

Healthcare Quarterly

Emergency department

Activity and performance

July to September 2017



BUREAU OF HEALTH INFORMATION

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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.

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Changes in data coverage and analytic methods from quarter to quarter mean that figures published in this document are superseded by subsequent reports.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

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

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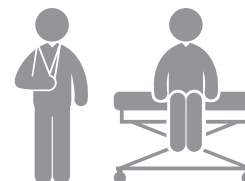
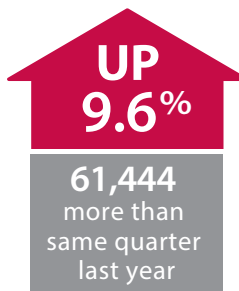
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In the July to September 2017 quarter...

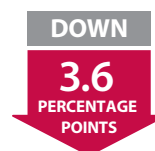
Emergency department

There were **699,236**
emergency presentations

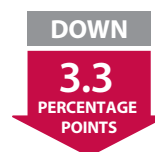
Highest ever for a July to September quarter



70.0% of patients' treatment
started on time



68.4% 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		July to September 2017	July to September 2016	Difference	% change
All arrivals at NSW EDs by ambulance		162,350	148,880	13,470	9.0%
All ED presentations		720,564	658,481	62,083	9.4%
Emergency presentations		699,236	637,792	61,444	9.6%
Emergency presentations by triage category					
Triage category	T1: Resuscitation	5,131	4,698	433	9.2%
	T2: Emergency	88,968	80,858	8,110	10.0%
	T3: Urgent	244,822	225,993	18,829	8.3%
	T4: Semi-urgent	294,469	266,262	28,207	10.6%
	T5: Non-urgent	65,846	59,981	5,865	9.8%
Admissions to hospital from NSW EDs		195,992	195,382	610	0.3%

Emergency department performance			July to September 2017	July to September 2016	Difference	
Percentage of patients transferred from ambulance to ED within 30 minutes:			85.6%	89.1%	-3.5 percentage points	
Time to treatment by triage category	T2: Emergency	Median	9 mins	8 mins	1 min	
		90th percentile	29 mins	27 mins	2 mins	
	T3: Urgent	Median	23 mins	21 mins	2 mins	
		90th percentile	83 mins	72 mins	11 mins	
	T4: Semi-urgent	Median	30 mins	27 mins	3 mins	
		90th percentile	121 mins	103 mins	18 mins	
	T5: Non-urgent	Median	26 mins	24 mins	2 mins	
		90th percentile	118 mins	104 mins	14 mins	
	Percentage of patients whose treatment started on time	All patients		70.0%	73.6%	-3.6 percentage points
		T2: Emergency		63.4%	64.9%	-1.5 percentage points
T3: Urgent		64.3%	68.2%	-3.9 percentage points		
T4: Semi-urgent		72.9%	77.2%	-4.3 percentage points		
T5: Non-urgent		90.6%	92.9%	-2.3 percentage points		
Median time spent in the ED			3h 0m	2h 49m	11 mins	
90th percentile time spent in the ED			8h 2m	7h 28m	34 mins	
Percentage of patients who spent four hours or less in the ED			68.4%	71.7%	-3.3 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.

Emergency department activity and performance

Emergency department presentations

During the July to September 2017 quarter, a total of 720,564 people presented to a NSW public hospital emergency department (ED); up 9.4% compared with the same quarter last year. Most presentations were classified as 'emergency' (699,236 patients or 97.0%) (Figure 1). The remaining 21,328 patients presented to ED for non-emergency reasons such as a planned return visit.

This quarter, there were 162,350 ED patients who arrived by ambulance, 9.0% 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 4 (28,207 more patients; up 10.6%) (Figure 1).

The number of patients who presented to an ED in July to September quarters increased across all five triage categories. The largest increase occurred for triage category 3 (66,741 more patients; up 37.5%) (Figure 2). The July to September 2017 quarter saw a sharper increase in the number of triage 3 and triage 4 emergency presentations.

Across hospitals, the number of total ED attendances was higher this quarter than in the same quarter last year for 74 out of 78 EDs. Of these, 63 had more than a 5% change, including 33 that had an increase of more than 10%. Four hospitals had a lower number of ED patient presentations this quarter, including two that dropped by more than 5%.

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, July to September 2017

	This quarter	Same quarter last year	Change since one year ago
All ED presentations	720,564	658,481	9.4%
Emergency presentations by triage category	699,236	637,792	9.6%
Triage 1: Resuscitation	5,131	4,698	9.2%
Triage 2: Emergency	88,968	80,858	10.0%
Triage 3: Urgent	244,822	225,993	8.3%
Triage 4: Semi-urgent	294,469	266,262	10.6%
Triage 5: Non-urgent	65,846	59,981	9.8%
Ambulance arrivals	162,350	148,880	9.0%

In the July to September 2017 quarter, there were 21,807 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, July 2012 to September 2017

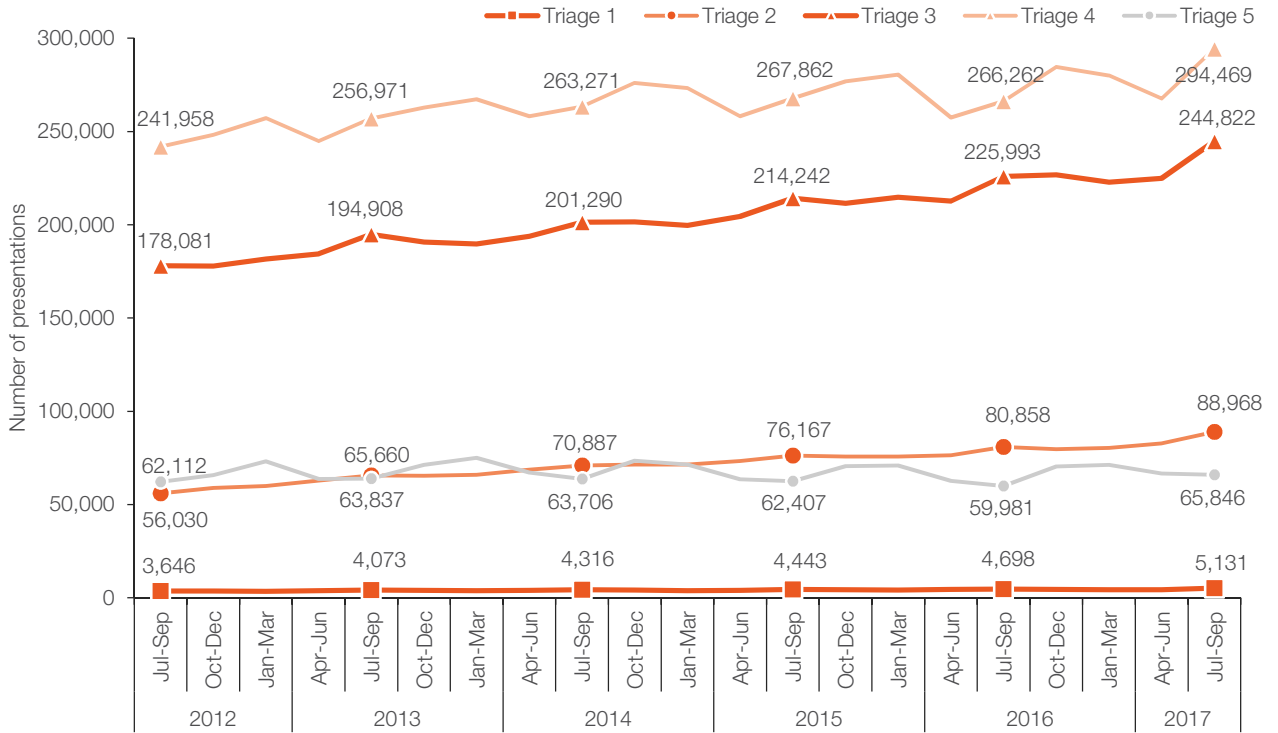
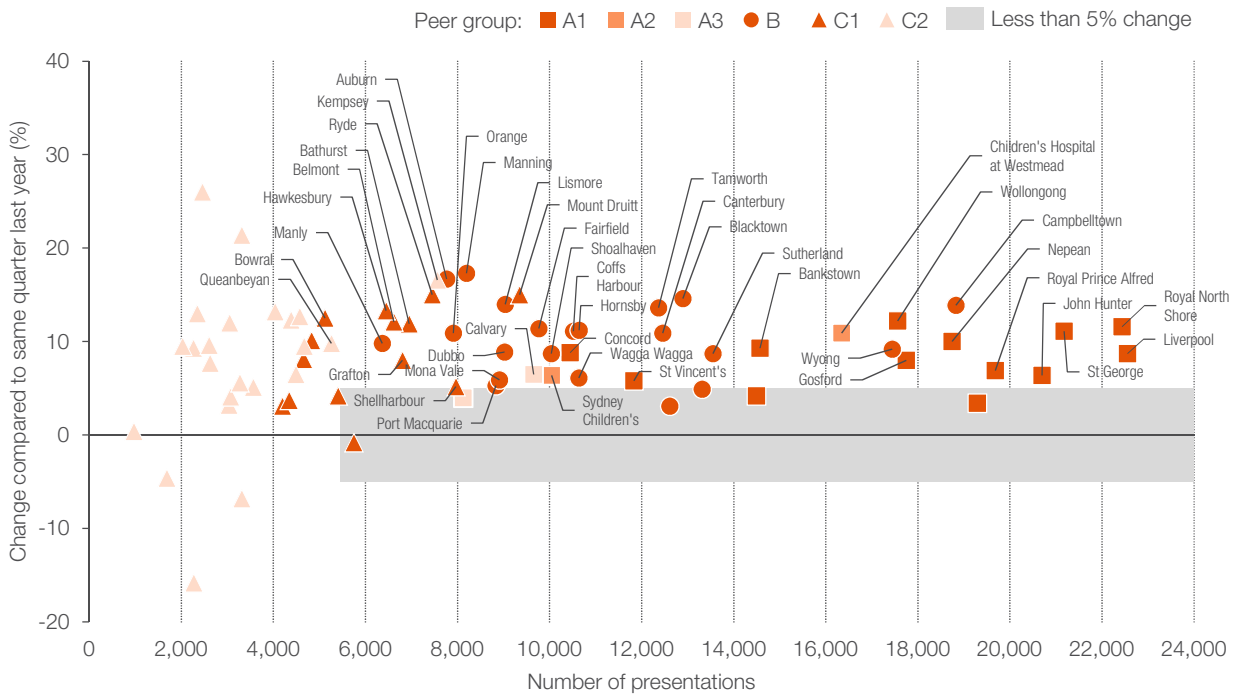


Figure 3

Change in number of all emergency department presentations compared with the same quarter last year, hospitals by peer group, July to September 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 July to September 2017 quarter, the median and 90th percentile time from arriving at the ED to starting treatment was longer compared with the same quarter last year for all triage categories (Figure 4).

Between 2012 and 2017, the median time to treatment for July to September quarters decreased overall for triage categories 3, 4 and 5. Despite the normal seasonal increases in the July to September quarters, the median time to starting treatment in the July to September 2017 quarter rose more sharply for triage categories 3 to 5. For triage category 2, the median time remained fairly 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, July to September 2017

	This quarter	Same quarter last year	Change since one year ago
Triage 2 Emergency (e.g. chest pain, severe burns): 87,854 patients			
Median time to start treatment	9m	8m	1m
90th percentile time to start treatment	29m	27m	2m
Triage 3 Urgent (e.g. moderate blood loss, dehydration): 237,072 patients			
Median time to start treatment	23m	21m	2m
90th percentile time to start treatment	1h 23m	1h 12m	11m
Triage 4 Semi-urgent (e.g. sprained ankle, earache): 268,265 patients			
Median time to start treatment	30m	27m	3m
90th percentile time to start treatment	2h 1m	1h 43m	18m
Triage 5 Non-urgent (e.g. small cuts or abrasions): 54,890 patients			
Median time to start treatment	26m	24m	2m
90th percentile time to start treatment	1h 58m	1h 44m	14m

Figure 5

Median time from presentation to starting treatment, by triage category, July 2012 to September 2017

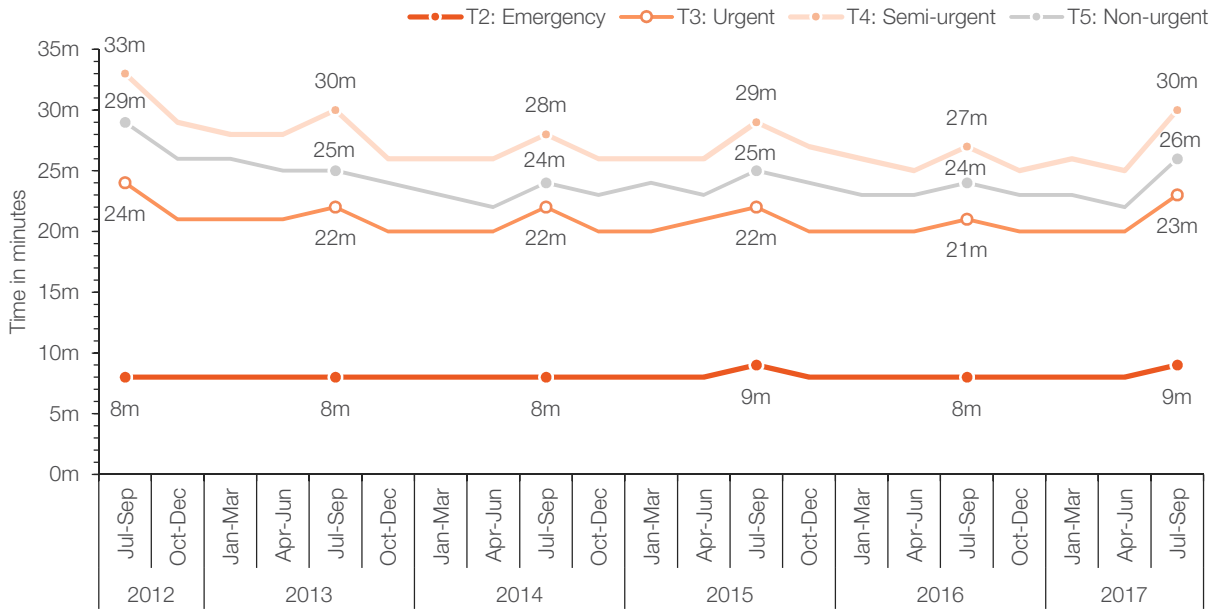
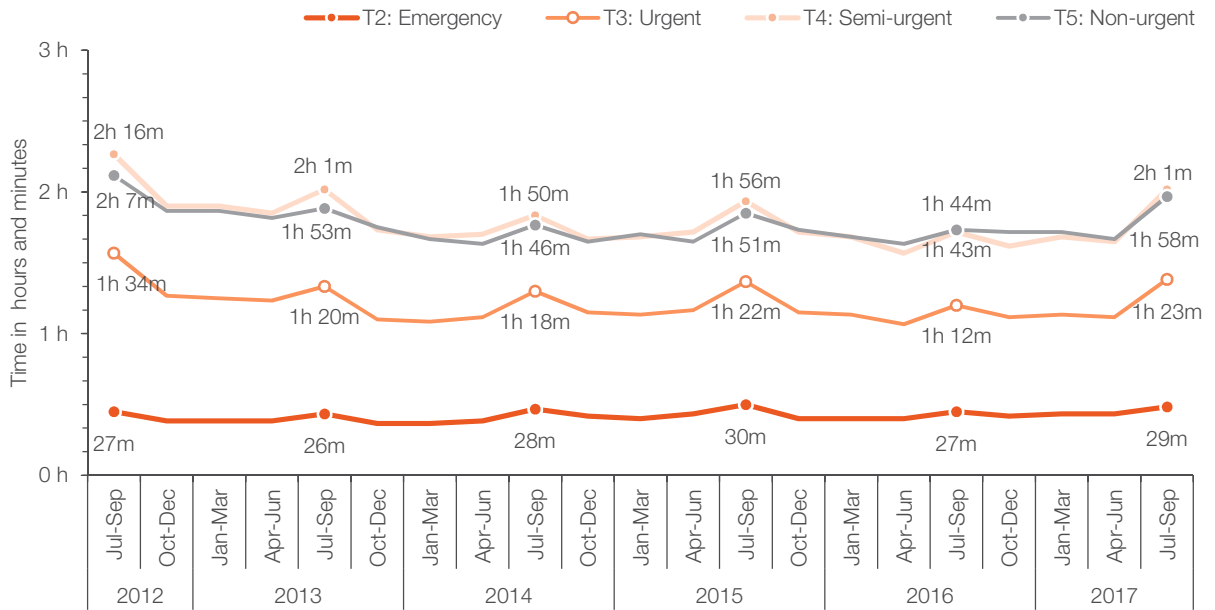


Figure 6

90th percentile time from presentation to starting treatment, by triage category, July 2012 to September 2017



Percentage of patients whose treatment started on time

During the July to September 2017 quarter, 70.0% of ED patients' treatment started within clinically recommended timeframes; 3.6 percentage points lower compared with the same quarter last year.

Within triage categories, the percentage of patients whose treatment started on time was lower across all triage categories, compared with the same quarter last year (Figure 7).

With the exception of triage category 2, the percentage of patients whose treatment started on time increased over the past five years. Amidst the seasonal decreases in the July to September quarters, a notable drop occurred in the July to September 2017 quarter. (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 17 out of 78 hospitals. Five hospitals were up by more than five percentage points.

The percentage of patients whose treatment started on time was lower this quarter in 61 hospitals. For 29 hospitals, the decrease was more than five percentage points. For six hospitals, the decrease was more than 10 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.

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

	This quarter	Same quarter last year	Percentage point change since one year ago
All emergency presentations	70.0%	73.6%	-3.6
Triage category 2	Recommended: 80% in 10 minutes 63.4%	64.9%	-1.5
Triage category 3	Recommended: 75% in 30 minutes 64.3%	68.2%	-3.9
Triage category 4	Recommended: 70% in 60 minutes 72.9%	77.2%	-4.3
Triage category 5	Recommended: 70% in 120 minutes 90.6%	92.9%	-2.3

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, July 2012 to September 2017

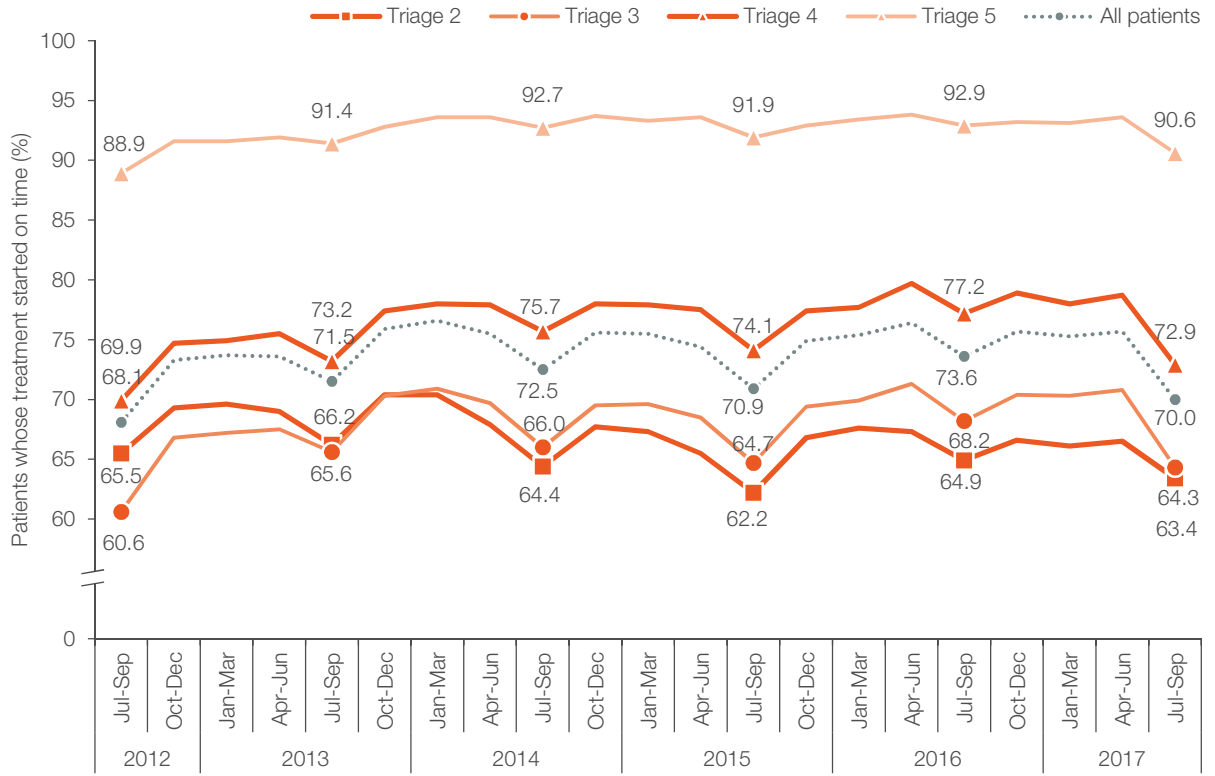
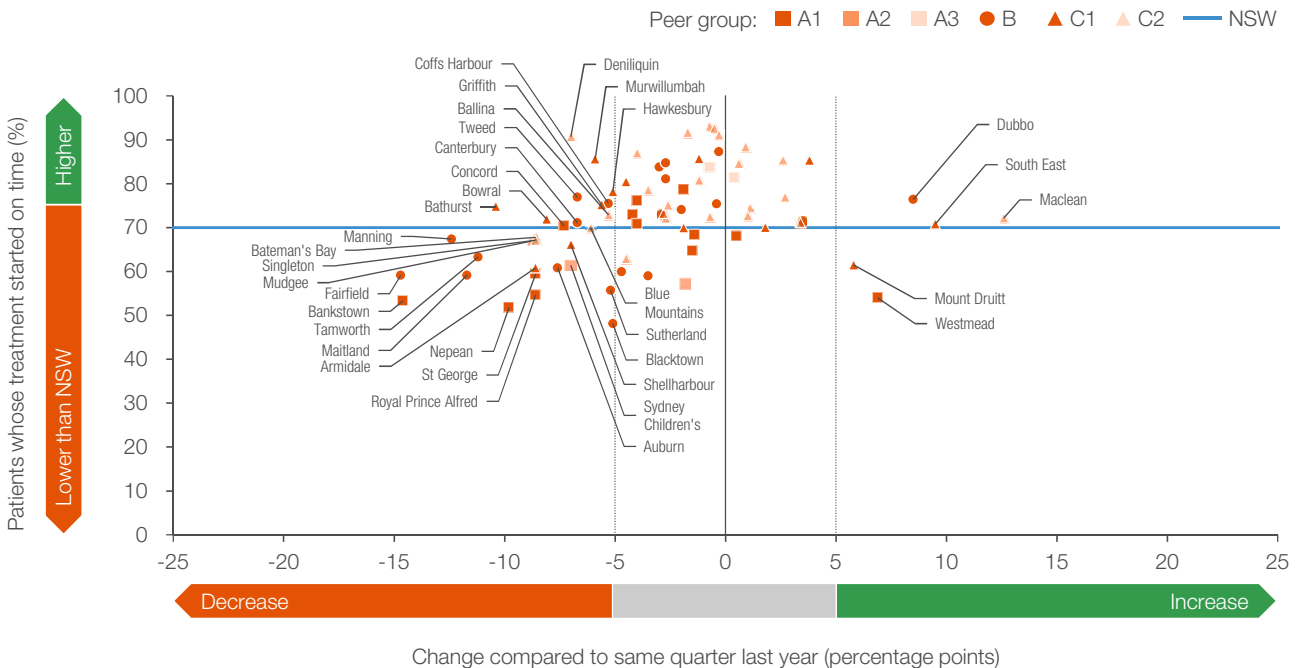


Figure 9 Percentage of patients whose treatment started on time, and percentage point change since same quarter last year, hospitals by peer group, July to September 2017



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 July to September 2017 quarter, 62.0% of patients were treated and discharged from the ED (446,753; up 11.1%) and more than a quarter (27.2%) of patients were treated and admitted to hospital (195,992; up 0.3%) (Figure 10).

Compared with the same quarter last year, there was a higher number of patients who were transferred to another hospital (14,553; up 5.1%) and a higher

number who left without, or before completing, treatment (48,798; up 43.1%) (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).

The number of patients increased over the past five years across all modes of separation (Figure 13). Compared with the same quarter last year, there was a sharp increase in the number of patients who were treated and discharged and who left without, or before completing treatment.

Figure 10 Patients who presented to the emergency department, by mode of separation, July to September 2017

		This quarter	Same quarter last year	Change since one year ago
Treated and discharged	62.0%	446,753	402,284	11.1%
Treated and admitted to hospital	27.2%	195,992	195,382	0.3%
Left without, or before completing, treatment	6.8%	48,798	34,093	43.1%
Transferred to another hospital	2.0%	14,553	13,842	5.1%
Other	2.0%	14,468	12,880	12.3%

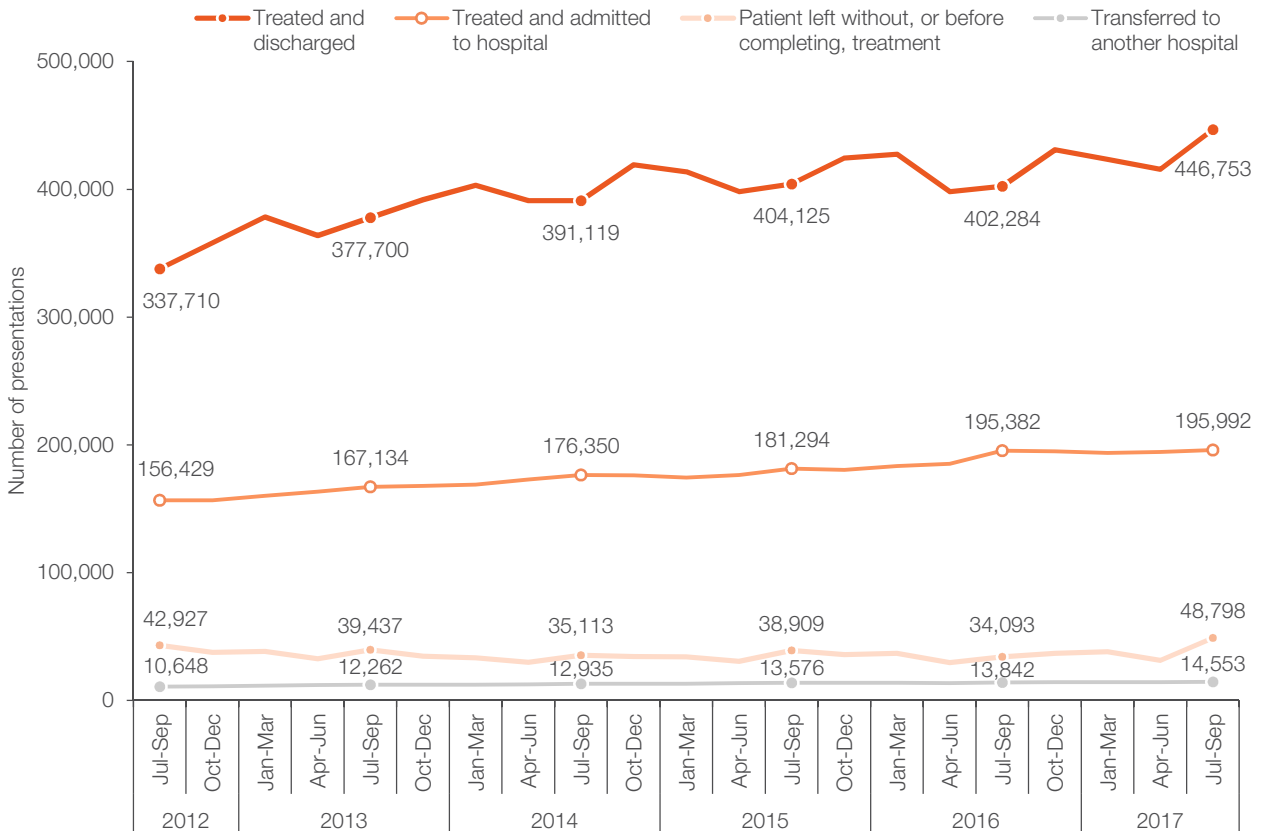
Figure 11 Percentage of patients who were treated and admitted, by triage category, July to September 2017

		This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	27.2%		29.7%	-2.5
Triage 1	80.8%		82.5%	-1.7
Triage 2	56.4%		60.6%	-4.2
Triage 3	37.8%		41.4%	-3.6
Triage 4	14.7%		16.1%	-1.4
Triage 5	5.1%		5.6%	-0.5

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

	This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	62.1%	61.1%	1.0
Triage 1	8.5%	6.6%	1.9
Triage 2	35.8%	32.4%	3.4
Triage 3	54.1%	51.6%	2.5
Triage 4	73.1%	73.9%	-0.8
Triage 5	78.5%	79.2%	-0.7

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



Median time patients spent in the emergency department

During the July to September 2017 quarter, the median and 90th percentile times that patients spent in the ED was three hours and eight hours and two minutes, respectively (up 11 minutes and 34 minutes, respectively, compared with the same quarter last year). Longer median and 90th percentile waiting times were seen across all triage categories this quarter (Figure 14).

For the July to September 2017 quarter, the median time patients spent in the ED was longer across all modes of separation*, compared with the same quarter last year (Figure 14). Despite a 29.1% increase in the overall number of presentations during the July to September quarters since 2012, the median time patients spent in the ED decreased overall from three hours and 20 minutes in 2012 to three hours this quarter (Figure 15).

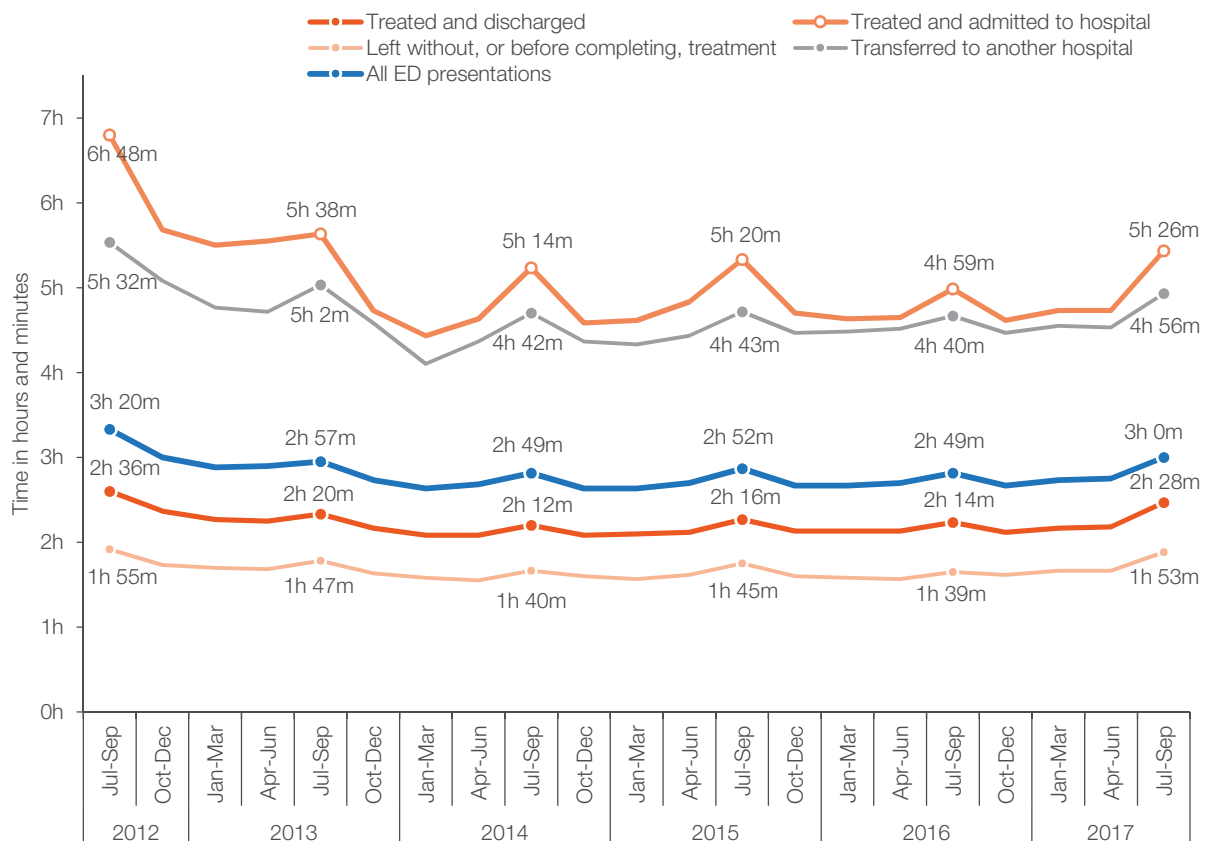
Figure 14 Time patients spent in the emergency department, July to September 2017

	This quarter	Same quarter last year	Change since one year ago
Median time spent in the ED	3h 0m	2h 49m	11m
90th percentile time spent in the ED	8h 2m	7h 28m	34m
Triage 2 Emergency (e.g. chest pain, severe burns):			
Triage 2 Median	4h 6m	3h 58m	8m
Triage 2 90th percentile	12h 51m	11h 30m	1h 21m
Triage 3 Urgent (e.g. moderate blood loss, dehydration)			
Triage 3 Median	3h 43m	3h 33m	10m
Triage 3 90th percentile	9h 48m	9h 4m	44m
Triage 4 Semi-urgent (e.g. sprained ankle, earache)			
Triage 4 Median	2h 31m	2h 19m	12m
Triage 4 90th percentile	6h 13m	5h 42m	31m
Triage 5 Non-urgent (e.g. small cuts or abrasions)			
Triage 5 Median	1h 18m	1h 12m	6m
Triage 5 90th percentile	3h 49m	3h 34m	15m

* 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 shows the seasonal fluctuations over the past five years in the median time patients spent in the ED across all modes of separation. While seasonal increases in waiting times are normally seen in the July to September quarters, a notable rise occurred in the July to September 2017 quarter, particularly for those treated and admitted to hospital (up 27 minutes).

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



Percentage of patient stays of four hours or less

In the July to September 2017 quarter, 68.4% of patients spent four hours or less in the ED; 3.3 percentage points lower compared with the same quarter last year (Figures 16). In the context of the seasonal decreases that are normally seen across all modes of separation in the July to September quarters, a sharper drop occurred in the July to September 2017 quarter (Figure 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, 80.9% spent four hours or less in the ED. This percentage was lower for patients who were treated and subsequently admitted to hospital (35.3%), and those who were transferred to another hospital (40.7%). Of those who left without, or before completing, treatment, 86.4% spent four hours or less in the ED before leaving (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 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

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

	Number		This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	492,508		68.4%	71.7%	-3.3
Treated and discharged	361,588		80.9%	85.6%	-4.7
Treated and admitted	69,140		35.3%	39.8%	-4.5
Left without, or before completing, treatment	42,157		86.4%	91.0%	-4.6
Transferred to another hospital	5,923		40.7%	43.8%	-3.1

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

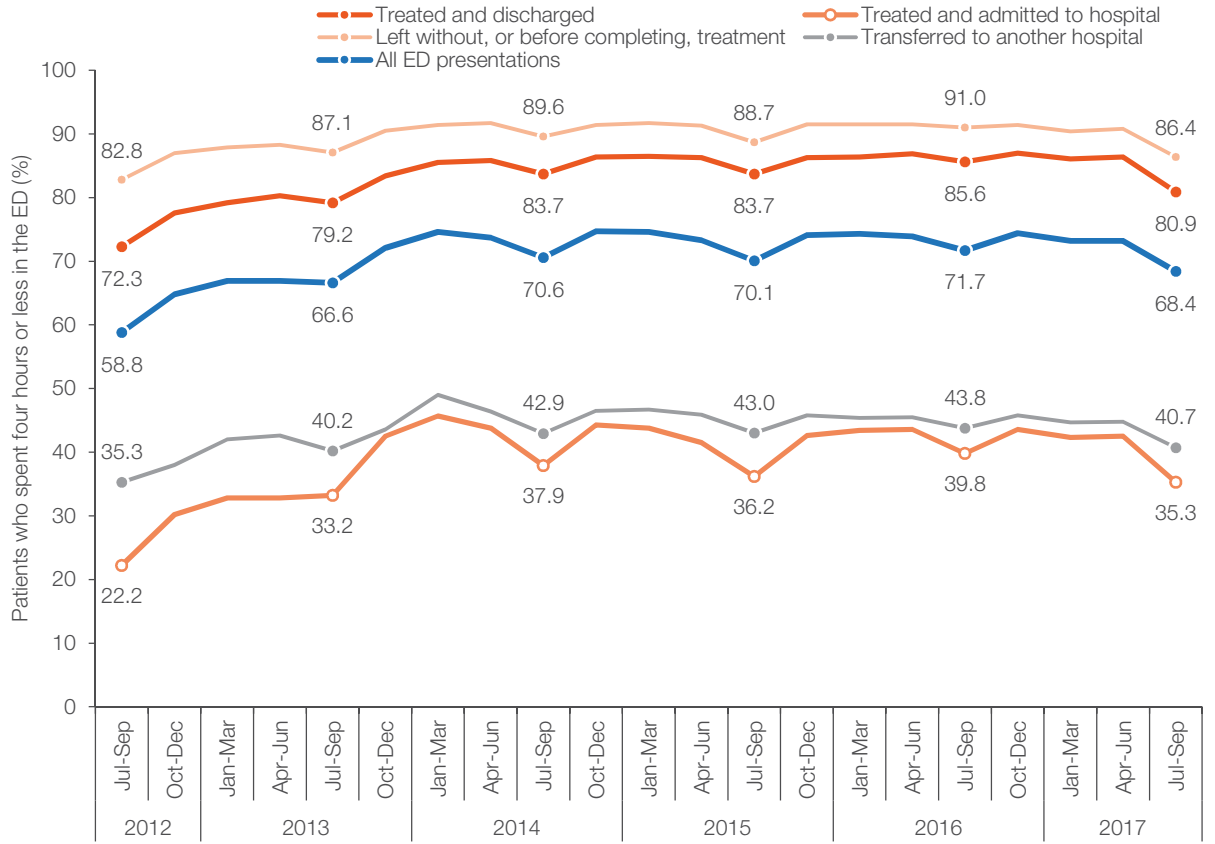
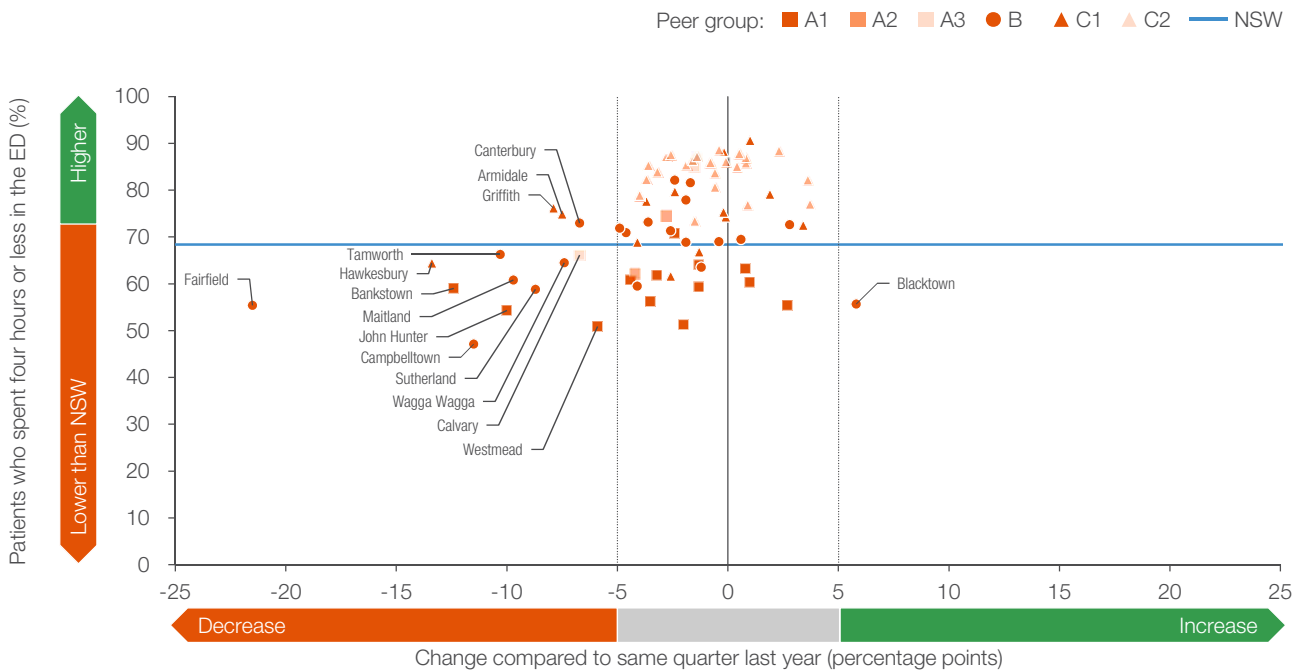


Figure 18 Percentage of patients who spent four hours or less in the emergency department, and percentage point change since same quarter last year, hospitals by peer group, July to September 2017



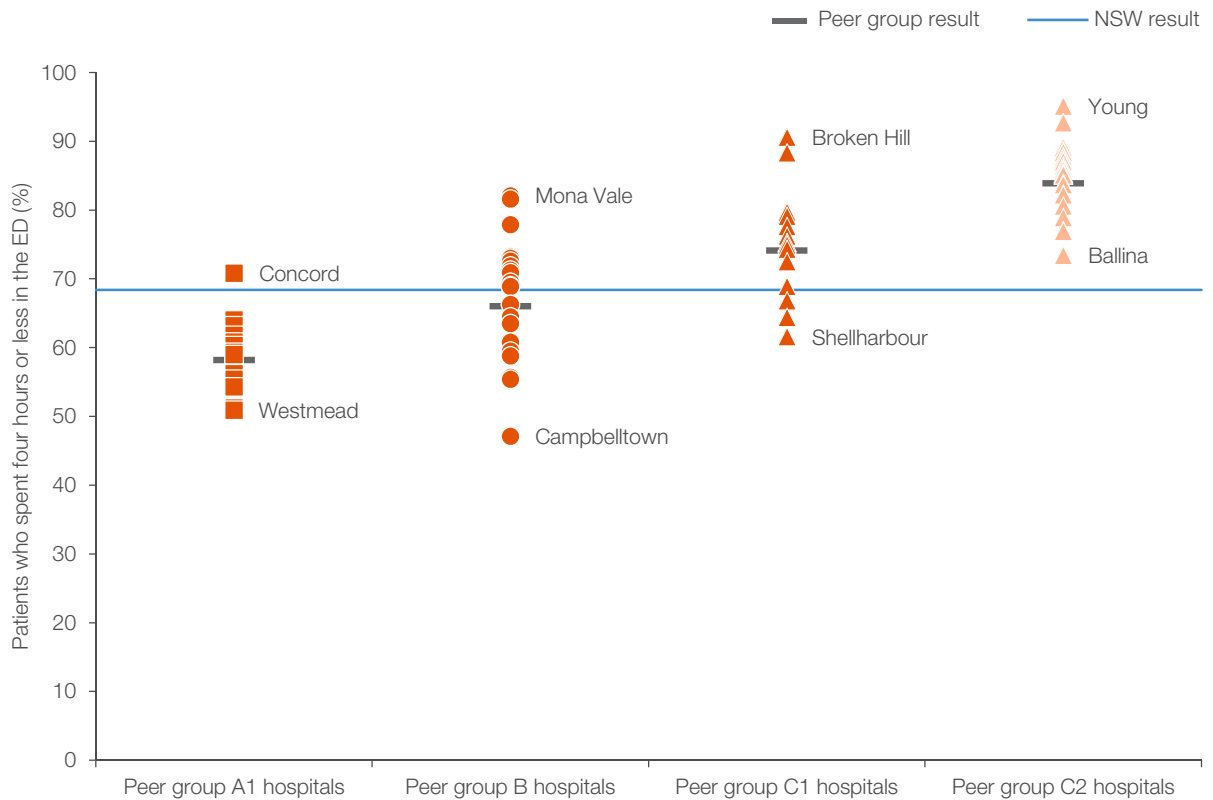
Percentage of patient stays of four hours or less – peer group variation

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) have a higher percentage of patients who spent four hours or less in the ED. Principal referral hospitals (peer group A1) generally 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 was lower across all peer groups with the largest drop occurring in major hospitals (peer group B); down 5.0 percentage points (Figure 20).

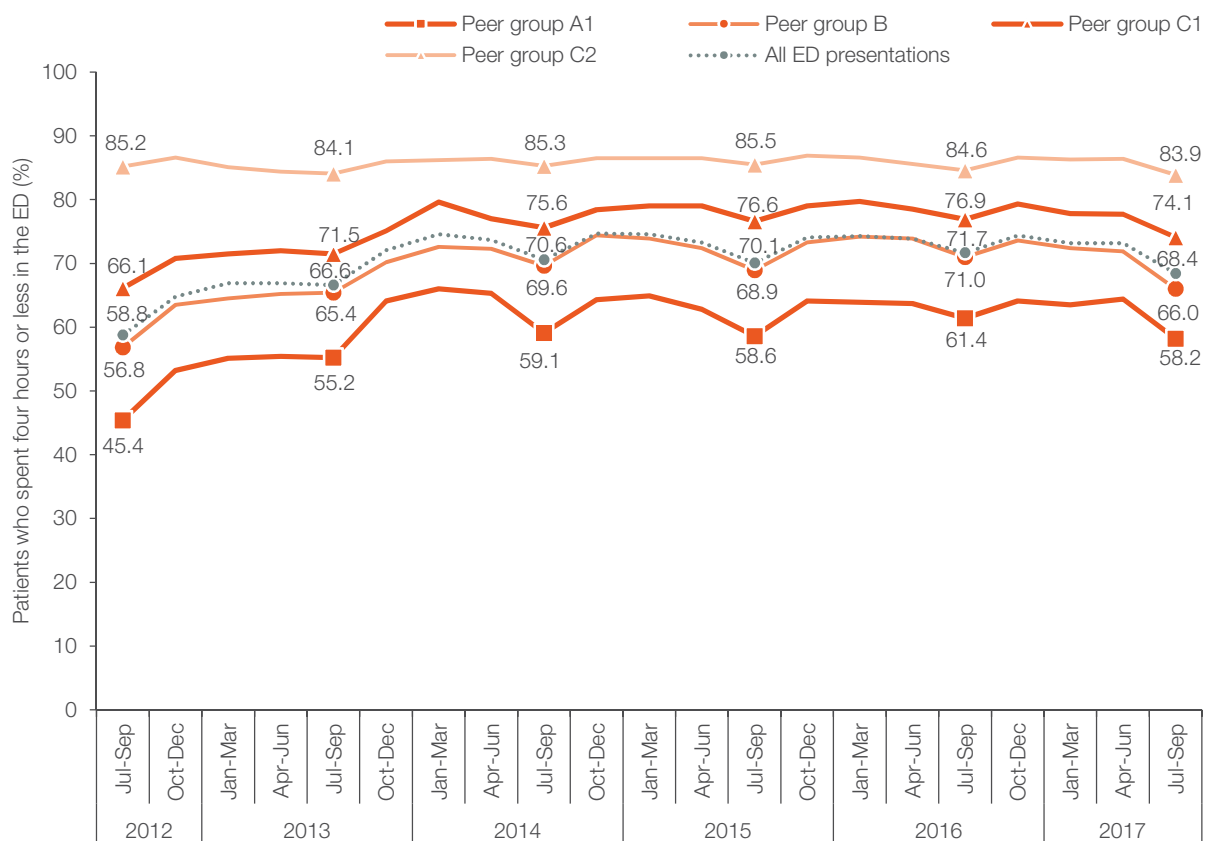
Over the past five years, there has been an increase in the percentage of patients who spent four hours or less in the ED across most hospital peer groups,

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



including a 12.8 percentage point increase in peer group A1. The exception was peer group C2 (down 1.3 percentage points compared with the same quarter in 2012) (Figure 20). Despite the seasonally lower results that are normally seen in the July to September quarters, a sharper drop was seen for principal referral (peer group A1), major (peer group B) and district (peer group C1) hospitals.

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



Transfer of care from the ambulance to the emergency department

During the July to September 2017 quarter, a total of 162,350 patients arrived at NSW EDs by ambulance (up 9.0% compared with the same quarter last year). This quarter, 148,186 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 paramedics to ED staff were longer this quarter compared with the same quarter last year (up one minute and six minutes, respectively) (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, 85.6% of patients who arrived by ambulance had their care transferred within 30 minutes; 3.5 percentage points lower 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. District hospitals (peer groups C1 and C2) had the highest percentages of patients transferred within 30 minutes (90.8% and 92.0%, respectively).

Figure 21 Emergency department transfer of care time, July to September 2017

	This quarter	Same quarter last year	Change since one year ago
Emergency presentations	699,236	637,792	9.6%
Ambulance arrivals (number used to calculate transfer of care time)	148,186	134,245	10.4%
ED transfer of care time			
Median time	13m	12m	1m
90th percentile time	36m	30m	6m
Percentage of patients transferred from ambulance to ED within 30 minutes	85.6%	89.1%	-3.5 percentage points

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

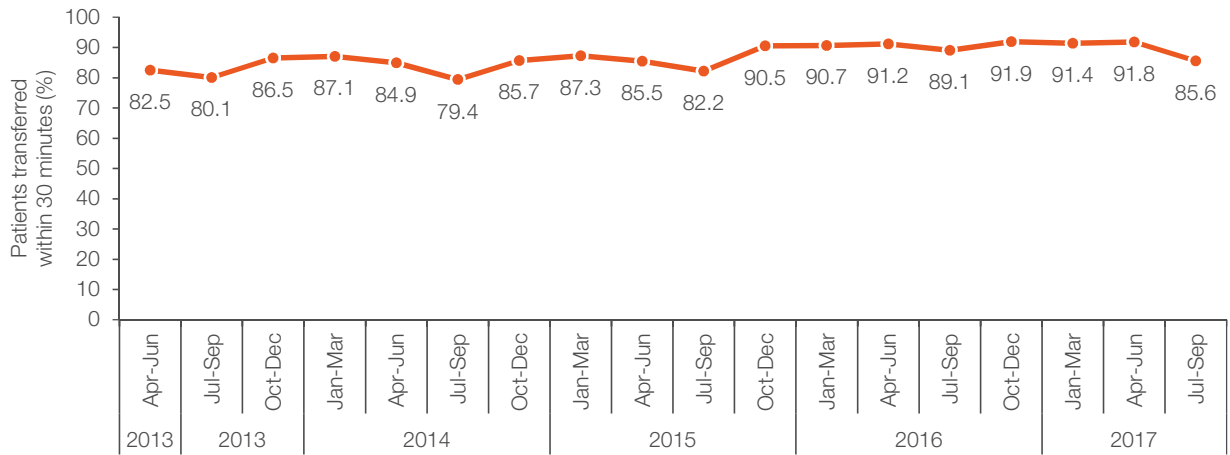
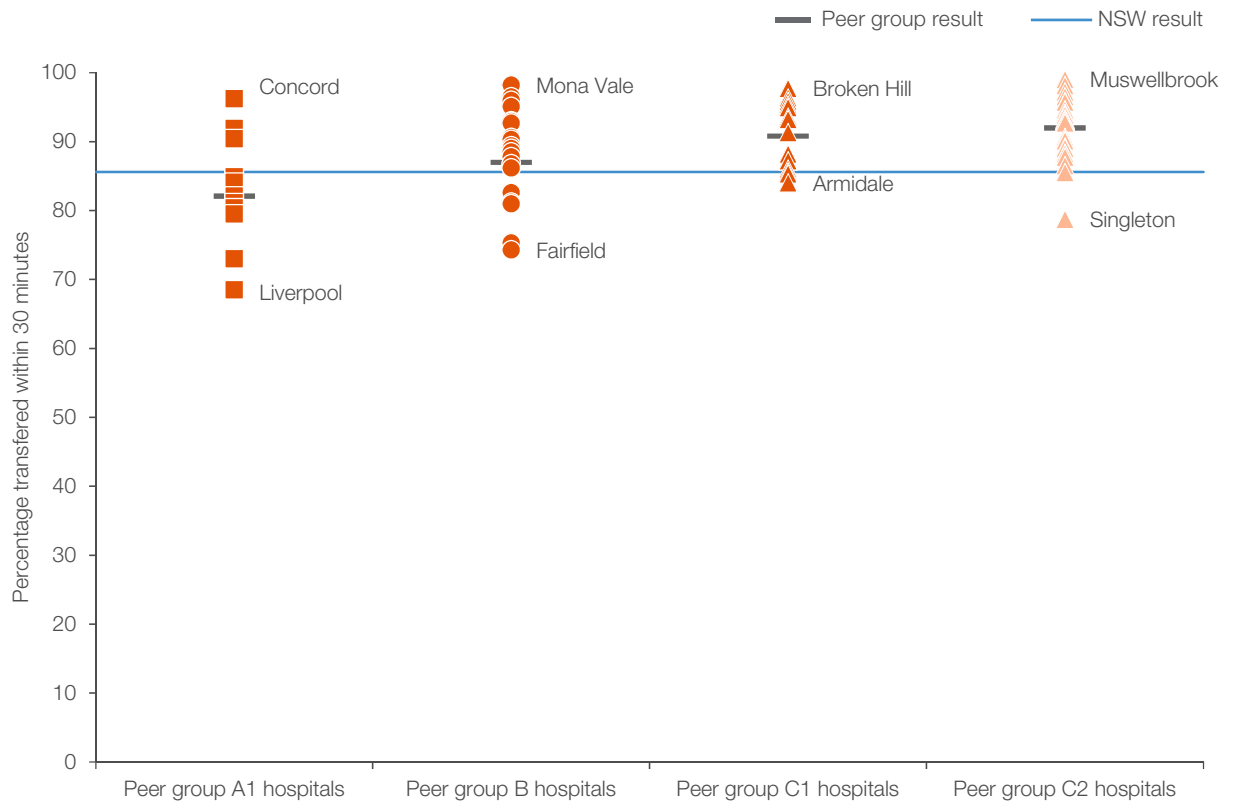


Figure 23 Percentage of ambulance arrivals whose care was transferred within 30 minutes, by peer group, July to September 2017



Healthcare Quarterly

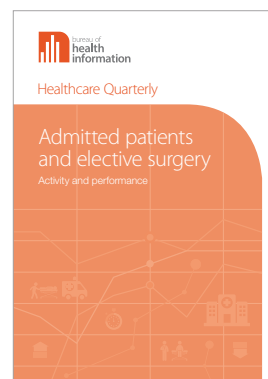
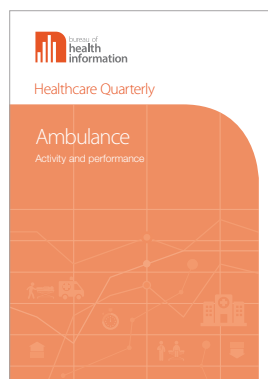
Healthcare Quarterly is a series of regular reports that describes the number and types of services provided to the people of NSW and the timeliness with which they are provided.

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

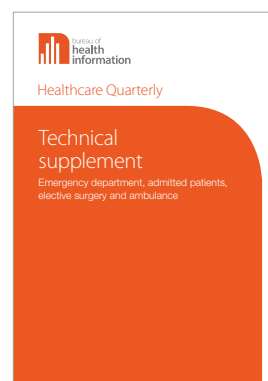
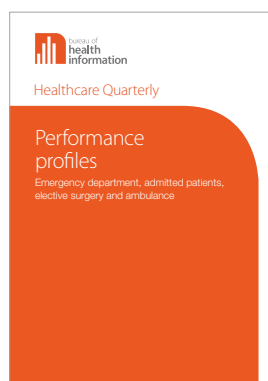


Every day around 25,000 people receive care in the NSW public hospital system and around 1,800 are transported to hospital by ambulance.

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

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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