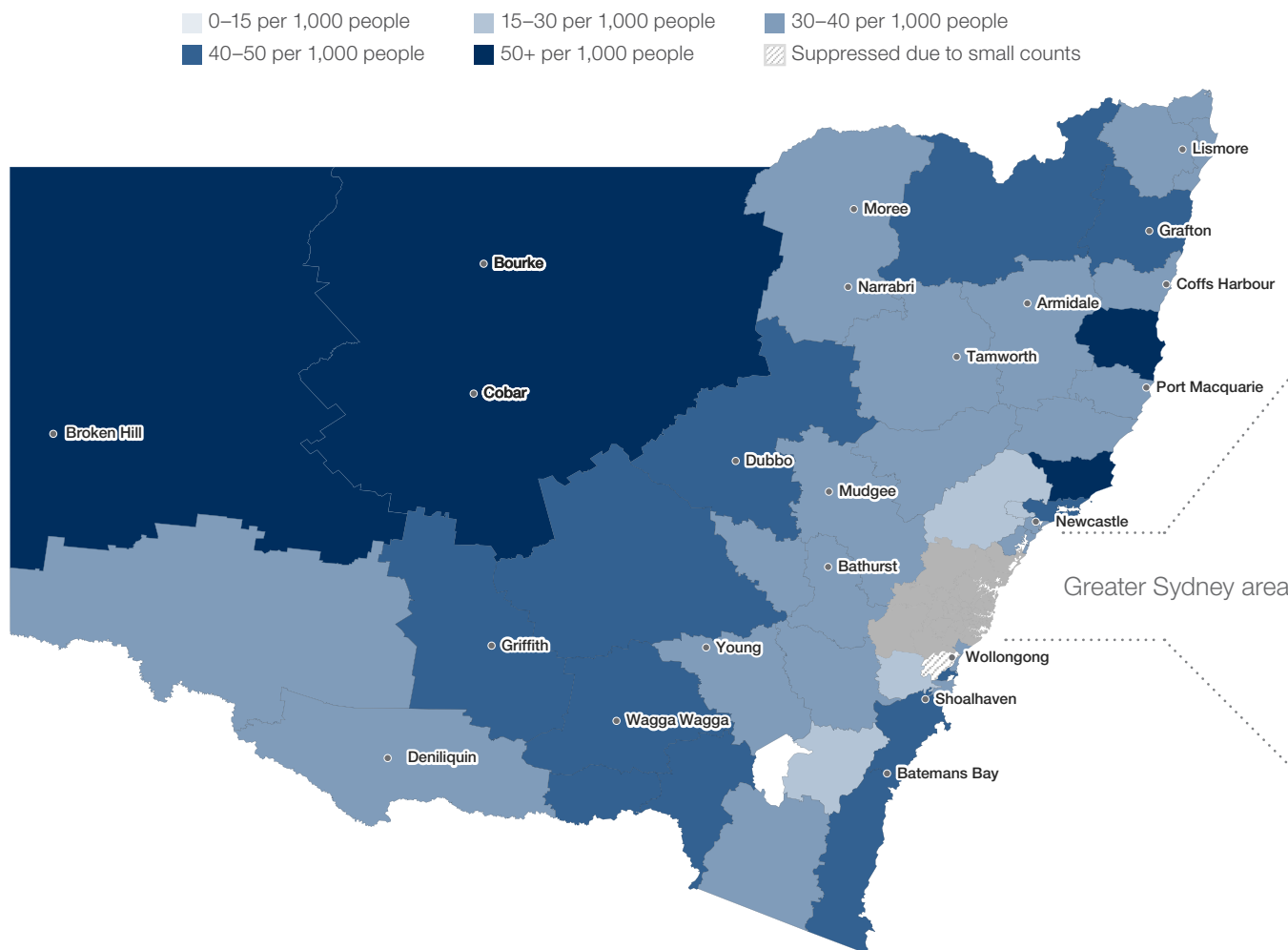
The rate of incidents requiring an ambulance is the number of incidents for every 1,000 people living in an area. Any case requiring dispatch of one or more ambulance vehicles is defined as an incident.

The incident rate in regional, rural and remote NSW ranged from 23.3 to 67.7 per 1,000 people. Broken Hill and Far West had the highest rates in NSW at 67.7 incidents per 1,000 people. There were four regional, rural and remote SA3s with an incident rate below 30 per 1,000 people: Queanbeyan (23.3); Maitland (29.6); Southern Highlands (29.7); and Lower Hunter (29.8) (Figure 12).

A summary of results by Statistical Area Level 3 (SA3) is available online through BHI's ambulance performance tool: [bhi.nsw.gov.au/search-ambulance-performance](https://bhi.nsw.gov.au/search-ambulance-performance)

Full activity and performance results by SA3, including trends over time, are available on BHI's interactive data portal, *Healthcare Observer*.

Figure 12 Incident rate by Statistical Area Level 3, per 1,000 people, regional, rural and remote NSW, January to March 2019



Note: Statistical Areas Level 3 (SA3) are geographical areas defined by the Australian Bureau of Statistics and used by BHI for reporting ambulance activity and performance. See the Technical Supplement for more information.

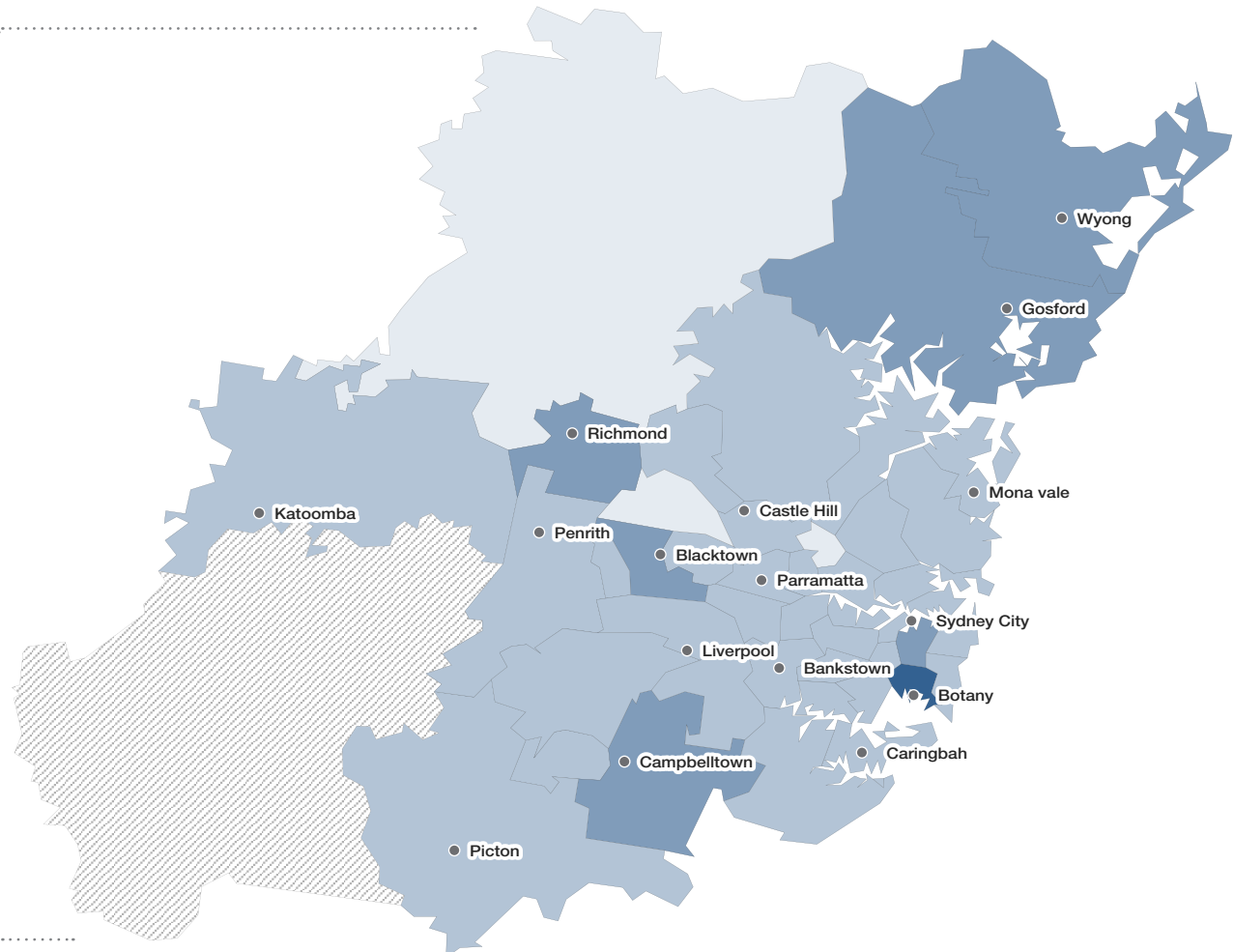
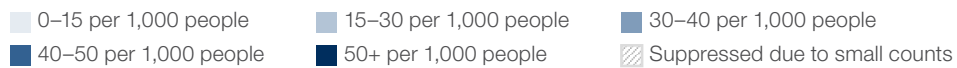
## Greater Sydney area

The incident rate in the Greater Sydney area for the January to March 2019 quarter ranged from 13.5 to 43.2 per 1,000 people.

There were 43 SA3s across NSW with incident rates below 30 per 1,000 people; 39 of these were located in Greater Sydney. The three SA3s in NSW with rates below 15 per 1,000 people, all within Greater Sydney, were: Pennant Hills – Epping (13.5); Blacktown – North (14.7); and Hawkesbury (14.7) (Figure 13).

Seven SA3 in Greater Sydney had incident rates above 30 per 1,000 people: Botany (43.2); Wyong (39.2); Sydney Inner City (37.5); Richmond – Windsor (36.0); Gosford (35.8); Campbelltown (31.3); and Mount Druitt (30.3) (Figure 13).

Figure 13 Incident rate by Statistical Area Level 3, per 1,000 people, Greater Sydney, January to March 2019



# Call to ambulance arrival times

Emergency cases are classified as priority 1 (P1) by NSW Ambulance and require an immediate response under lights and siren. There were 136,268 P1 responses across NSW in the January to March 2019 quarter.

Statewide, 59.9% of P1 call to ambulance arrival times were within 15 minutes. Results for the January to March quarter over the past five years have ranged from 59.9% to 66.6%.

## Regional, rural and remote NSW

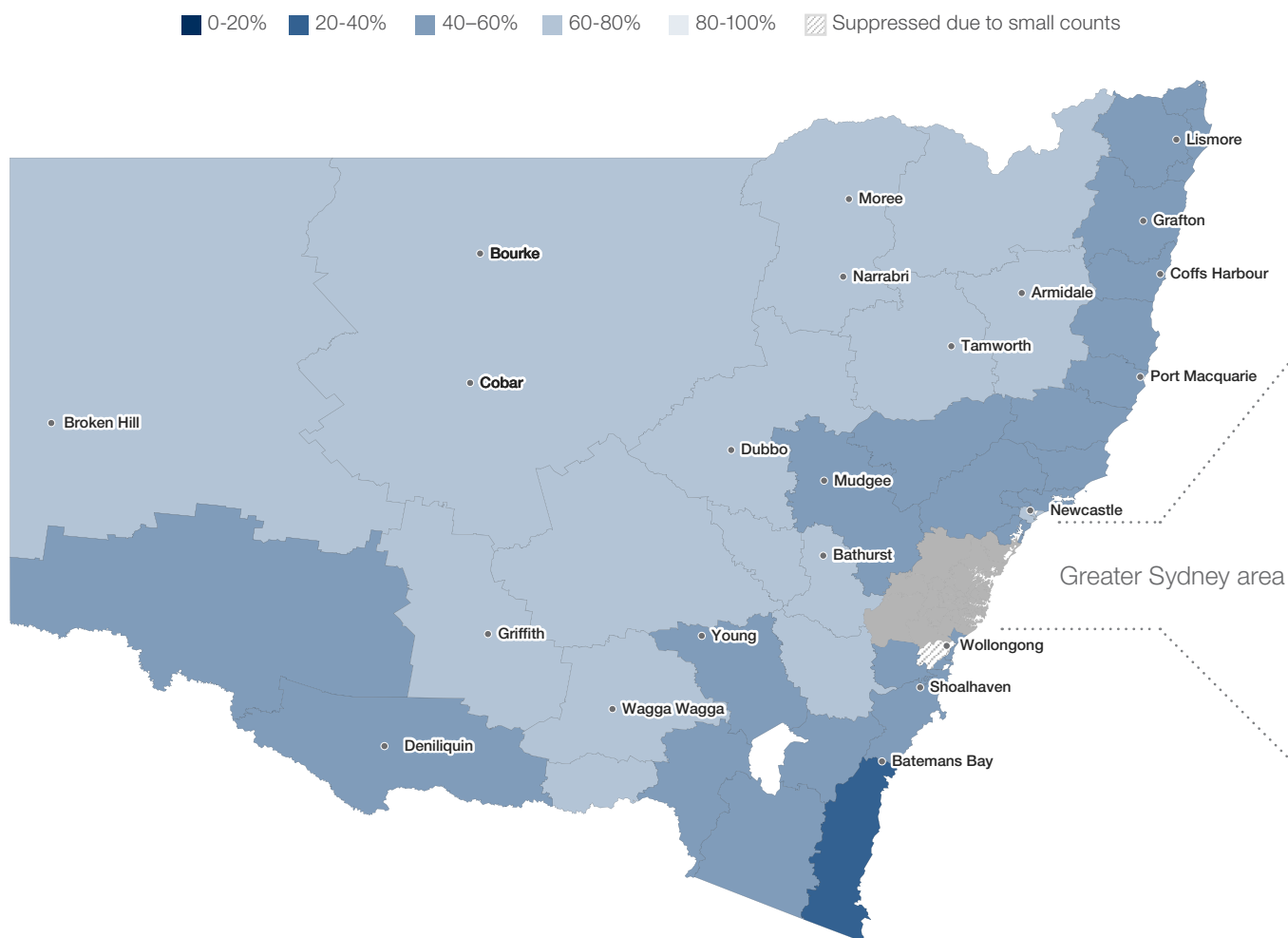
Regional, rural and remote NSW has a higher proportion of non-24-hour ambulance stations than in metropolitan Sydney, and longer distances between

incidents and major hospitals, which can affect the time it takes for paramedics to reach patients.

In some of these areas, NSW Ambulance-trained first responders are also available, who can arrive on scene to deliver first aid and defibrillation before the first paramedic crew arrives, and transport patients if needed.

Four of the 43 SA3s in regional, rural and remote NSW had more than 70% of P1 call to ambulance arrival times within 15 minutes in the January to March 2019 quarter: Broken Hill and Far West (73.4%); Armidale (73.3%); Dubbo (71.0%); and Griffith – Murrumbidgee (West) (70.3%). Overall, results in regional, rural and remote NSW ranged from 40.0% (South Coast) to 73.4% (Broken Hill and Far West) (Figure 14).

Figure 14 Percentage of Emergency (P1) call to ambulance arrival times under 15 minutes by Statistical Area Level 3, regional, rural and remote NSW, January to March 2019



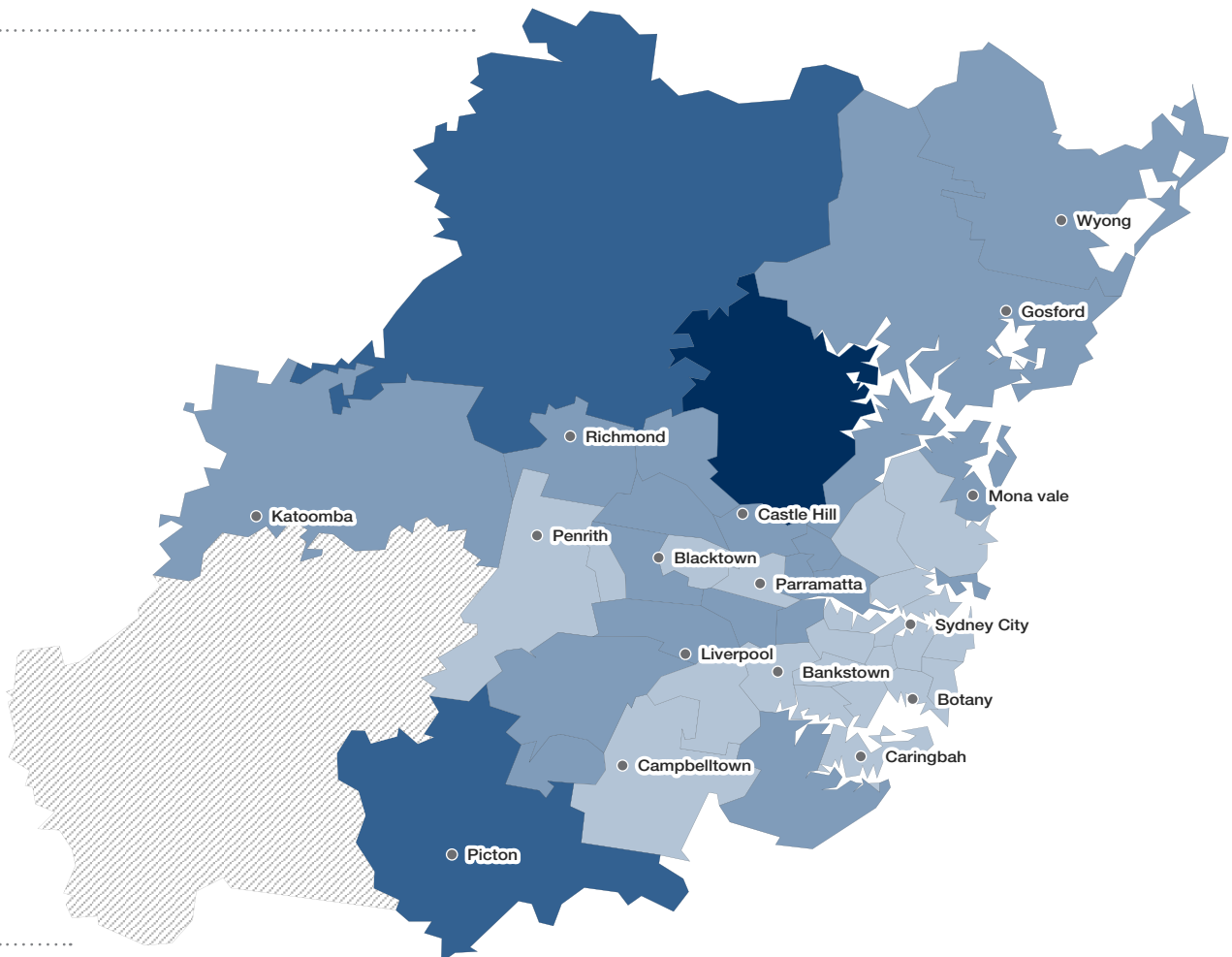
## Greater Sydney area

For emergency – priority 1 (P1) cases, there were 10 SA3s out of 46 in Greater Sydney with more than 70% of call to ambulance arrival times within 15 minutes: Sydney Inner City (79.8%); Cronulla – Miranda – Caringbah (78.3%); Kogarah – Rockdale (78.3%); Parramatta (75.7%); Blacktown (73.9%); Eastern Suburbs – South (73.8%); Marrickville – Sydenham – Petersham (73.1%); Eastern Suburbs – North (72.2%); Leichhardt (71.6%); and Chatswood – Lane Cove (71.5%) (Figure 15).

Three SA3s in Greater Sydney had less than 30% of P1 call to ambulance arrival times within 15 minutes: Wollondilly (26.6%), Hawkesbury (20.3%); and Dural – Wisemans Ferry (14.1%) (Figure 15).

Figure 15 Percentage of Emergency (P1) call to ambulance arrival times under 15 minutes by Statistical Area Level 3, Greater Sydney, January to March 2019

■ 0-20% ■ 20-40% ■ 40-60% ■ 60-80% ■ 80-100% ▨ Suppressed due to small counts







# Admitted patient activity

# Admitted patients

There were 469,631 admitted patient episodes in NSW public hospitals in the January to March 2019 quarter – up 2.4% compared with the same quarter last year, and up 7.7% compared with the same quarter five years ago (Figure 16).

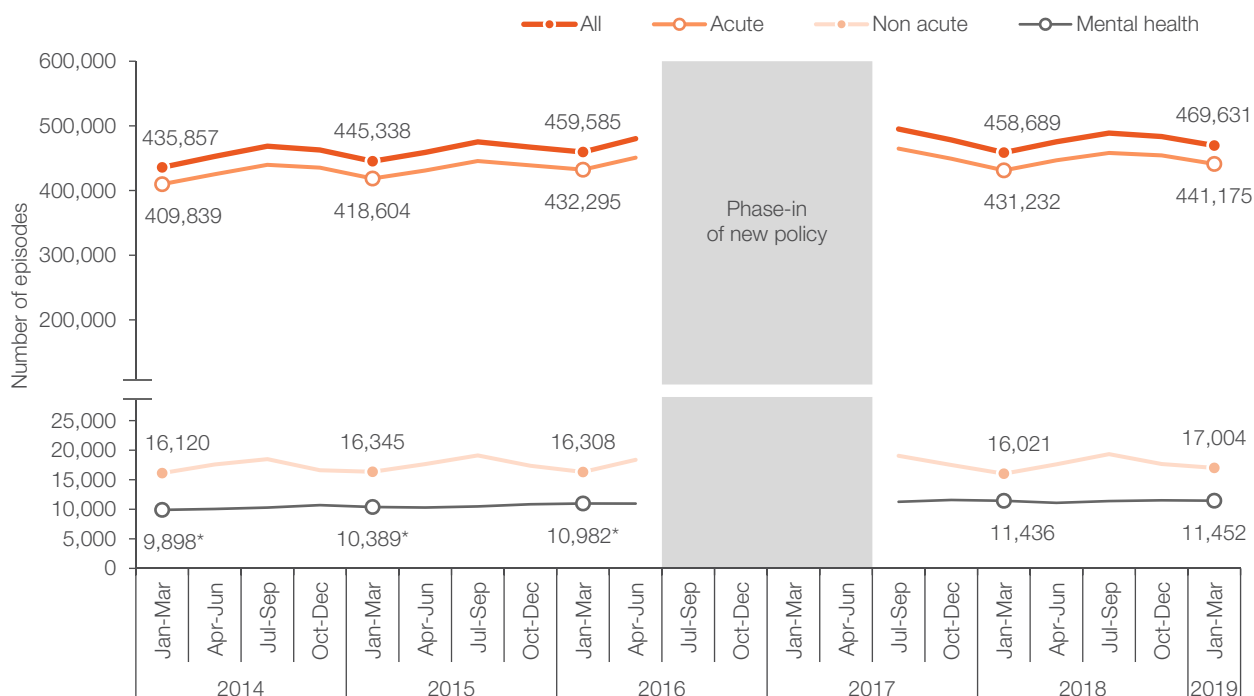
The trend in acute overnight admitted patient episodes shows more seasonal variation than the number of same-day acute episodes. The number of acute overnight episodes was 8.5% higher than the same quarter five years ago (Figure 17).

Figure 18 shows differences in the proportion of same-day acute admitted patient episodes across hospital peer groups in the January to March 2019 quarter. Overall, peer group C2 (smaller district hospitals) had a higher percentage of same-day episodes compared with other peer groups.

## Changes to Northern Sydney LHD

On 30 October 2018, services at Manly and Mona Vale hospitals were transferred to Northern Beaches Hospital. *Healthcare Quarterly* only includes data relating to publicly contracted services at Northern Beaches Hospital.

Figure 16 Total, acute, non-acute and mental health episodes, January 2014 to March 2019



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

\* Estimates of mental health episodes calculated using a flag for days in a psychiatric unit.

### Phase-in of new policy

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

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



Figure 17

Overnight and same day acute admitted patient episodes, January 2014 to March 2019

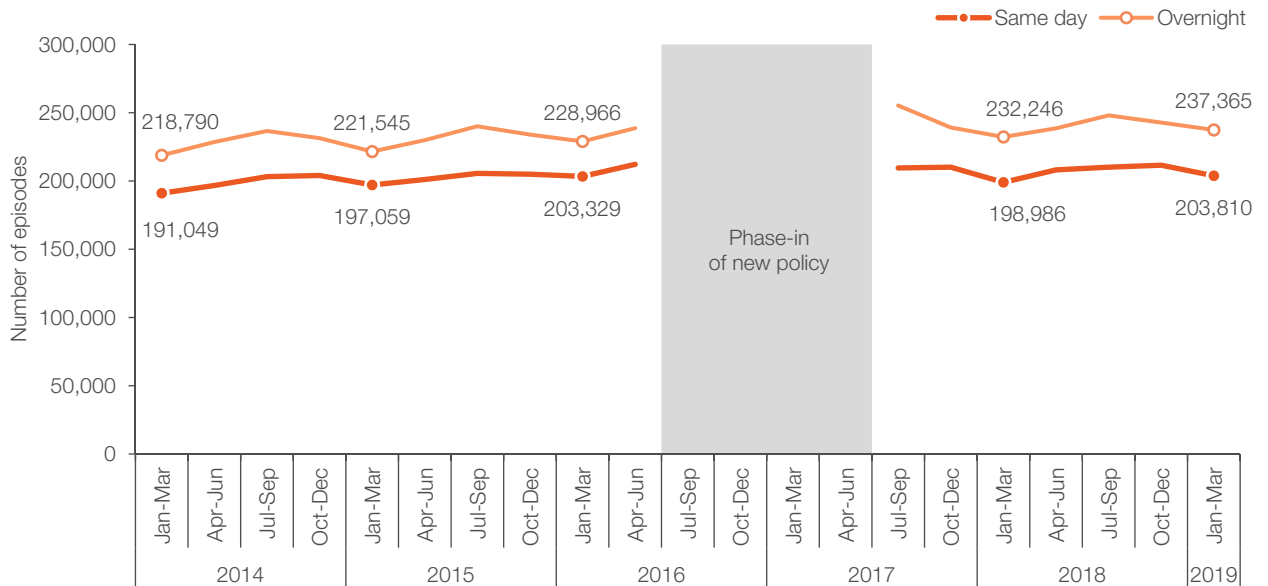
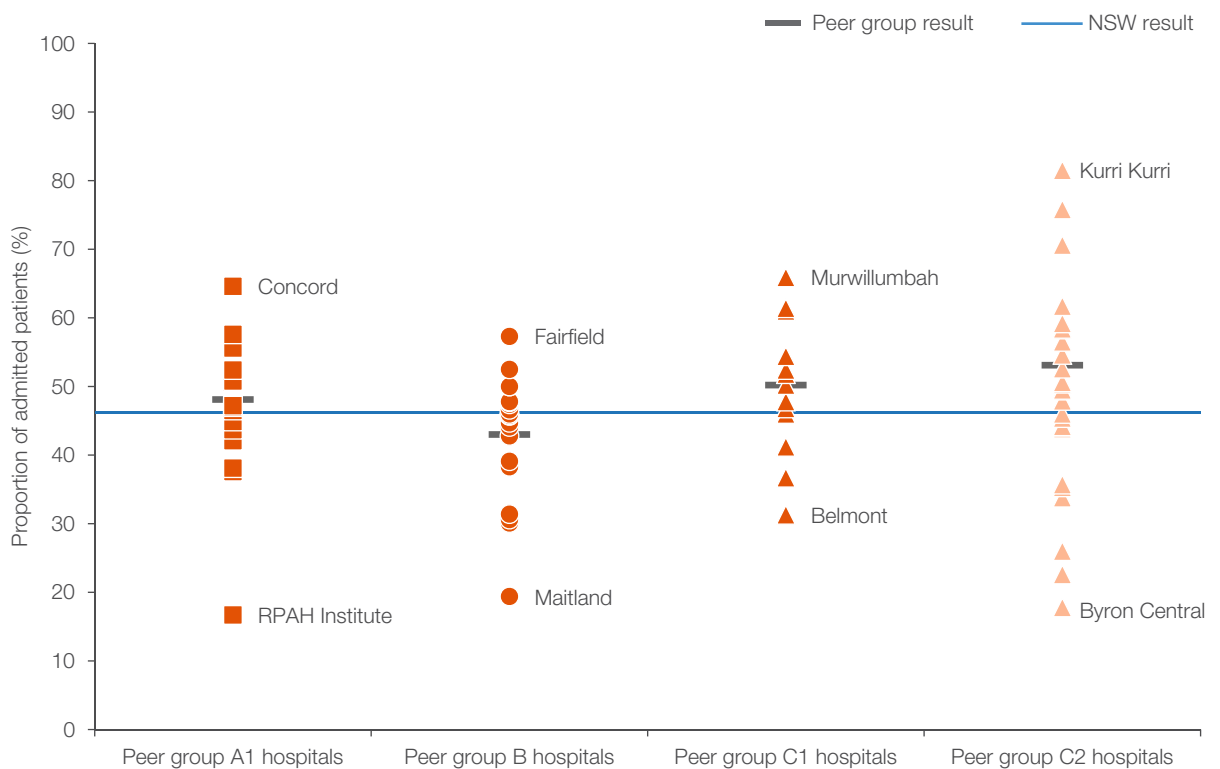


Figure 18

Same day admitted patient episodes as percentage of all acute admitted patient episodes, by peer group, January to March 2019







# Elective surgery activity and performance

# Elective surgery





In the January to March 2019 quarter, 53,133 elective surgical procedures were performed, 0.8% more than the same quarter last year (Figure 19).

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. More than half (52.1%) of all procedures performed this quarter were either urgent or semi-urgent (Figure 19).

## Changes to Northern Sydney LHD

On 30 October 2018, services at Manly and Mona Vale hospitals were transferred to Northern Beaches Hospital. *Healthcare Quarterly* only includes data relating to publicly contracted services at Northern Beaches Hospital.

Figure 19 Elective surgical procedures performed, by urgency category, January to March 2019

		This quarter	Same quarter last year	Change since one year ago
Total number of elective surgical procedures		53,133	52,715	0.8%
Urgent	 20.0%	10,632	10,731	-0.9%
Semi-urgent	 32.1%	17,041	17,156	-0.7%
Non-urgent	 42.3%	22,465	22,054	1.9%
Staged*	 5.6%	2,995	2,774	8.0%

\* 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).

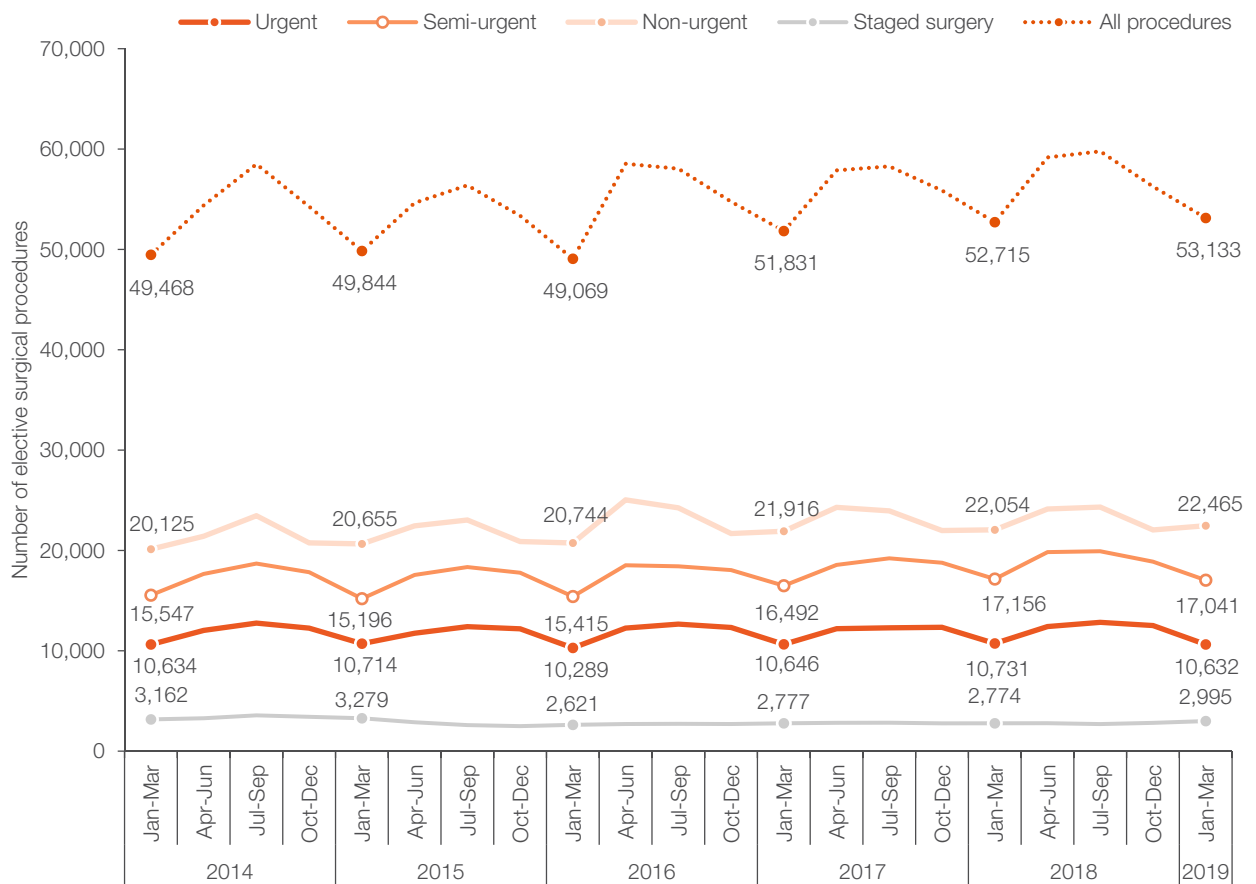
Of the hospitals that performed more than 500 surgeries in the January to March 2019 quarter, the number of elective surgical procedures was up by more than 10% in three hospitals and down by more than 10% in four hospitals.

Elective surgical activity is subject to seasonal change. For this reason, comparisons are made with the same quarter in preceding years. Compared with the same quarter in 2014, the total number of procedures that were performed increased by 7.4% (3,665) (Figure 20).

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

Hospital	Peer group	Number of procedures	Change (%)
Kurri Kurri	C2	762	34.6
St Vincent's	A1	742	22.2
Lismore	B	1,246	13.6
Tamworth	B	881	-10.1
Sutherland	B	552	-10.7
Grafton	C1	504	-12.5
Sydney Children's	A2	673	-12.9

Figure 20 Elective surgical procedures performed, by urgency category, January 2014 to March 2019







# Waiting time for elective surgery

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







Compared with the same quarter last year, median waiting times in the January to March 2019 quarter were 10 days for urgent (unchanged), 47 days for semi-urgent (unchanged) and 231 days for non-urgent procedures (up 5 days) (Figure 21).

The recommended waiting times for elective surgery are up to: 30 days for urgent, 90 days for semi-urgent, and 365 days for non-urgent procedures. Most procedures (96.4%) were performed within recommended timeframes (Figure 21).

Figure 21 Percentage of elective surgical procedures performed on time and waiting times, by urgency category, January to March 2019

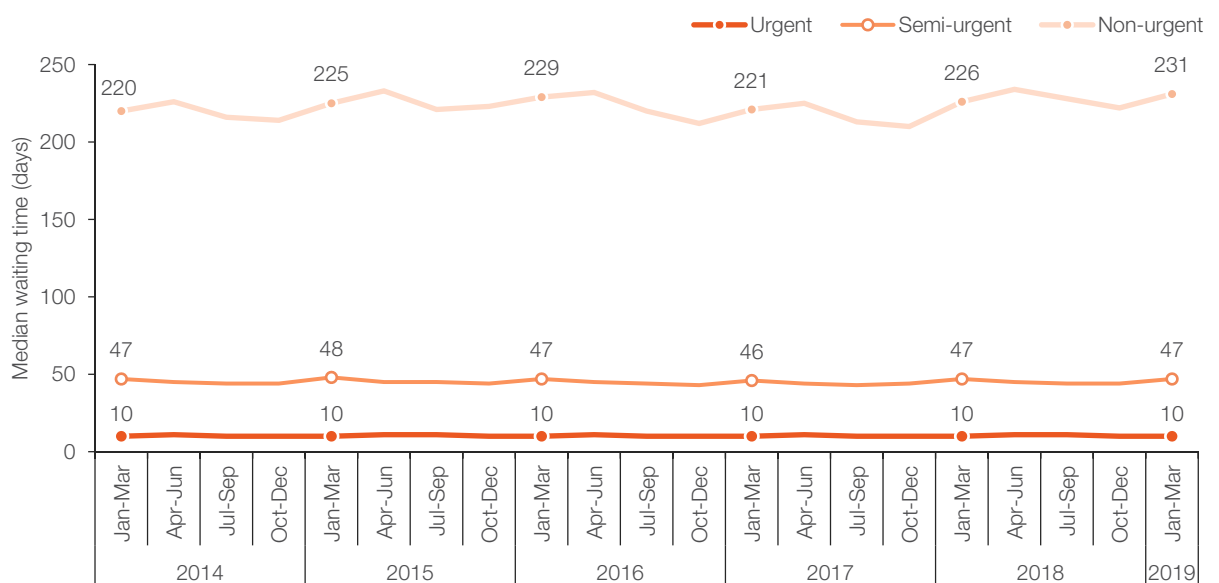
		This quarter	Same quarter last year	Percentage point change since one year ago
All procedures		96.4%	96.5%	-0.1
Urgent	<b>Recommended: 30 days</b> 	99.9%	99.6%	0.3
Semi-urgent	<b>Recommended: 90 days</b> 	95.8%	95.9%	-0.1
Non-urgent	<b>Recommended: 365 days</b> 	95.2%	95.5%	-0.3

		This quarter	Same quarter last year	Change since one year ago
Urgent: 10,632 patients				
Median time to receive surgery		10 days	10 days	unchanged
90th percentile time to receive surgery		26 days	26 days	unchanged
Semi-urgent: 17,041 patients				
Median time to receive surgery		47 days	47 days	unchanged
90th percentile time to receive surgery		85 days	85 days	unchanged
Non-urgent: 22,465 patients				
Median time to receive surgery		231 days	226 days	5 days
90th percentile time to receive surgery		358 days	356 days	2 days

Over a longer period, median waiting times for non-urgent procedures showed more fluctuation than urgent and semi-urgent procedures. Compared with the same quarter five years ago, the median wait time for non-urgent elective surgeries increased by 11 days and was unchanged for urgent and semi-urgent procedures (Figure 22).

Figure 22 Median waiting times for elective surgery, by urgency category, January 2014 to March 2019



## 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 healthcare system.

BHI was established in 2009 and 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 and outcomes of care in public hospitals and other healthcare facilities.

BHI publishes a range of reports and information products, including interactive tools, that provide objective, accurate and meaningful information about how the health system is performing.

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 supply 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](http://bhi.nsw.gov.au)**