

# Healthcare Quarterly

## Emergency department

Activity and performance

October to December 2017



## **BUREAU OF HEALTH INFORMATION**

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State Health Publication Number: (BHI) 180086  
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, October to December 2017*. Sydney (NSW); BHI; 2018.

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Published March 2018

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Changes in data coverage and analytic methods from quarter to quarter mean that figures published in this document are superseded by subsequent reports.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

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

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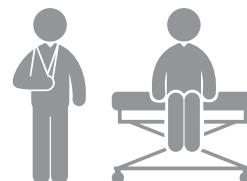
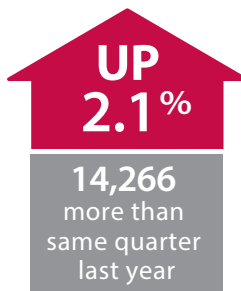
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In the October to December 2017 quarter...

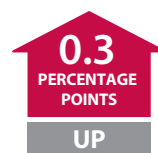
## Emergency department

There were **680,126**  
emergency presentations

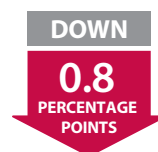
**Highest ever for an October to December quarter**



**76.0%** of patients' treatment  
started on time



**73.6%** of patients spent  
**four hours or less** in the  
emergency department



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

Emergency department activity		October to December 2017	October to December 2016	Difference	% change
All arrivals at NSW EDs by ambulance		151,235	146,621	4,614	3.1%
All ED presentations		703,410	689,903	13,507	2.0%
Emergency presentations		680,126	665,860	14,266	2.1%
Emergency presentations by triage category					
Triage category	T1: Resuscitation	4,735	4,556	179	3.9%
	T2: Emergency	85,293	79,597	5,696	7.2%
	T3: Urgent	231,360	226,707	4,653	2.1%
	T4: Semi-urgent	287,474	284,650	2,824	1.0%
	T5: Non-urgent	71,264	70,350	914	1.3%
Admissions to hospital from NSW EDs		186,834	194,789	-7,955	-4.1%*

Emergency department performance			October to December 2017	October to December 2016	Difference	
Percentage of patients transferred from ambulance to ED within 30 minutes			92.1%	91.9%	+0.2 percentage points	
Time to treatment by triage category	T2: Emergency	Median	8 mins	8 mins	0 mins	
		90th percentile	23 mins	25 mins	-2 mins	
	T3: Urgent	Median	20 mins	20 mins	0 mins	
		90th percentile	65 mins	67 mins	-2 mins	
	T4: Semi-urgent	Median	26 mins	25 mins	1 mins	
		90th percentile	99 mins	97 mins	2 mins	
	T5: Non-urgent	Median	23 mins	23 mins	0 mins	
		90th percentile	103 mins	103 mins	0 mins	
	Percentage of patients whose treatment started on time	All patients		76.0%	75.7%	+0.3 percentage points
		T2: Emergency		68.7%	66.6%	+2.1 percentage points
T3: Urgent		71.2%	70.4%	+0.8 percentage points		
T4: Semi-urgent		78.4%	78.9%	-0.5 percentage points		
T5: Non-urgent		93.1%	93.2%	-0.1 percentage points		
Median time spent in the ED			2h 44m	2h 40m	4 mins	
90th percentile time spent in the ED			6h 55m	6h 53m	2 mins	
Percentage of patients who spent four hours or less in the ED			73.6%	74.4%	-0.8 percentage points	

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.

\* The decrease in the percentage of patients treated and admitted to hospital from the ED may reflect changes in data coding practices.



# Emergency department activity and performance

# Emergency department presentations

During the October to December 2017 quarter, 703,410 people presented to a NSW public hospital emergency department (ED); up 2.0% compared with the same quarter last year. Most presentations were classified as 'emergency' (680,126 patients; 96.7%) (Figure 1). The remaining 23,284 patients presented to ED for non-emergency reasons such as a planned return visit.

There were 151,235 ED patients who arrived by ambulance, 3.1% higher compared with the same quarter last year (Figure 1).






Across all triage categories, the number of patients was higher this quarter than in the same quarter last year. The largest change was in triage category 2 (5,696 more patients; up 7.2%) (Figure 1).

The number of patients who presented to an ED in October to December quarters from 2012 to 2017 increased across all five triage categories. The largest increase occurred for triage category 3 (53,587 more patients; up 30.1%) (Figure 2).

Across hospitals, the number of ED attendances was higher this quarter than in the same quarter last year for 52 out of 78 EDs. Of these, 19 had more than a 5% change, including four that had an increase of more than 10%. Twenty-six hospitals had a lower number of ED patient presentations this quarter, including four that dropped by more than 10%.

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

Figure 1 Emergency department presentations and ambulance arrivals, October to December 2017

		This quarter	Same quarter last year	Change since one year ago
All ED presentations		703,410	689,903	2.0%
Emergency presentations by triage category		680,126	665,860	2.1%
Triage 1: Resuscitation	 0.7%	4,735	4,556	3.9%
Triage 2: Emergency	 12.5%	85,293	79,597	7.2%
Triage 3: Urgent	 34.0%	231,360	226,707	2.1%
Triage 4: Semi-urgent	 42.3%	287,474	284,650	1.0%
Triage 5: Non-urgent	 10.5%	71,264	70,350	1.3%
Ambulance arrivals		151,235	146,621	3.1%

In the October to December 2017 quarter, there were 21,533 ED presentations in small district hospitals that are not reported in *Healthcare Quarterly*. These hospitals were recently added to the Emergency Department Data Collection and the data provided for their EDs are under data quality review by BHI, prior to inclusion in *Healthcare Quarterly*.



Figure 2 Emergency presentations by triage category, October 2012 to December 2017

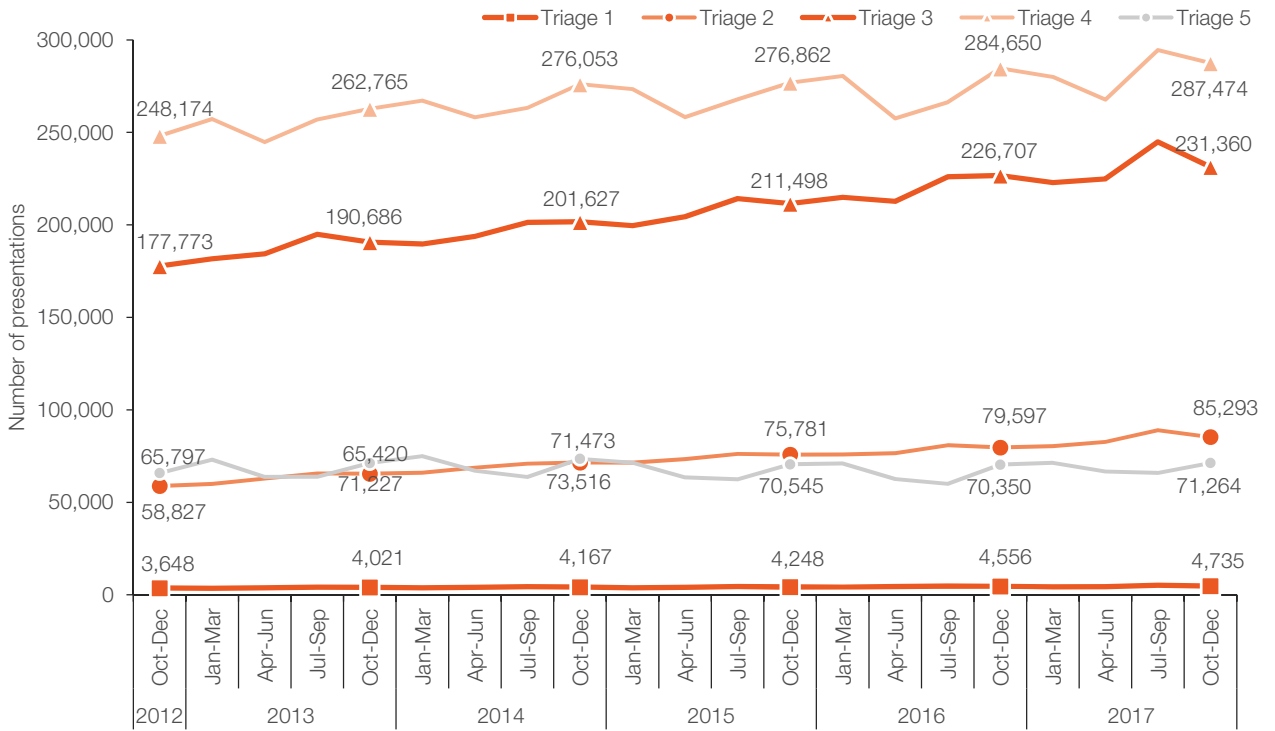
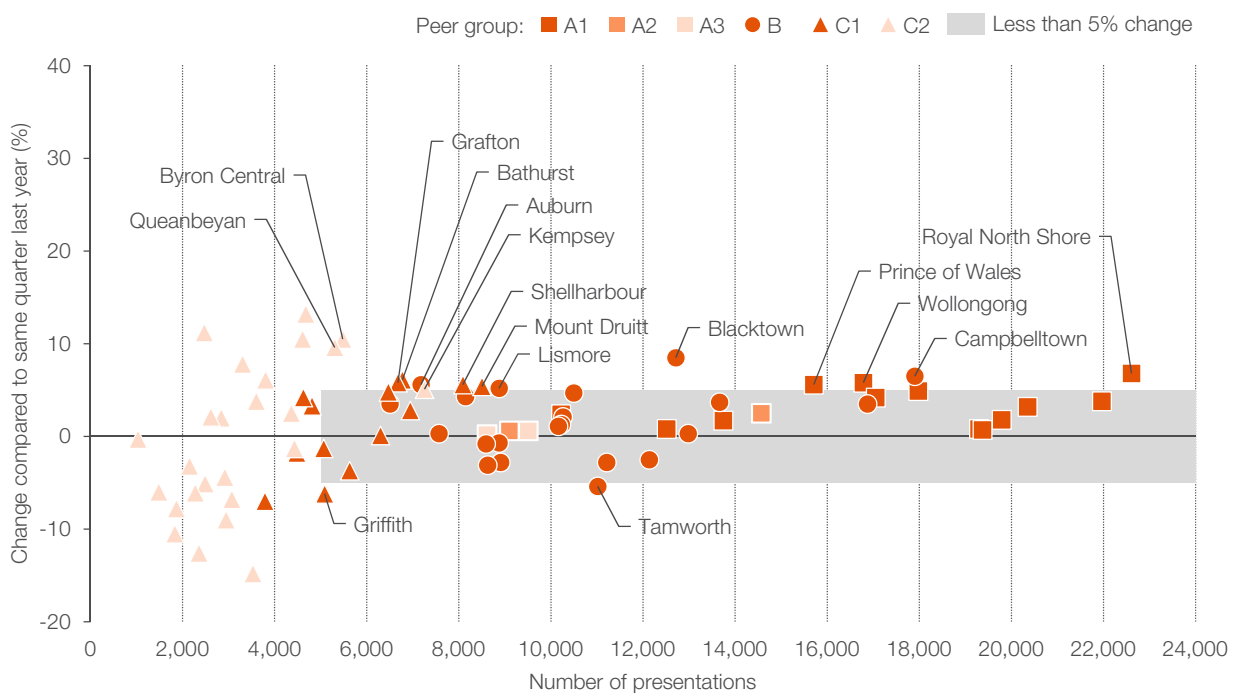


Figure 3 Change in number of all emergency department presentations compared with the same quarter last year, hospitals by peer group, October to December 2017



# Time to treatment

Upon arrival at the ED, patients are allocated to one of five triage categories, based on urgency. For each category, the Australasian College for Emergency Medicine recommends a threshold waiting time within which treatment should start:

- Triage 1: Resuscitation (within two minutes)
- Triage 2: Emergency (80% within 10 minutes)
- Triage 3: Urgent (75% within 30 minutes)
- Triage 4: Semi-urgent (70% within 60 minutes)
- Triage 5: Non-urgent (70% within 120 minutes).

In the October to December 2017 quarter, the median time from arriving at the ED to starting treatment was unchanged compared with the same quarter last year for most triage categories (Figure 4).

Between 2012 and 2017, the median time to treatment for October to December quarters decreased for triage categories 3, 4 and 5. For triage category 2, the median time remained steady over time (Figure 5). The 90th percentile times across triage categories showed similar trends (Figure 6).

Figure 4 Time from presentation to starting treatment, by triage category, October to December 2017

	This quarter	Same quarter last year	Change since one year ago
Triage 2 Emergency (e.g. chest pain, severe burns): 84,275 patients			
Median time to start treatment	8m	8m	0m
90th percentile time to start treatment	23m	25m	-2m
Triage 3 Urgent (e.g. moderate blood loss, dehydration): 225,861 patients			
Median time to start treatment	20m	20m	0m
90th percentile time to start treatment	1h 5m	1h 7m	-2m
Triage 4 Semi-urgent (e.g. sprained ankle, earache): 267,241 patients			
Median time to start treatment	26m	25m	1m
90th percentile time to start treatment	1h 39m	1h 37m	2m
Triage 5 Non-urgent (e.g. small cuts or abrasions): 60,725 patients			
Median time to start treatment	23m	23m	0m
90th percentile time to start treatment	1h 43m	1h 43m	0m

Figure 5 Median time from presentation to starting treatment, by triage category, October 2012 to December 2017

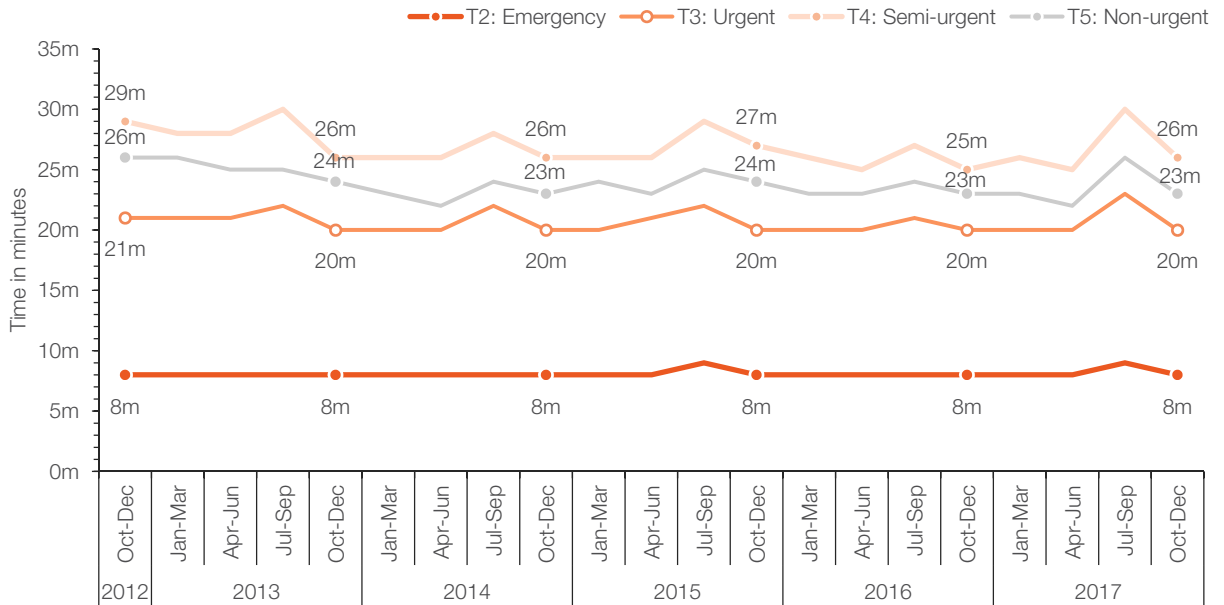
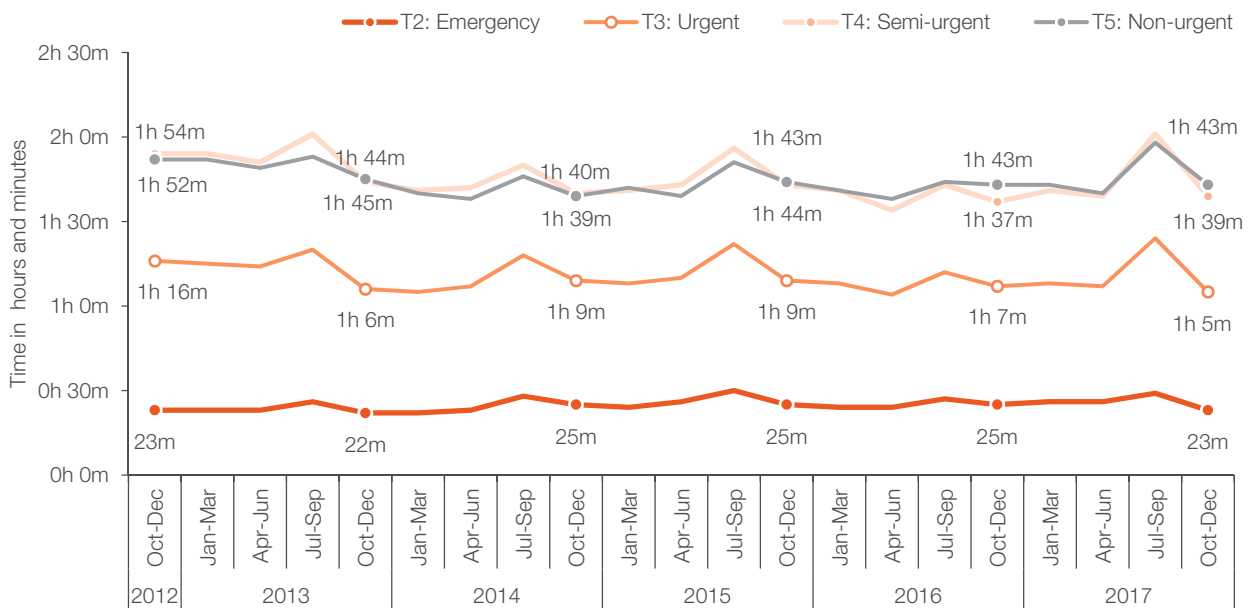


Figure 6 90th percentile time from presentation to starting treatment, by triage category, October 2012 to December 2017



# Percentage of patients whose treatment started on time

In the October to December 2017 quarter, 76.0% of ED patients' treatment started within clinically recommended timeframes; 0.3 percentage points higher than the same quarter last year.

Compared with the same quarter last year, the percentage of patients whose treatment started on time was higher for triage categories 2 and 3 (up 2.1 and 0.8 percentage points, respectively) and lower for triage categories 4 and 5 (down 0.5 and 0.1 percentage points, respectively) (Figure 7).

Compared with October to December 2012 the percentage of patients whose treatment started on time increased, with the exception of triage category 2. The largest increase occurred for triage category 3 (up 4.4 percentage points) (Figure 8).

Figure 9 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' treatment 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 more than a five percentage point change compared with the same quarter last year.

The percentage of patients whose treatment started on time was higher this quarter for 35 out of 78 hospitals. Ten hospitals were up by more than five percentage points.

The percentage of patients whose treatment started on time was lower this quarter in 43 hospitals. For 11 hospitals, the decrease was more than five percentage points (Figure 9).

Due to differences in data definitions, *Healthcare Quarterly* results for the percentage of patients whose treatment started on time are not directly comparable to figures reported by other jurisdictions. For more information refer to the technical supplements section of the BHI website at [bhi.nsw.gov.au](http://bhi.nsw.gov.au).

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

	This quarter	Same quarter last year	Percentage point change since one year ago
All emergency presentations	76.0%	75.7%	0.3
Triage category 2	Recommended: 80% in 10 minutes 68.7%	66.6%	2.1
Triage category 3	Recommended: 75% in 30 minutes 71.2%	70.4%	0.8
Triage category 4	Recommended: 70% in 60 minutes 78.4%	78.9%	-0.5
Triage category 5	Recommended: 70% in 120 minutes 93.1%	93.2%	-0.1

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

Figure 8

Percentage of patients whose treatment started on time, by triage category, October 2012 to December 2017

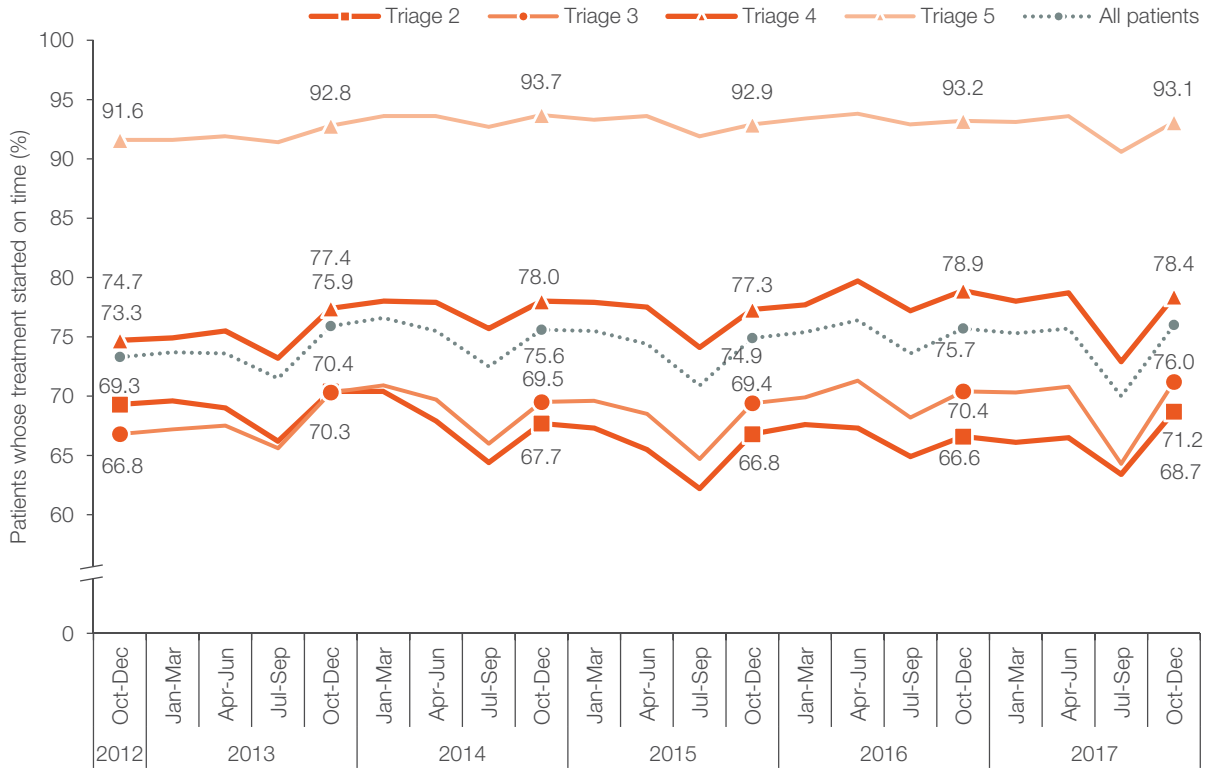
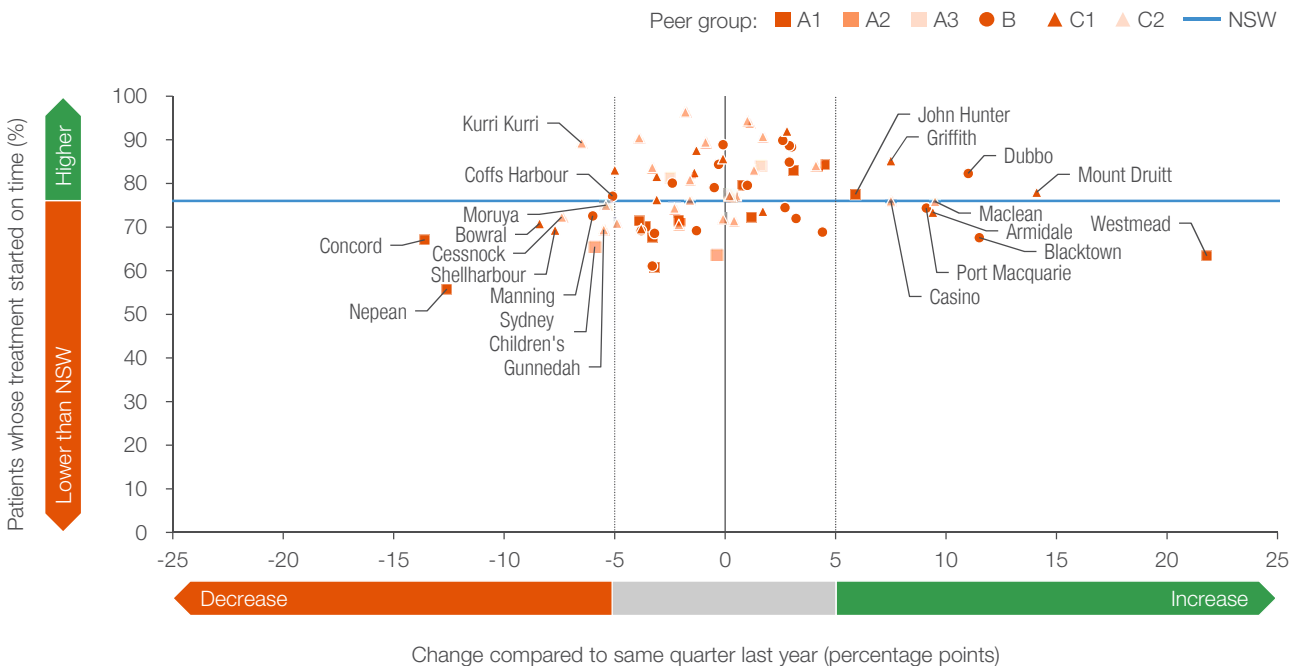


Figure 9

Percentage of patients whose treatment started on time, and percentage point change since same quarter last year, hospitals by peer group, October to December 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. Collectively, these categories are referred to as the 'mode of separation'.

During the October to December 2017 quarter, 64.0% of patients were treated and discharged from the ED (450,116; up 4.5%) and 26.6% of patients were treated and admitted to hospital (186,834; down 4.1%) (Figure 10).






Compared with the same quarter last year, there were a higher number of patients who were transferred to another hospital (14,466; up 1.9%)

and a higher number who left without, or before completing, treatment (37,781; up 2.9%) (Figure 10).

The majority of 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).

Compared with the October to December 2012 quarter, the number of patients increased across all modes of separation – treated and discharged (up 25.7%), treated and admitted (up 19.4%), left without, or before completing treatment (up 1.0%), and transferred to another hospital (up 31.9%) (Figure 13).

Figure 10 Patients who presented to the emergency department, by mode of separation, October to December 2017

		This quarter	Same quarter last year	Change since one year ago
Treated and discharged	 64.0%	450,116	430,868	4.5%
Treated and admitted to hospital	 26.6%	186,834	194,789	-4.1%*
Left without, or before completing, treatment	 5.4%	37,781	36,703	2.9%
Transferred to another hospital	 2.1%	14,466	14,191	1.9%
Other	 2.0%	14,213	13,352	6.4%

\* The decrease in the percentage of patients treated and admitted to hospital from the ED may reflect changes in data coding practices.

Figure 11 Percentage of patients who were treated and admitted, by triage category, October to December 2017







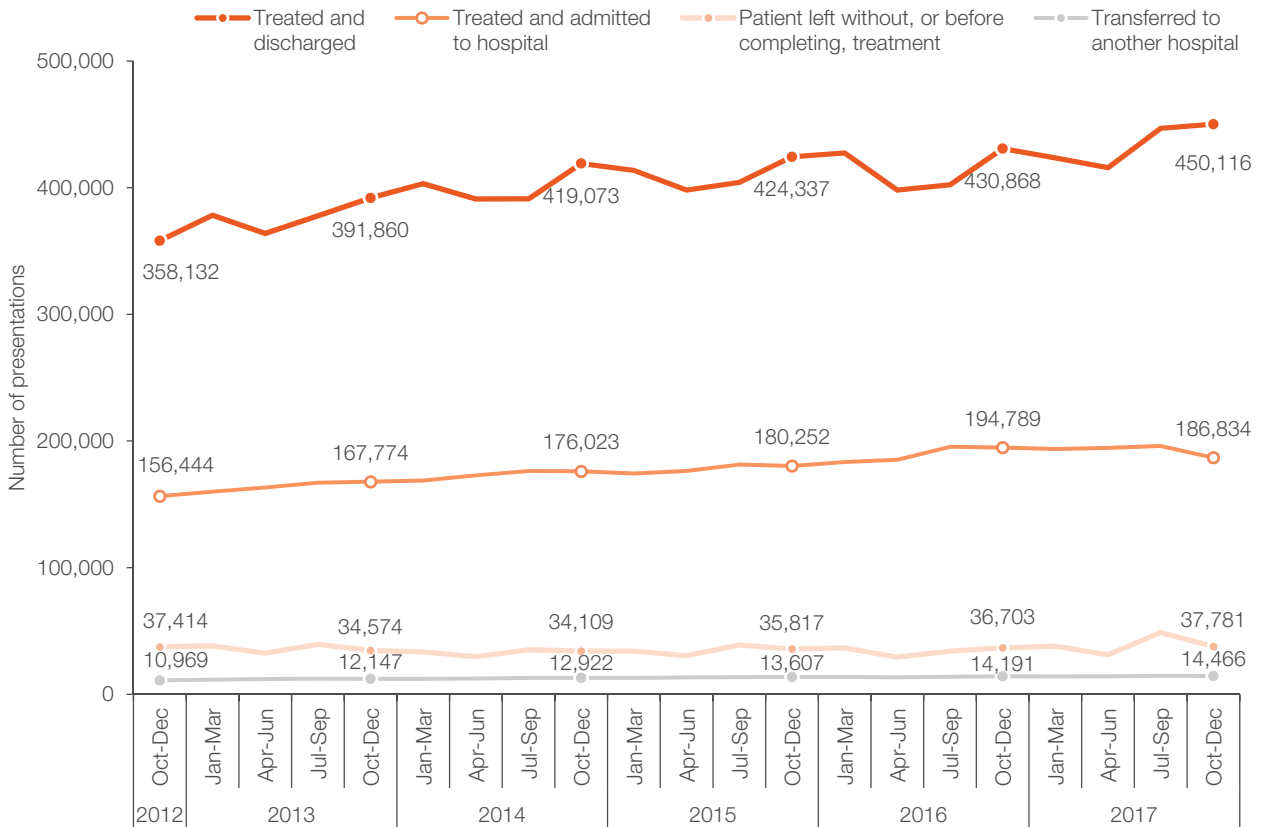
		This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	 26.6%		28.3%	-1.7
Triage 1	 77.7%		81.0%	-3.3
Triage 2	 54.9%		59.3%	-4.4
Triage 3	 37.8%		40.7%	-2.9
Triage 4	 14.9%		15.9%	-1.0
Triage 5	 4.9%		5.4%	-0.5

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

	This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	64.0%	62.5%	1.5
Triage 1	10.4%	8.4%	2.0
Triage 2	37.3%	33.4%	3.9
Triage 3	54.9%	52.2%	2.7
Triage 4	75.1%	74.3%	0.8
Triage 5	80.6%	80.3%	0.3











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



# Median time patients spent in the emergency department

The median time that patients spent in the ED during the October to December 2017 quarter was two hours and 44 minutes – up four minutes compared with the same quarter last year. There were shorter 90th percentile waiting times for triage categories 2 and 3 (down 12 and 10 minutes, respectively) (Figure 14). For triage category 4, the median and 90th percentile waiting times increased by four and eight minutes, respectively.

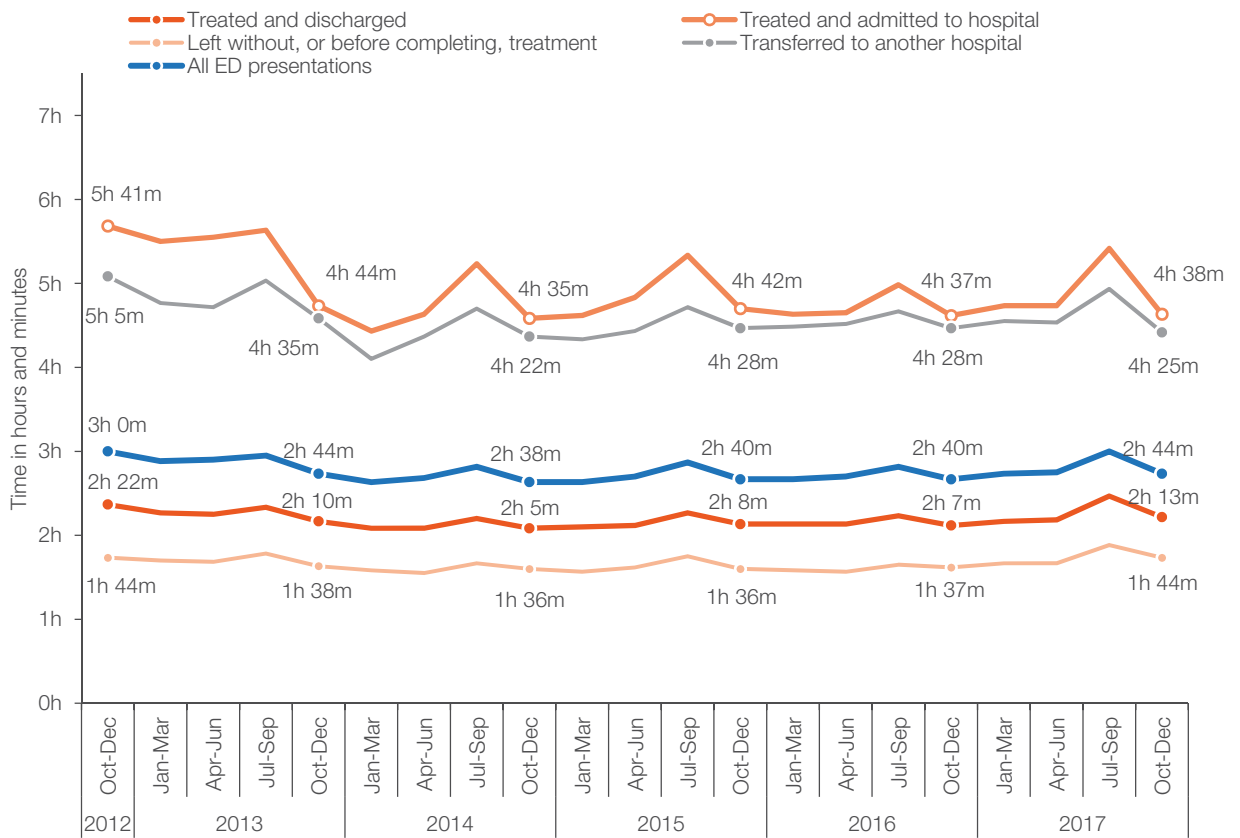
Figure 14 Time patients spent in the emergency department, October to December 2017

		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		6h 55m	6h 53m	2m
Triage 2 Emergency (e.g. chest pain, severe burns):				
Triage 2 Median		3h 51m	3h 52m	-1m
Triage 2 90th percentile		9h 44m	9h 56m	-12m
Triage 3 Urgent (e.g. moderate blood loss, dehydration)				
Triage 3 Median		3h 28m	3h 27m	1m
Triage 3 90th percentile		8h 18m	8h 28m	-10m
Triage 4 Semi-urgent (e.g. sprained ankle, earache)				
Triage 4 Median		2h 17m	2h 13m	4m
Triage 4 90th percentile		5h 32m	5h 24m	8m
Triage 5 Non-urgent (e.g. small cuts or abrasions)				
Triage 5 Median		1h 11m	1h 11m	0m
Triage 5 90th percentile		3h 31m	3h 28m	3m



Compared with the October to December 2012 quarter, the median time patients spent in the ED in the October to December 2017 quarter was either unchanged or shorter across all modes of separation. The largest decrease occurred for patients who were treated and admitted to hospital and patients who were transferred to another hospital (down 63 and 40 minutes, respectively) (Figure 15).

Figure 15 Median time patients spent in the emergency department, by mode of separation, October 2012 to December 2017



# Percentage of patient stays of four hours or less

Almost three quarters (73.6%) of patients spent four hours or less in the ED during the October to December 2017 quarter; 0.8 percentage points lower than the same quarter last year (Figure 16).

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, 85.0% spent four hours or less in the ED. The percentage was lower for patients who were treated and admitted to hospital (43.6%), and those who were transferred to another hospital (46.0%). Of those who left without, or before completing, treatment, 89.1% spent four hours or less in the ED before leaving (Figure 16).

Over a five year period, the percentage of patients spending four hours or less in the ED increased across all modes of separation (Figure 17).

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 with 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](http://bhi.nsw.gov.au)

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

	Number	This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	517,863	73.6%	74.4%	-0.8
Treated and discharged	382,495	85.0%	87.0%	-2.0
Treated and admitted	81,414	43.6%	43.6%	unchanged
Left without, or before completing, treatment	33,665	89.1%	91.4%	-2.3
Transferred to another hospital	6,656	46.0%	45.8%	0.2

Figure 17

Percentage of patients who spent four hours or less in the emergency department, by mode of separation, October 2012 to December 2017

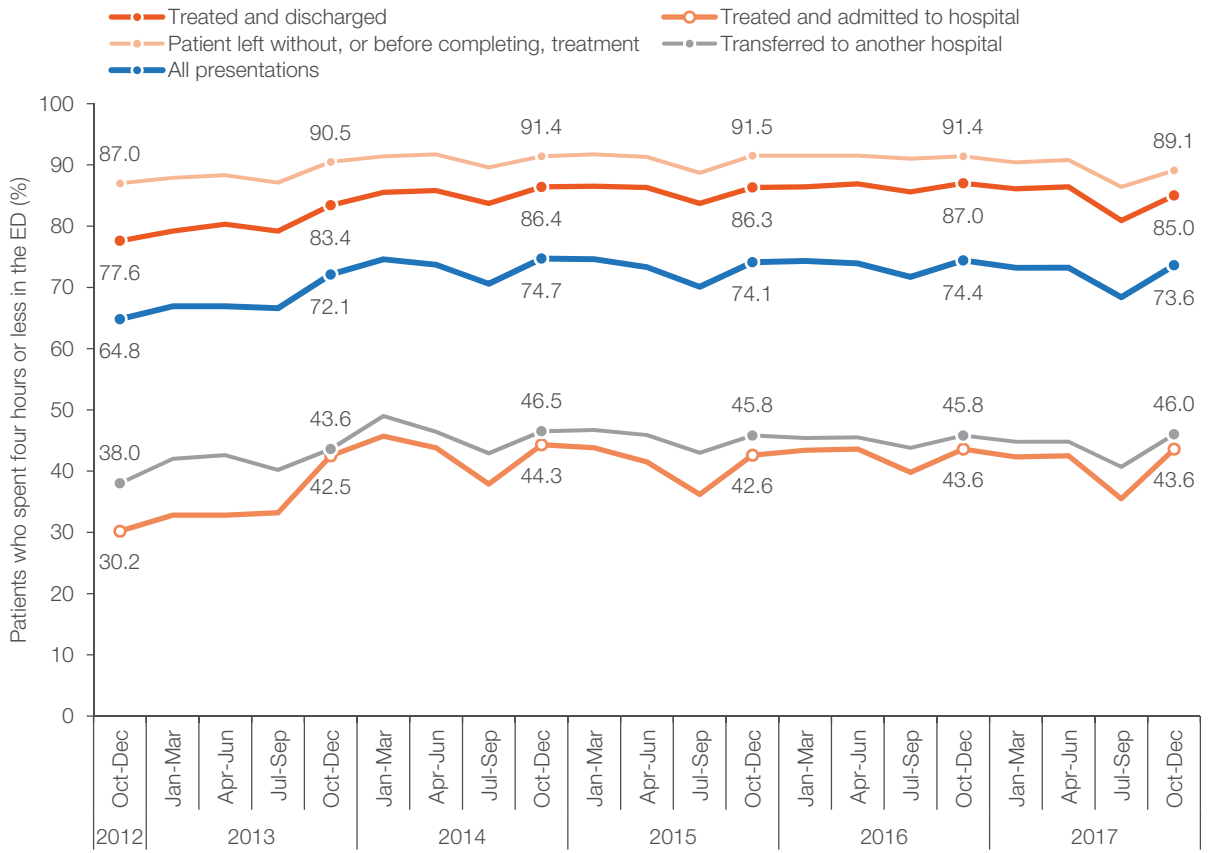
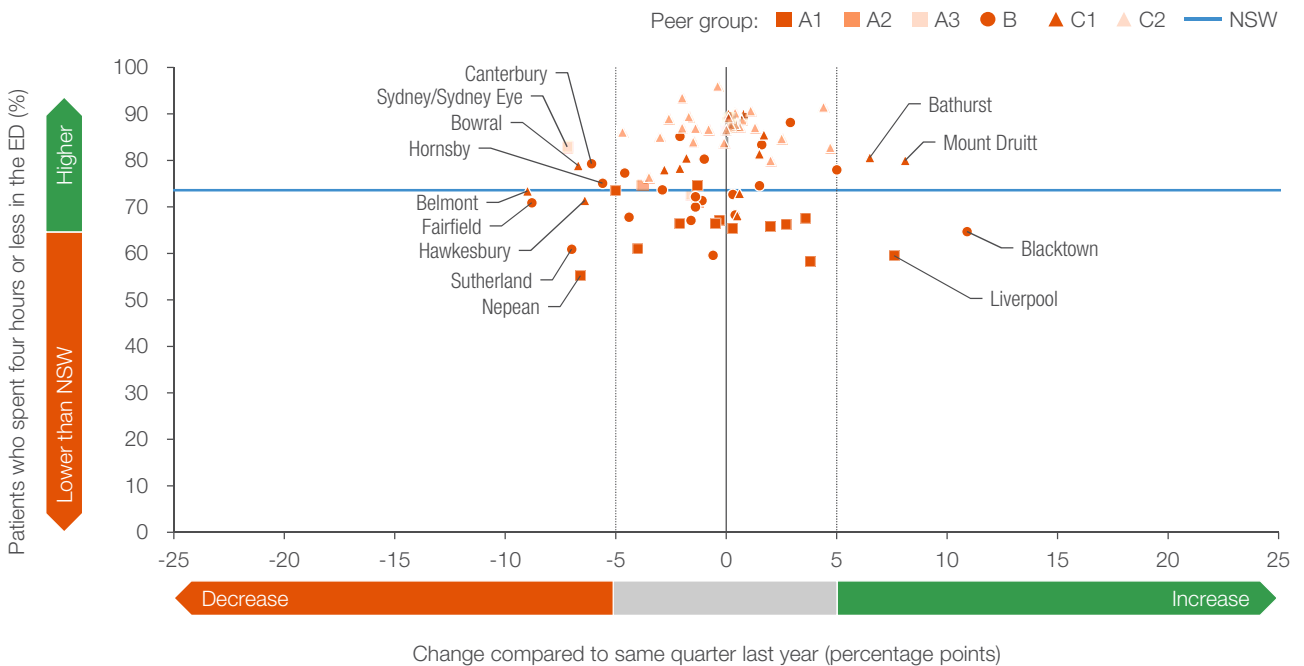


Figure 18

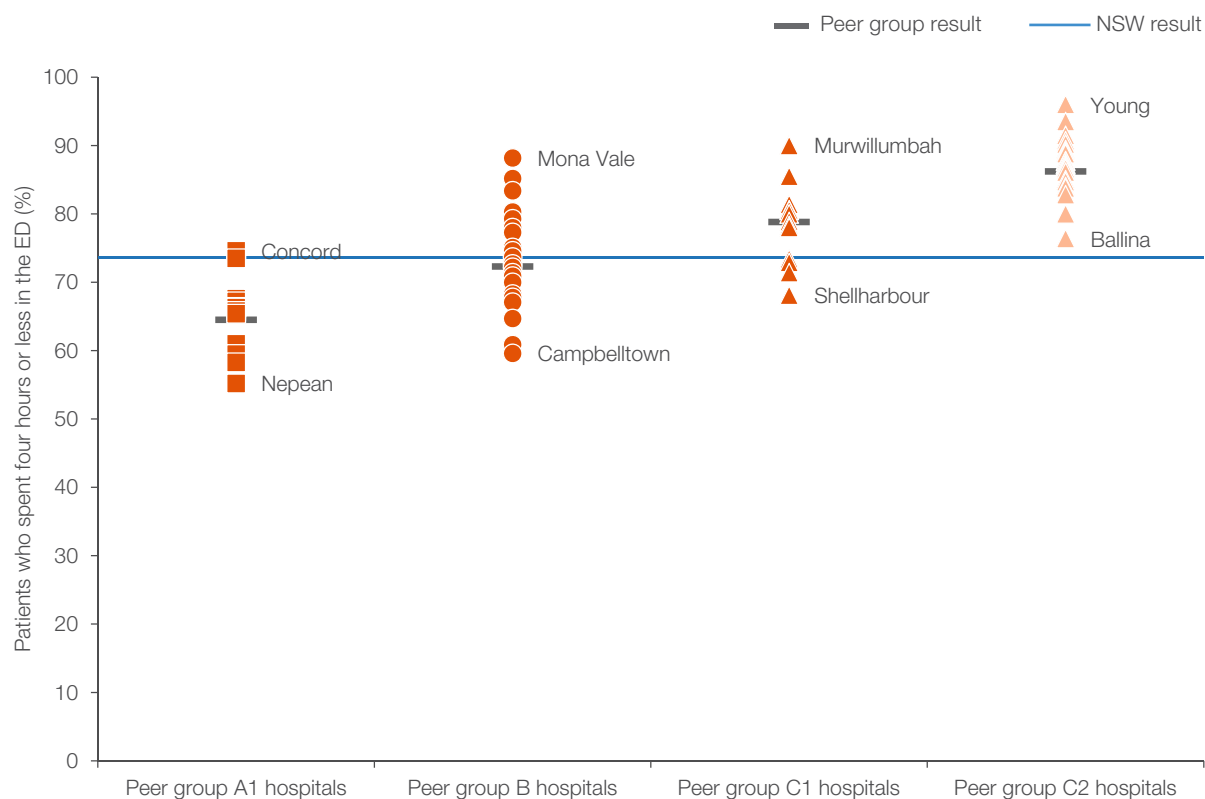
Percentage of patients who spent four hours or less in the emergency department, and percentage point change since same quarter last year, hospitals by peer group, October to December 2017



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

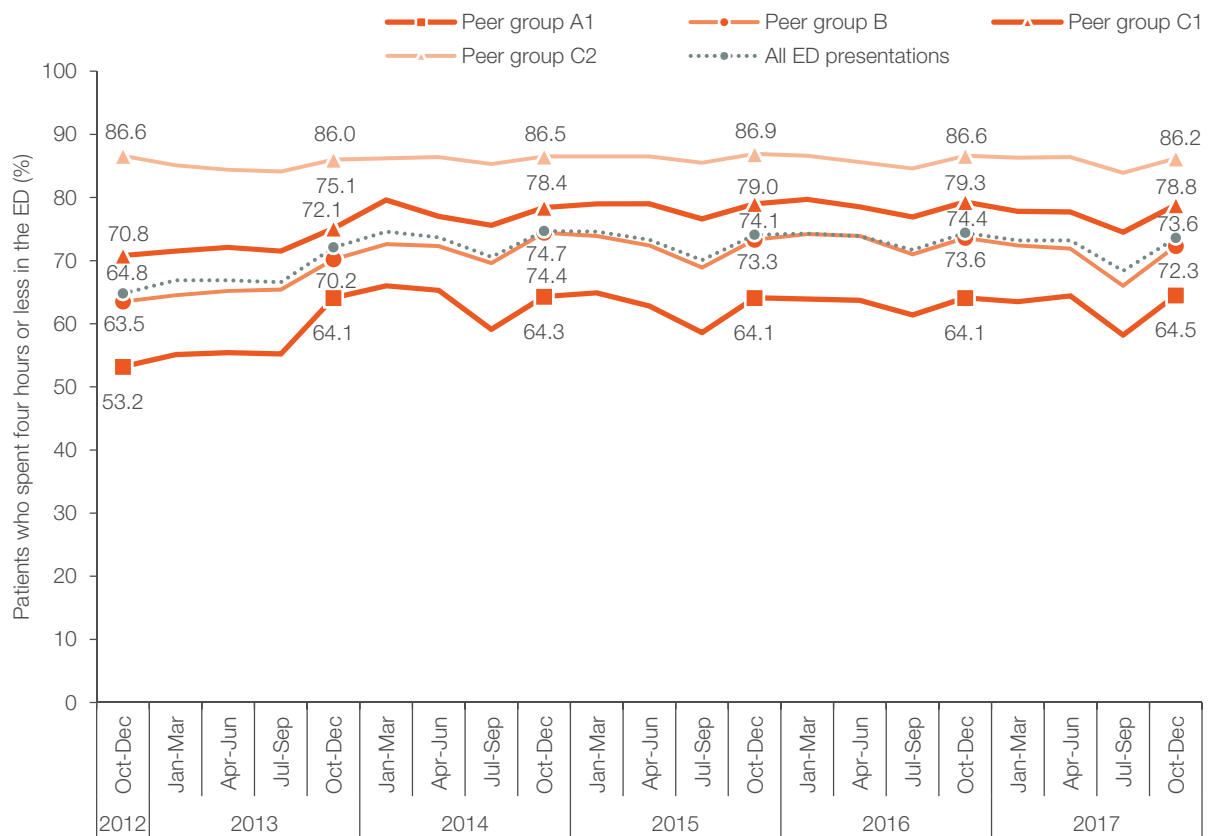
There is considerable variation between and within hospital peer groups in the percentage of patients who spent four hours or less in the ED. Across peer groups, smaller district hospitals (peer group C2) had an overall higher percentage of patients who spent four hours or less in the ED. Principal referral hospitals (peer group A1) generally had a smaller percentage of patients who spent four hours or less in the ED (Figure 19).

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



Compared with October to December 2012, the percentage of patients who spent four hours or less in the ED was higher across all peer groups, with the exception of district hospitals in peer group C2. The largest rise occurred in principal referral hospitals in peer group A1 (up 11.3 percentage points) (Figure 20).

Figure 20 Percentage of patients who spent four hours or less in the emergency department, by peer group, October 2012 to December 2017



# Transfer of care from the ambulance to the emergency department

A total of 151,235 patients arrived at NSW EDs by ambulance (up 3.1% compared with the same quarter last year) during the October to December 2017 quarter. Transfer of care time was calculated using 137,708 patient records (matched between ambulance service and ED records) (Figure 21).

The median and 90th percentile transfer of care times from ambulance paramedics to ED staff were unchanged compared with the same quarter last year (Figure 21).

In NSW, the agreed target time for transfer of care from ambulance to ED staff is 30 minutes for at least 90% of patients. This quarter, 92.1% of patients who arrived by ambulance had their care transferred within 30 minutes; 5.6 percentage points higher than October to December 2013 (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. District hospitals in peer groups C1 had the highest percentage of patients transferred within 30 minutes (94.5%).

Figure 21 Emergency department transfer of care time, October to December 2017

	This quarter	Same quarter last year	Change since one year ago
Emergency presentations	680,126	665,860	2.1%
Ambulance arrivals (number used to calculate transfer of care time)	137,708	132,496	3.9%
ED transfer of care time			
Median time	11m	11m	unchanged
90th percentile time	26m	26m	unchanged
Percentage of patients transferred from ambulance to ED within 30 minutes	92.1%	91.9%	+0.2 percentage points

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

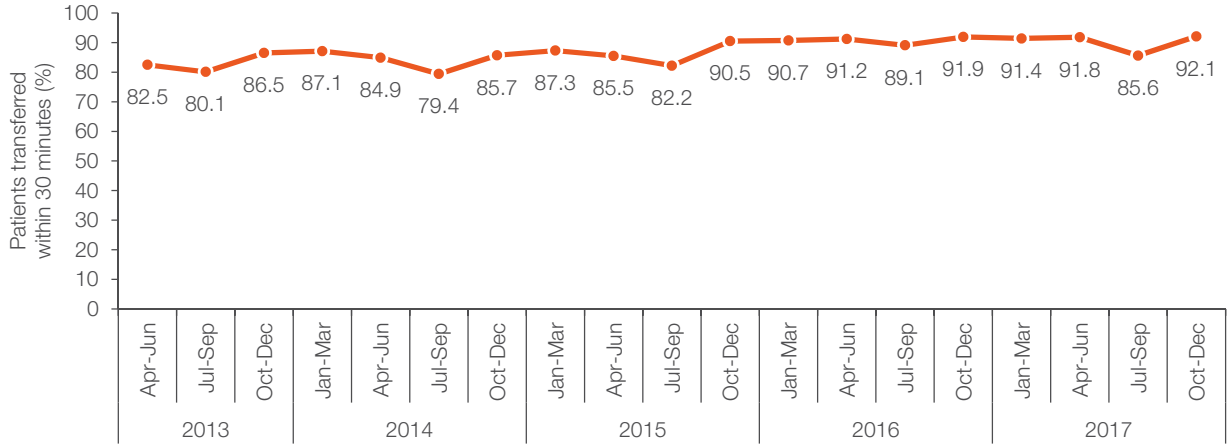
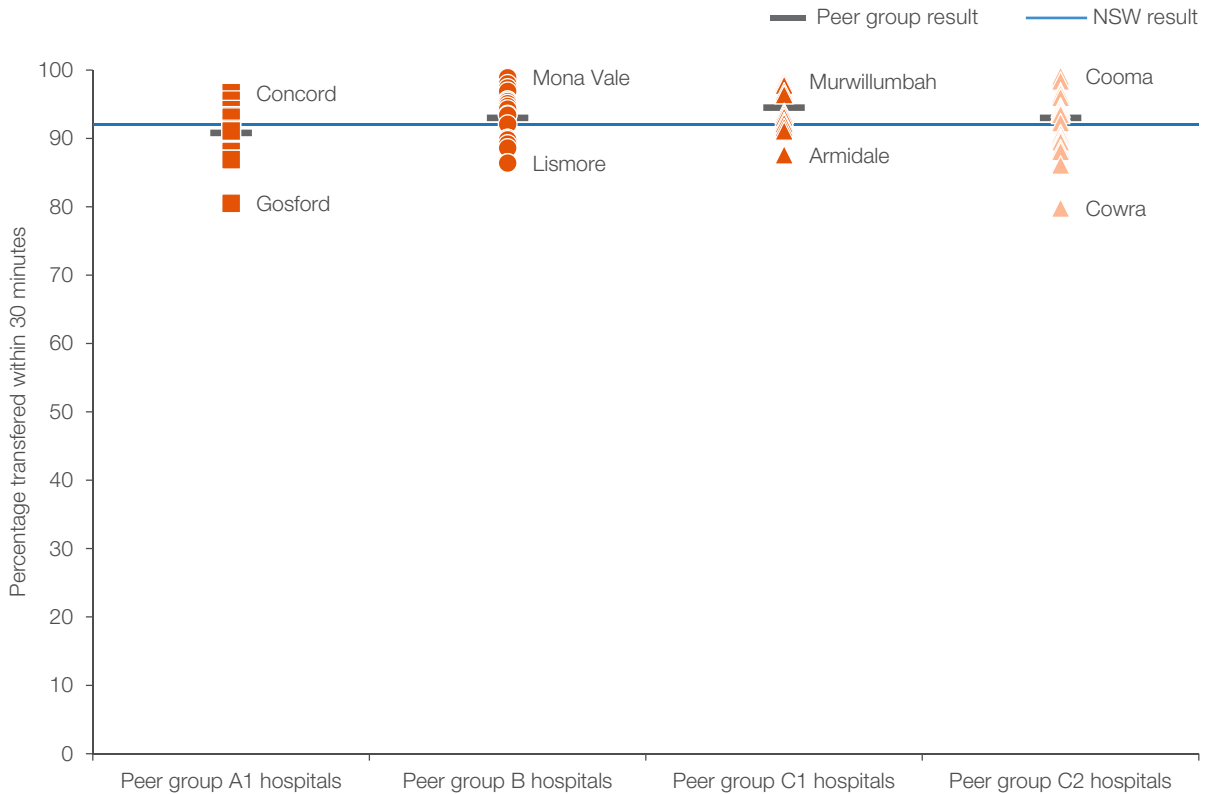


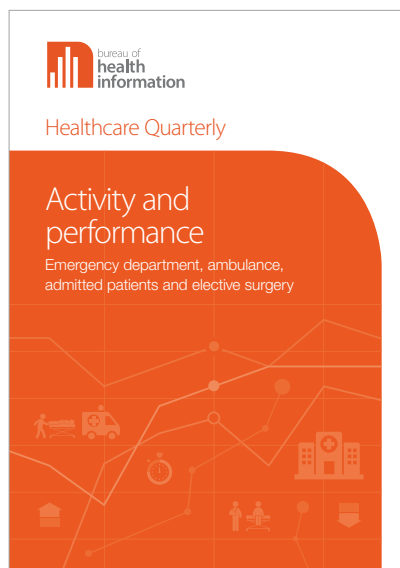
Figure 23 Percentage of ambulance arrivals whose care was transferred within 30 minutes, by peer group, October to December 2017



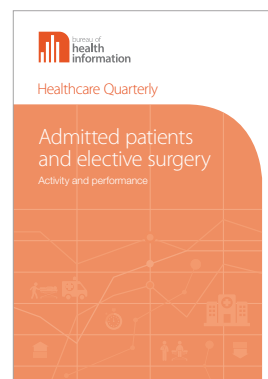
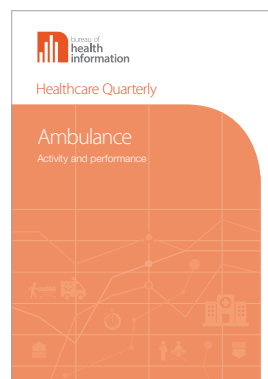
# Healthcare Quarterly

*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.

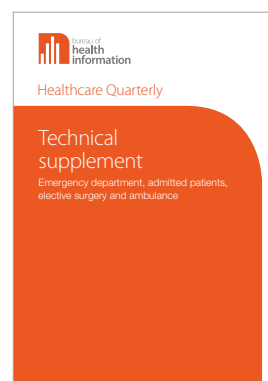
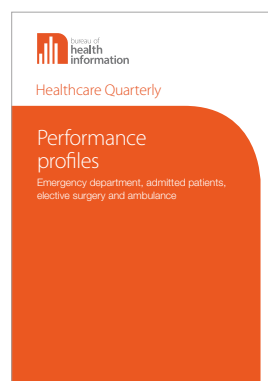
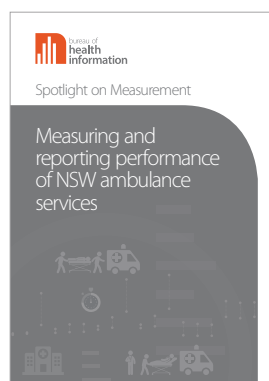
The reports feature key indicators of activity and performance across ambulance and public hospital services in NSW.



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



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



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

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## About the Bureau of Health Information

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

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

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

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

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

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

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

[bhi.nsw.gov.au](http://bhi.nsw.gov.au)