

# Healthcare Quarterly

# Emergency department

Activity and performance

April to June 2017

#### **BUREAU OF HEALTH INFORMATION**

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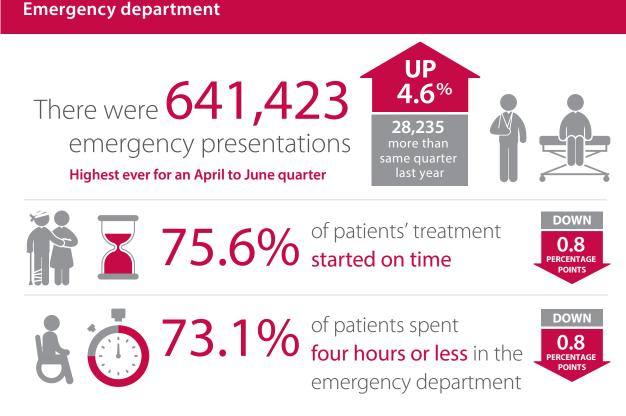
*Healthcare Quarterly* reports present data at the point in time when data become available to BHI. Changes in data coverage and analytic methods from quarter to quarter mean that figures published in this document are superseded by subsequent reports. At any time, the most up-to-date data are available 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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# In the April to June 2017 quarter...



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

Emergency depart	ment activity	April to June 2017	April to June 2016	Difference	% change
All arrivals at NSW El	Os by ambulance	146,483	140,338	6,145	4.4%
All ED presentations		663,942	637,207	26,735	4.2%
Emergency preser	ntations	641,423	613,188	28,235	4.6%
Emergency preser	ntations by triage category				
	T1: Resuscitation	4,329	4,472	-143	-3.2%
	T2: Emergency	82,220	76,454	5,766	7.5%
Triage category	T3: Urgent	223,431	212,449	10,982	5.2%
	T4: Semi-urgent	265,688	257,261	8,427	3.3%
	T5: Non-urgent	65,755	62,552	3,203	5.1%
Admissions to hospit	al from NSW EDs	192,903	184,596	8,307	4.5%

Emergency departn	nent performance		April to June 2017	April to June 2016	Difference
Percentage of patient	s whose care was transferred	within 30 minutes	91.8%	91.2%	+0.6 percentage points
	T2: Emergency	Median	8 mins	8 mins	0 mins
Time to treatment by triage category	12. Littergency	90th percentile	26 mins	24 mins	2 mins
	Toulirgont	Median	20 mins	20 mins	0 mins
	T3: Urgent	90th percentile	67 mins	64 mins	3 mins
	T4: Semi-urgent	Median	25 mins	25 mins	0 mins
		90th percentile	99 mins	94 mins	5 mins
	T5: Non-urgent	Median	23 mins	23 mins	0 mins
		90th percentile	101 mins	98 mins	3 mins
	All patients		75.6%	76.4%	-0.8 percentage points
Percentage of	T2: Emergency		66.5%	67.3%	-0.8 percentage points
patients whose treatment started	T3: Urgent		70.8%	71.3%	-0.5 percentage points
on time	T4: Semi-urgent		78.7%	79.7%	-0.1 percentage points
	T5: Non-urgent		93.6%	93.7%	-0.1 percentage points
Median time spent in	the ED		2h 46m	2h 42m	4 mins
90th percentile time s	pent in the ED		7h 5m	7h 2m	3 mins
Patients who spent for	our hours or less in the ED		73.1%	73.9%	-0.8 percentage points

# Emergency department activity and performance

### Emergency department presentations

During the April to June 2017 quarter, a total of 663,942 people presented to a NSW public hospital emergency department (ED), an increase of 4.2% compared with the same quarter last year. Most presentations were classified as 'emergency' (641,423 patients or 96.6%) (Figure 1). The remaining 22,519 patients presented to ED for non-emergency reasons such as a planned return visit.

This quarter, the number of patients triaged to the most urgent categories was higher than in the same quarter last year. The largest absolute increase was in triage category 3 (10,982 more patients; up 5.2%). The number of presentations in triage category 1 decreased (143 fewer patients; down 3.2%) (Figure 1).

Over a five-year period, the number of patients who presented to an ED in the April to June quarter increased for triage categories 1–4 while the number in the least urgent category 5 decreased (down 2.3%) (Figure 2).

The number of ED patient presentations was higher this quarter than in the same quarter last year for 63 out of 75 NSW hospital EDs. Of these, 30 had an increase of more than 5%, including eight that had an increase of more than 10%. Conversely, 12 hospitals had a decrease in the number of ED patient presentations this quarter, including five that had a decrease of more than 5%.

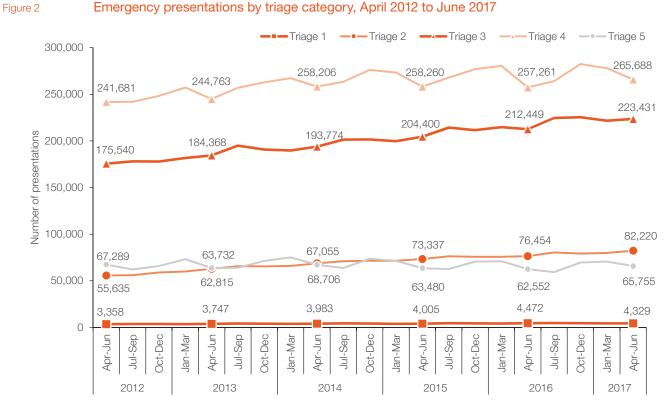
Hospitals identified in Figure 3 had more than 5,000 ED presentations this quarter and more than a 5% change in the number of presentations compared with the same quarter last year.

This quarter, there were 146,483 ED patients who arrived by ambulance, an increase of 4.4% compared with the same quarter last year (Figure 1).

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

#### Figure 1 Emergency department presentations and ambulance arrivals, April to June 2017

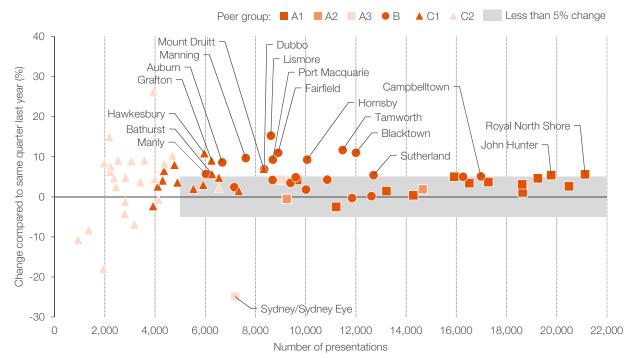
		This quarter	Same quarter last year	Change since one year ago
All ED presentations		663,942	637,207	4.2%
Emergency presentations by	triage category	641,423	613,188	4.6%
Triage 1: Resuscitation	0.7%	4,329	4,472	-3.2%
Triage 2: Emergency	12.8%	82,220	76,454	7.5%
Triage 3: Urgent	34.8%	223,431	212,449	5.2%
Triage 4: Semi-urgent	41.4%	265,688	257,261	3.3%
Triage 5: Non-urgent	10.3%	65,755	62,552	5.1%
Ambulance arrivals		146,483	140,338	4.4%



#### Emergency presentations by triage category, April 2012 to June 2017



#### Change in number of emergency department presentations compared with the same quarter last year, hospitals by peer group, April to June 2017



Note: In November 2015, Sydney and Sydney Eye Hospitals merged. This affected the number of ED presentations due to change in admission pathway.

### Time to treatment

On 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 maximum 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).

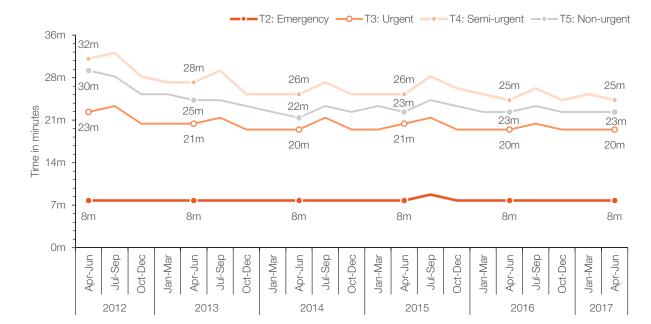
In the April to June 2017 quarter, the median time from arriving at the ED to starting treatment was unchanged from the same quarter last year for all triage categories. The 90th percentile time was higher for all triage categories (Figure 4).

Between 2012 and 2017, the median time to treatment for April to June quarters decreased for triage categories 3, 4 and 5 while for triage category 2, the median time remained unchanged (Figure 5).

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

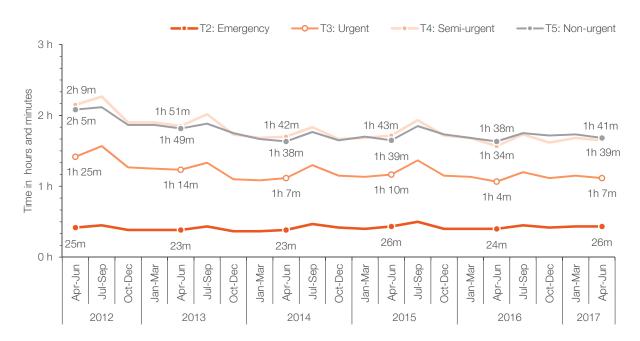
#### Figure 4 Time from presentation to starting treatment, by triage category, April to June 2017

	This	Same quarter	0
	quarter	last year	one year ago
Triage 2 Emergency (e.g. chest pain, severe burns): 81,230 patients			
Median time to start treatment	8m	8m	0m
90th percentile time to start treatment	26m	24m	2m
Triage 3 Urgent (e.g. moderate blood loss, dehydration): 218,197 patients			
Median time to start treatment	20m	20m	Om
90th percentile time to start treatment	1h 7m	1h 4m	3m
Triage 4 Semi-urgent (e.g. sprained ankle, earache): 247,682 patients			
Median time to start treatment	25m	25m	Om
90th percentile time to start treatment	1h 39m	1h 34m	5m
Triage 5 Non-urgent (e.g. small cuts or abrasions): 56,731 patients			
Median time to start treatment	23m	23m	Om
90th percentile time to start treatment	1h 41m	1h 38m	3m



#### Figure 5 Median time from presentation to starting treatment, by triage category, April 2012 to June 2017

#### Figure 6 90th percentile time from presentation to starting treatment, by triage category, April 2012 to June 2017



# Percentage of patients whose treatment started on time

During the April to June 2017 quarter, 75.6% of ED patients' treatment started within clinically recommended timeframes; a decrease of 0.8 percentage points compared with the same quarter last year.

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

Over the past five years, the percentage of patients whose treatment started on time increased across most triage categories, but decreased for triage category 2. Compared with the same quarter in 2012, the largest increases were seen in triage categories 3 and 4 (7.0 and 7.5 percentage points, respectively) (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 an increase or a decrease of more than five percentage points compared with the same quarter last year.

The percentage of patients whose treatment started on time was higher this quarter for 35 out of 75 hospitals. For 10 hospitals, the increase was more than five percentage points and of these, two hospitals achieved an increase of more than 10 percentage points.

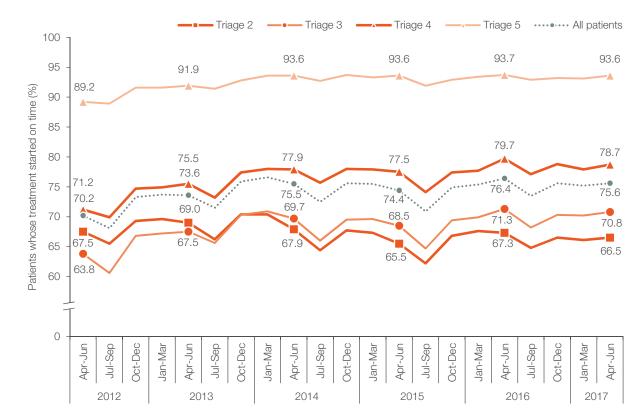
The percentage of patients whose treatment started on time was lower this quarter in 39 hospitals. For 12 hospitals, the decrease was more than five percentage points. Of these, for four hospitals, the decrease was more than 10 percentage points (Figure 9).

Due to differences in data definitions, Healthcare Quarterly results for the percentage of patients whose treatement 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, April to June 2017

		This quarter		Percentage point change since one year ago
All emergency presentations		75.6%	76.4%	-0.8
Triage category 2	Recommended: 80% in 10 minutes	66.5%	67.3%	-0.8
Triage category 3	Recommended: 75% in 30 minutes	70.8%	71.3%	-0.5
Triage category 4	Recommended: 70% in 60 minutes	78.7%	79.7%	-1.0
Triage category 5	Recommended: 70% in 120 minutes	93.6%	93.7%	-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.

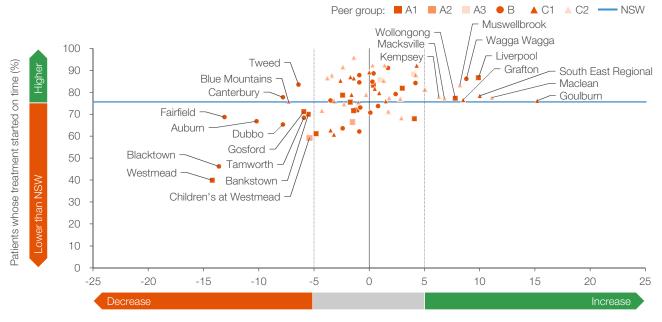


#### Percentage of patients whose treatment started on time, by triage category, April 2012 to June 2017

Figure 9

Figure 8

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



Change compared to same quarter last year (percentage points)

# 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 April to June 2017 quarter, 62.1% of patients were treated and discharged from the ED (412,401 in total; up 3.6% compared with the same quarter last year), and 29.1% of patients were treated and admitted to hospital (192,903 in total; up 4.5%).

The number of patients transferred to another hospital was higher at 4.1% (14,009 in total) and the number who left without, or before completing,

Figure 11

treatment was also higher at 5.5% (31,019 in total), compared with the same quarter last year (Figure 10).

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

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

#### Figure 10 Patients who presented to the emergency department, by mode of separation, April to June 2017

		This quarter	Same quarter last year	Change since one year ago
Treated and discharged	62.1%	412,401	398,093	3.6%
Treated and admitted to hospital	29.1%	192,903	184,596	4.5%
Left without, or before completing, treatment	4.7%	31,019	29,388	5.5%
Transferred to another hospital	2.1%	14,009	13,455	4.1%
Other	2.0%	13,610	11,675	16.6%

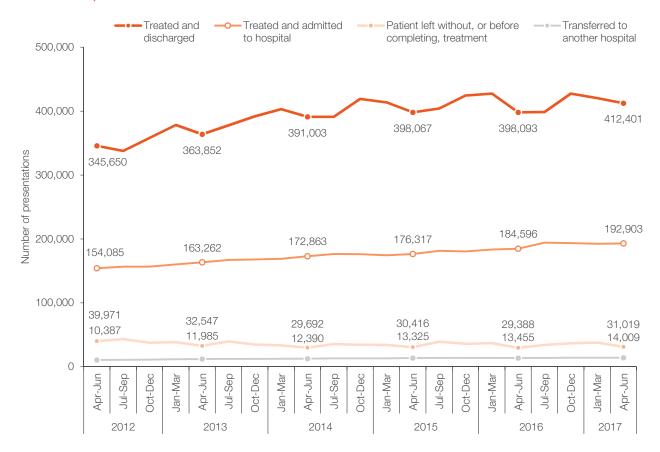
#### Percentage of patients who were treated and admitted, by triage category, April to June 2017

		This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	29.1%		29.0%	0.1
Triage 1		83.2%	82.2%	1.0
Triage 2	59.3%		59.8%	-0.5
Triage 3	40.9%		41.3%	-0.4
Triage 4	16.2%		16.2%	0.0
Triage 5	5.2%		5.1%	0.1

#### Figure 12 Percentage of patients who were treated and discharged, by triage category, April to June 2017

			This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations		62.2%		62.5%	-0.3
Triage 1	7.2%			7.6%	-0.4
Triage 2		33.4%		33.3%	0.1
Triage 3		52.2%		52.0%	0.2
Triage 4			74.4%	75.0%	-0.6
Triage 5			81.4%	81.3%	0.1

#### Figure 13 Patients who presented to the emergency department, by mode of separation, April 2012 to June 2017



# Median time patients spent in the emergency department

During the April to June 2017 quarter, the median time patients spent in the ED was two hours and 46 minutes, up four minutes compared with the same quarter last year. The 90th percentile time patients spent in the ED was seven hours and five minutes (up three minutes) (Figure 14).

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

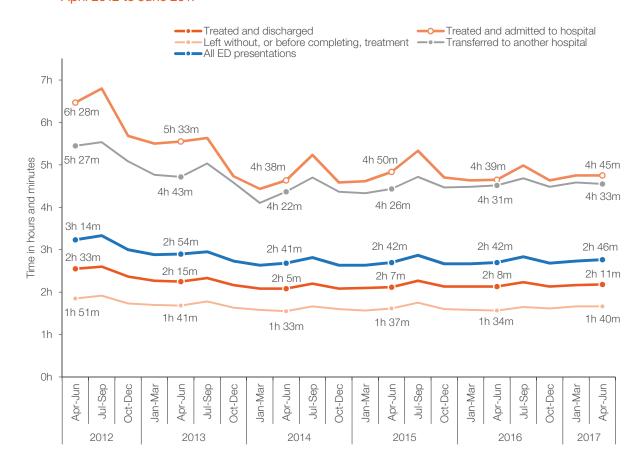
Despite a 18.5% increase in the overall number of presentations during the April to June quarters since 2012, the median time patients spent in the ED decreased from three hours and 14 minutes in 2012 to two hours and 46 minutes this quarter.

#### Figure 14 Time patients spent in the emergency department, April to June 2017

	This quarter	Same quarter last year	Change since one year ago
Median time spent in the ED	2h 46m	2h 42m	4m
90th percentile time spent in the ED	7h 5m	7h 2m	3m

\* 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 downward trend over the past five years in the median time patients spent in the ED across all modes of separation. For patients who were treated and admitted to hospital, the median time spent in the ED was four hours and 45 minutes this quarter, compared with six hours and 28 minutes in April to June 2012.



Median time patients spent in the emergency department, by mode of separation,

#### April 2012 to June 2017

Figure 15

## Percentage of patient stays of four hours or less

In the April to June 2017 quarter, 73.1% of patients spent four hours or less in the ED, a decrease of 0.8 percentage points compared with the same quarter last year (Figures 16 and 17).

Patients who require admission to hospital from the ED usually have more complex health needs than those who are treated and discharged, and therefore often spend longer periods in the ED.

Among patients who were treated and discharged this quarter, 86.3% spent four hours or less in the ED. Among patients who were treated and subsequently admitted to hospital, and those who were transferred to another hospital, less than half spent four hours or less in the ED. Of those who left without, or before completing, treatment, 90.8% spent four hours or less in the ED (Figure 16). Figure 18 maps hospital results this quarter compared with the same quarter last year. Hospitals labelled are those that had a change of more than five percentage points in the proportion of patients who spent four hours or less in the ED, compared to the same quarter last year.

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

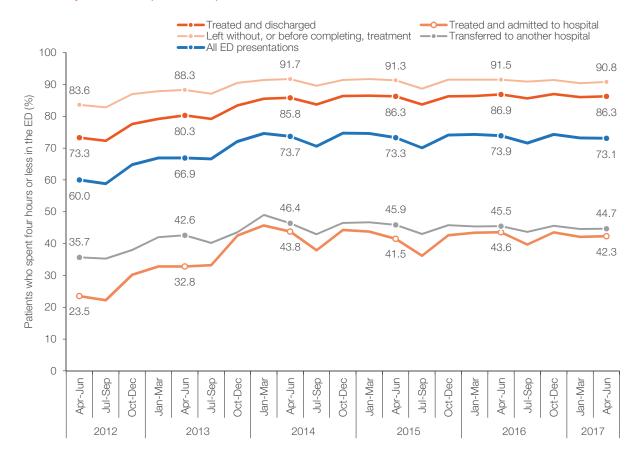
#### Figure 16

#### Percentage of patients who spent four hours or less in the emergency department, by mode of separation, April to June 2017

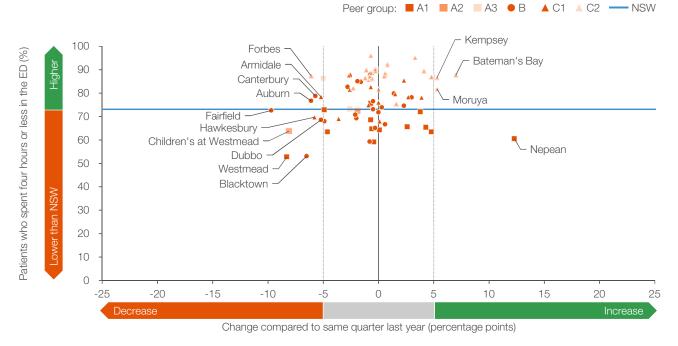
	Number	This quarter	Same quarter last year	Percentage point change since one year ago
All ED presentations	485,226	73.1%	73.9%	-0.8
Treated and discharged	356,097	86.3%	86.9%	-0.6
Treated and admitted	81,627	42.3%	43.6%	-1.3
Left without, or before completing, treatment	28,134	90.8%	91.5%	-0.7
Transferred to another hospital	6,263	44.7%	45.5%	-0.8



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



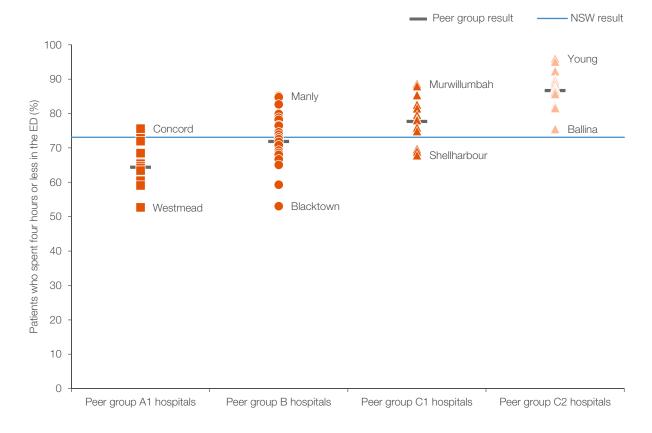
\* Comparisons should be made with caution – South East Regional Hospital replaced Bega District Hospital, which provided different services

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

There is considerable variation between and within hospital peer groups in the percentage of patients who spent four hours or less in the ED. Peer group C2 hospitals have a higher percentage of patients who spent four hours or less in the ED compared with other peer group hospitals. Peer group A1 hospitals have a smaller percentage of patients who spent four hours or less in the ED (Figure 19). Compared with the same quarter last year, the percentage of patients who spent four hours or less in the ED decreased in peer groups B and C1, and increased for peer groups A and C2 (Figure 20).

#### Figure 19

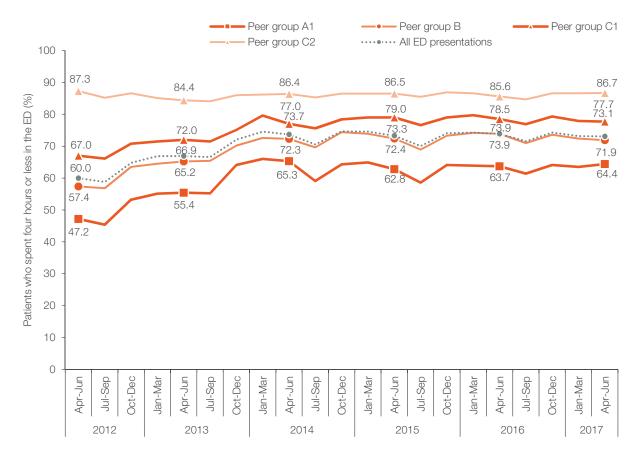




Over the past five years, there has been an increase in the percentage of patients who spent four hours or less in the ED across most hospital peer groups. The only exception is peer group C2 (down 0.6 percentage points compared with the same quarter in 2012) (Figure 20).

Figure 20

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



# Transfer of care from the ambulance to the emergency department

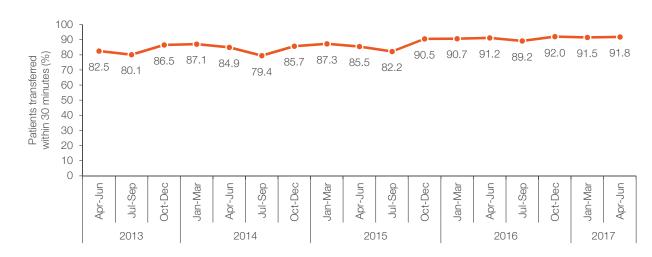
During the April to June 2017 quarter, a total of 146,483 patients arrived at NSW EDs by ambulance (up 4.4% compared with the same quarter last year). This quarter, 133,345 patient records (matched between ambulance service and ED records) were used to calculate transfer of care time (Figure 21).

The median and 90th percentile transfer of care times from ambulance paramedics to ED staff were unchanged and one minute shorter this quarter compared with the same quarter last year (11 minutes and 26 minutes, respectively) (Figure 21). In NSW, transfer of care from ambulance to ED staff, should have occurred within 30 minutes for 90% of patients. This quarter, 91.8% of patients who arrived by ambulance had their care transferred within 30 minutes; 0.6 percentage points higher than in the same quarter last year (Figure 22).

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

#### Figure 21 Emergency department transfer of care time, April to June 2017

	This quarter	Same quarter last year	Change since one year ago
Emergency presentations	641,423	613,188	4.6%
Ambulance arrivals	133,345	125,656	6.1%
ED transfer of care time			
Median time	11m	11m	0m
90th percentile time	26m	27m	-1m

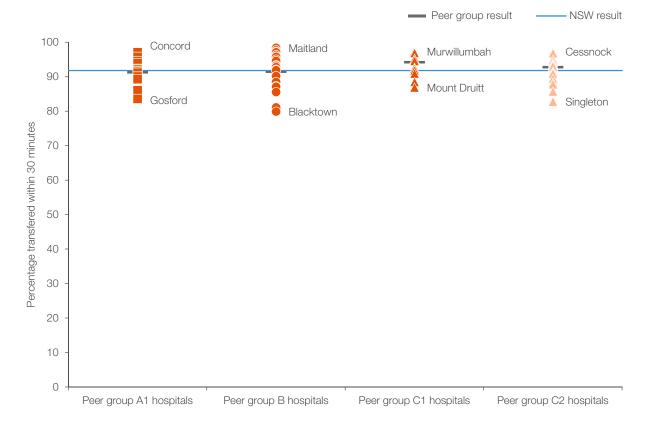




#### Figure 23

Figure 22

# Percentage of ambulance arrivals whose care was transferred within 30 minutes, by peer group, April to June 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** 



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



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

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



### About the Bureau of Health Information

The Bureau of Health Information (BHI) is a boardgoverned 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.

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