Healthcare Quarterly

Supplementary results

Emergency department, ambulance, admitted patients and elective surgery

October to December 2018

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.

Published March 2019

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Changes in data coverage and analytic methods from quarter to quarter mean that figures published in this document are superseded by subsequent reports.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 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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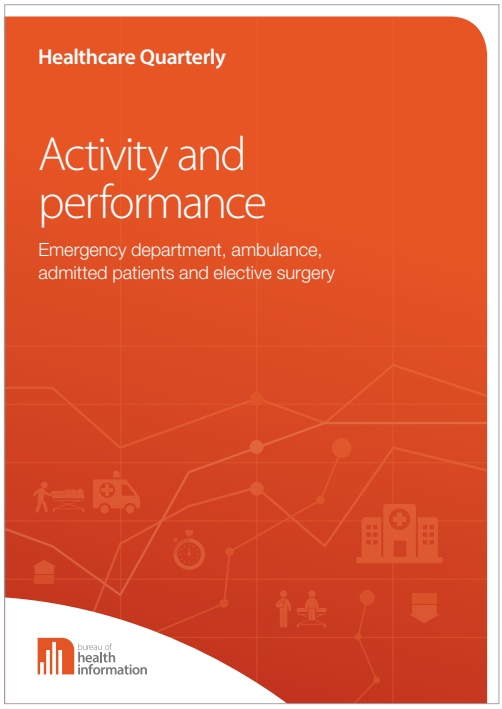
Full results for *Healthcare Quarterly* are available through BHI's interactive data portal, Healthcare Observer. Results are reported at a state, local health district, hospital peer group and individual hospital level for public hospitals and at a state and zone level for ambulance services.

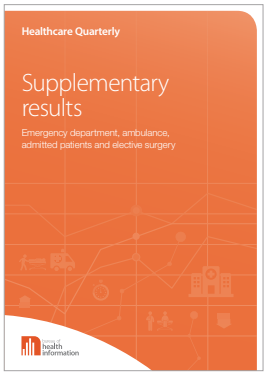
Please visit Healthcare Observer at **bhi.nsw.gov.au/Healthcare_Observer**

A guide to Healthcare Quarterly

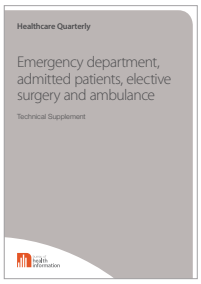
Healthcare Quarterly reports on activity and performance in public hospitals and ambulance zones across NSW.

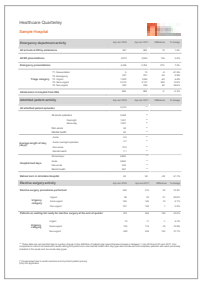


This *Healthcare Quarterly* shows how public hospitals and ambulance services performed in the October to December 2018 quarter. The key measures focus on the timeliness of services delivered to people across NSW.

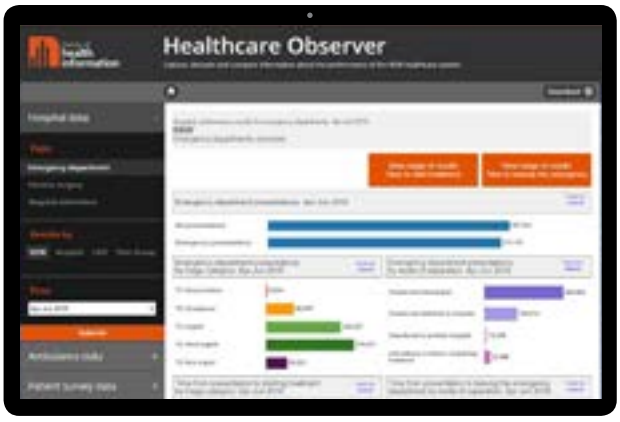


The *Supplementary results* provide additional findings to the *Healthcare Quarterly* report for emergency departments, ambulance services, admitted patients and elective surgeries.





The *Technical Supplement* and *Spotlight on Measurement* explain how performance and activity were measured. 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**

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

Emergency department activity and performance

Emergency presentations

Five-year trends in emergency department (ED) activity show how demands on the system have changed over time. The number of ED presentations can be influenced by factors such as outbreaks of disease, weather events and population growth. Seasonal variation can also play a role when demand for services changes predictably through the year.

Presenting ED activity by triage category provides information on changes in the type of demand. Fluctuations in the number of presentations in resource intensive categories (triage 1 to 3) may have more repercussions on timeliness of care than variation in less urgent categories (triage 4 and 5).

At the bottom of all ED trend graphs, there are bar charts showing changes in the number of hospitals included in this report over time. This can influence the NSW trends in ED activity. Further information on hospital inclusions is available in the *Technical Supplement*.

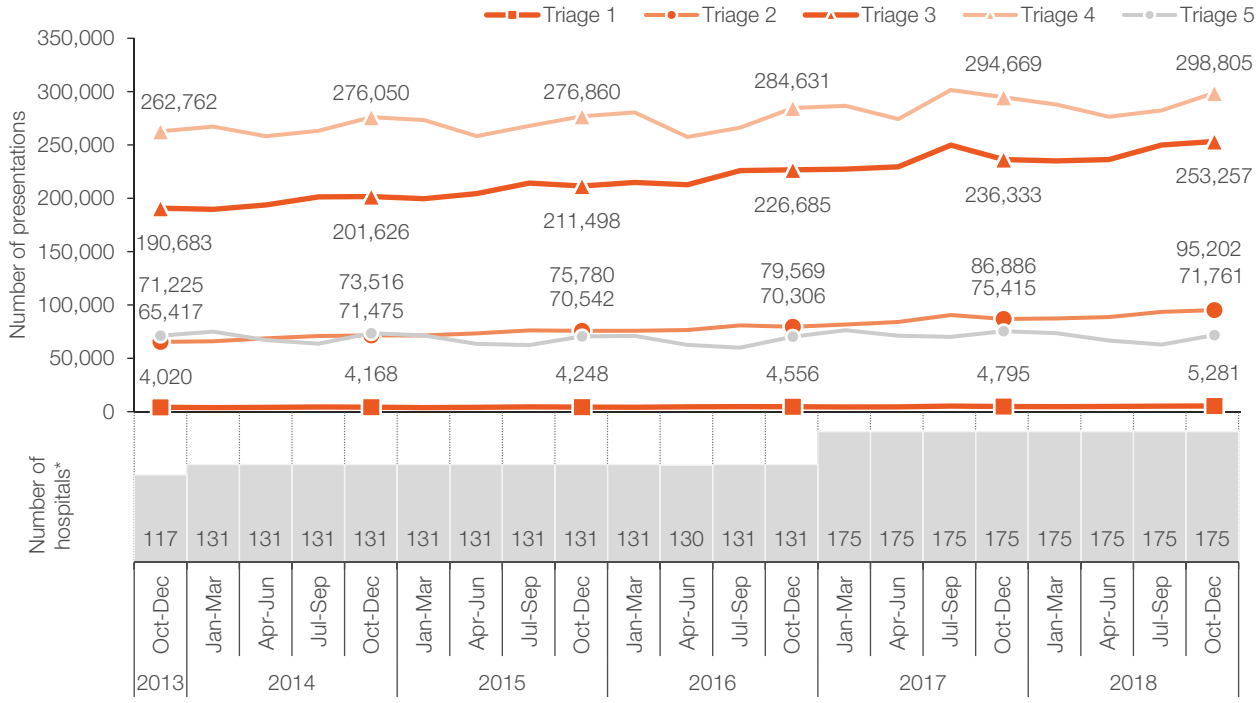
Changes to Northern Sydney LHD

On 30 October 2018, services at Manly and Mona Vale hospitals were transferred to Northern Beaches Hospital. BHI has not reported on the timeliness of care provided in the emergency department (ED) for Northern Beaches Hospital, nor for Northern Sydney LHD, for October to December 2018 because of challenges experienced in the implementation of a new information system at Northern Beaches ED following its opening. *Healthcare Quarterly* only includes data relating to publicly contracted services at Northern Beaches Hospital. Emergency department results from Northern Beaches, Manly and Mona Vale hospitals contribute to NSW and peer group B totals throughout this report and associated information products.

BHI cautions against comparing results for Northern Beaches, Manly and Mona Vale hospitals against other hospitals because their results do not cover the full October to December 2018 reporting period.

Emergency care continues to be provided at Mona Vale Hospital through its Urgent Care Centre after 30 October. BHI does not report on Urgent Care Centres.

Figure 1 Emergency presentations by triage category, October 2013 to December 2018

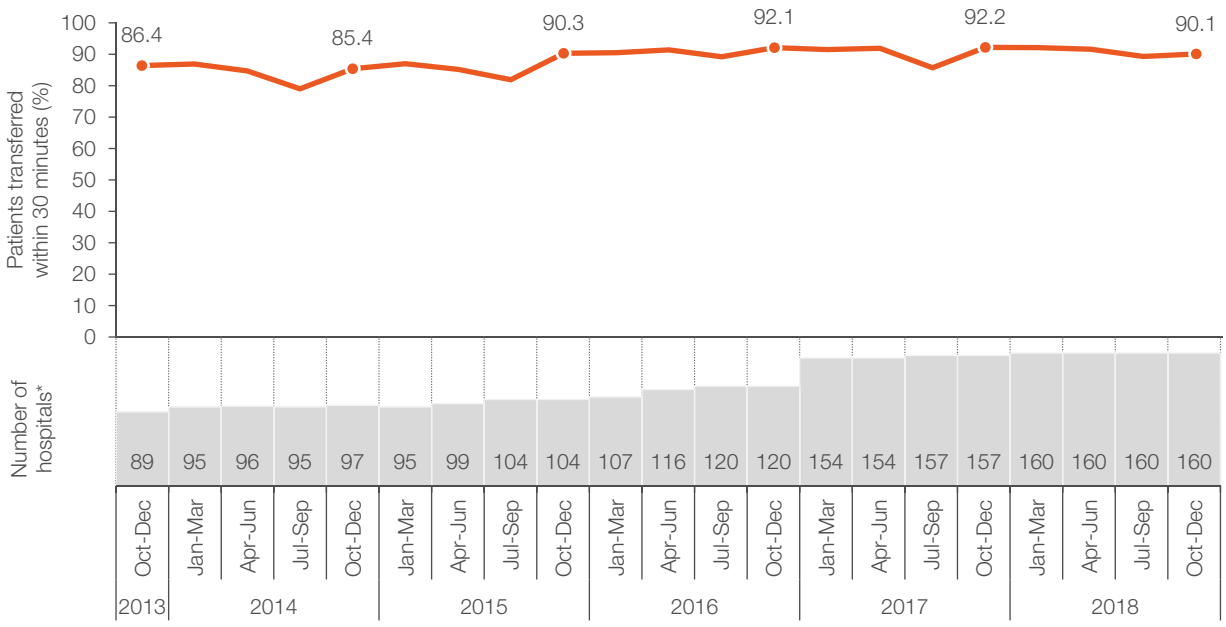


* See Technical Supplement for information on hospital inclusions.

Transfer of care from the ambulance to the emergency department

When an ambulance arrives at an ED, care for the patient is transferred from the paramedics to the ED staff. Transfer of care time is the difference between ambulance arrival time at the hospital and the time responsibility for patients' care was transferred to the ED staff. In NSW, the target time for transfer of care from paramedics to ED staff is 30 minutes for at least 90% of patients.

Figure 2 Percentage of ambulance arrivals with transfer of care time within 30 minutes, October 2013 to December 2018



* See Technical Supplement for information on hospital inclusions.

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)

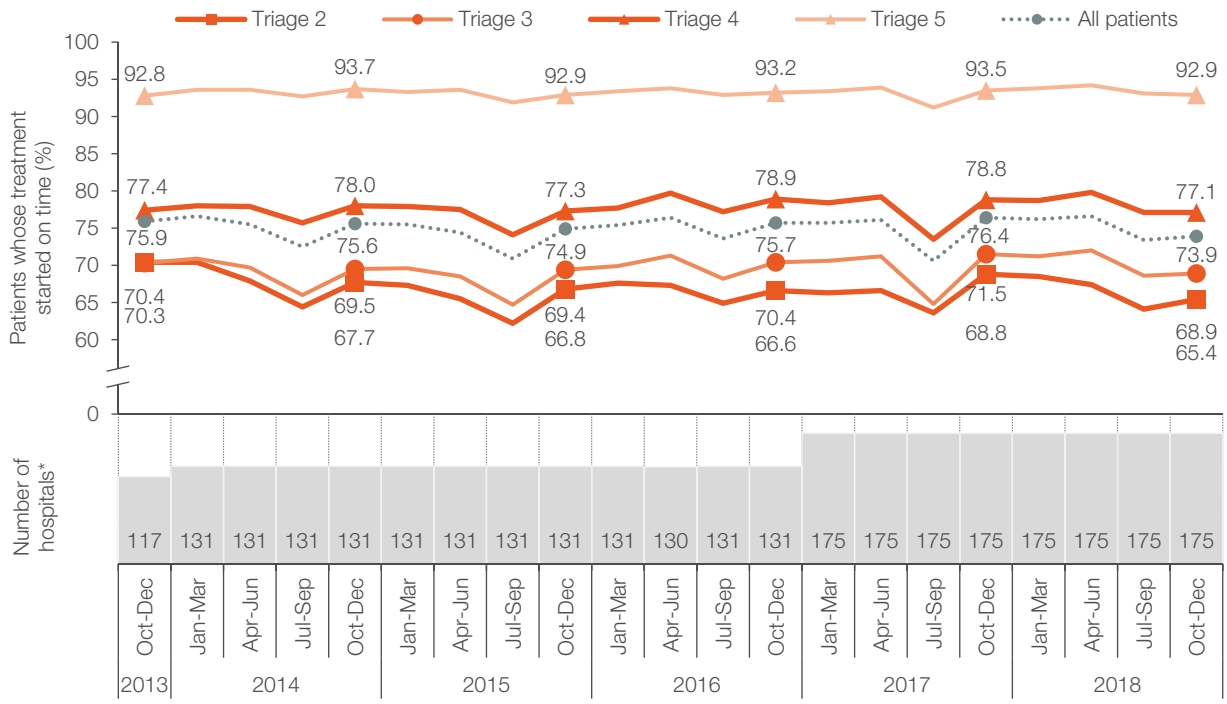
Time to treatment refers to the time between a patient's arrival at the ED and when their treatment began. It is calculated for triage categories 2 to 5. Time to treatment is not shown for the most urgent patients (triage 1) because clinicians are focused on providing immediate and essential care, rather than recording times.

Due to differences in data definitions, *Healthcare Quarterly* results for the percentage of patients whose treatment started on time are not directly comparable with figures reported by other jurisdictions. For more information refer to the Technical Supplements section of the BHI website at **bhi.nsw.gov.au**.

The median time patients waited for treatment refers to the time from arrival at the ED in which half of patients began treatment. The waiting time for the other half of patients was either equal to this time or longer.

The 90th percentile time gives a sense of the longest waiting times for treatment. It is the time from arrival by which 90% of patients received treatment. The waiting time for the remaining 10% of patients was equal to this time or longer.

Figure 3 Percentage of patients whose treatment started on time, by triage category, October 2013 to December 2018



* See Technical Supplement for information on hospital inclusions.

Time to treatment (continued)

Figure 4 **Median time from presentation to starting treatment, by triage category, October 2013 to December 2018**

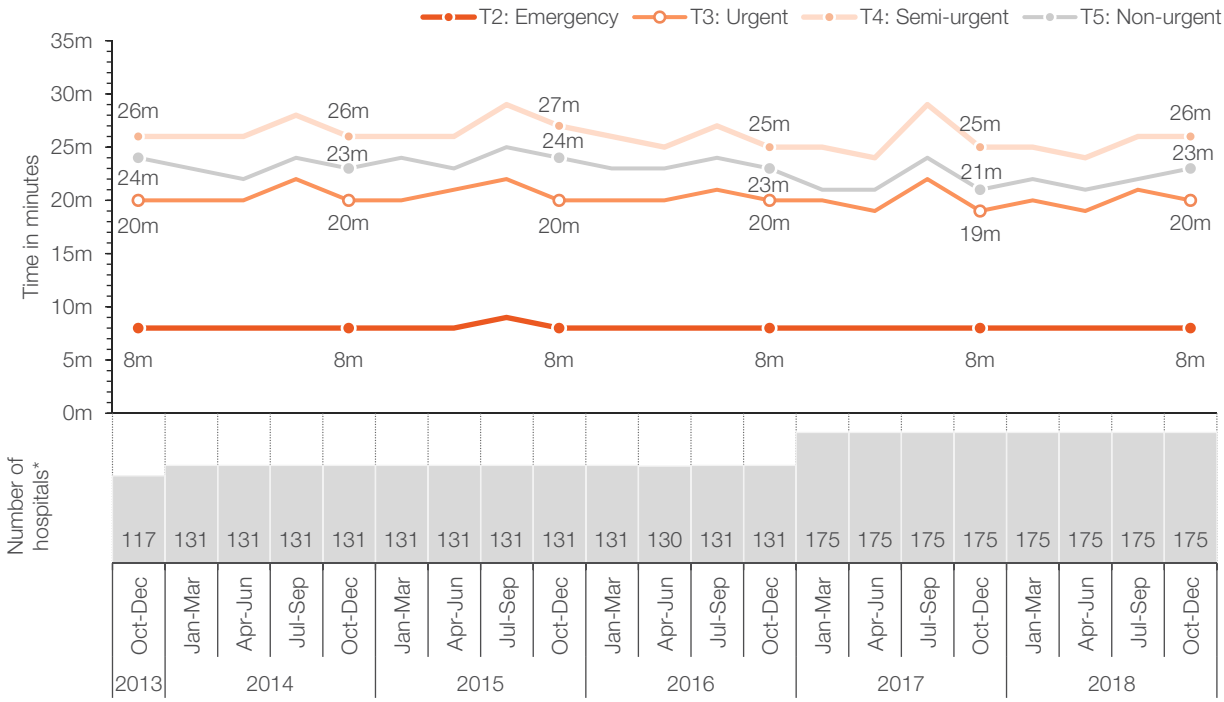
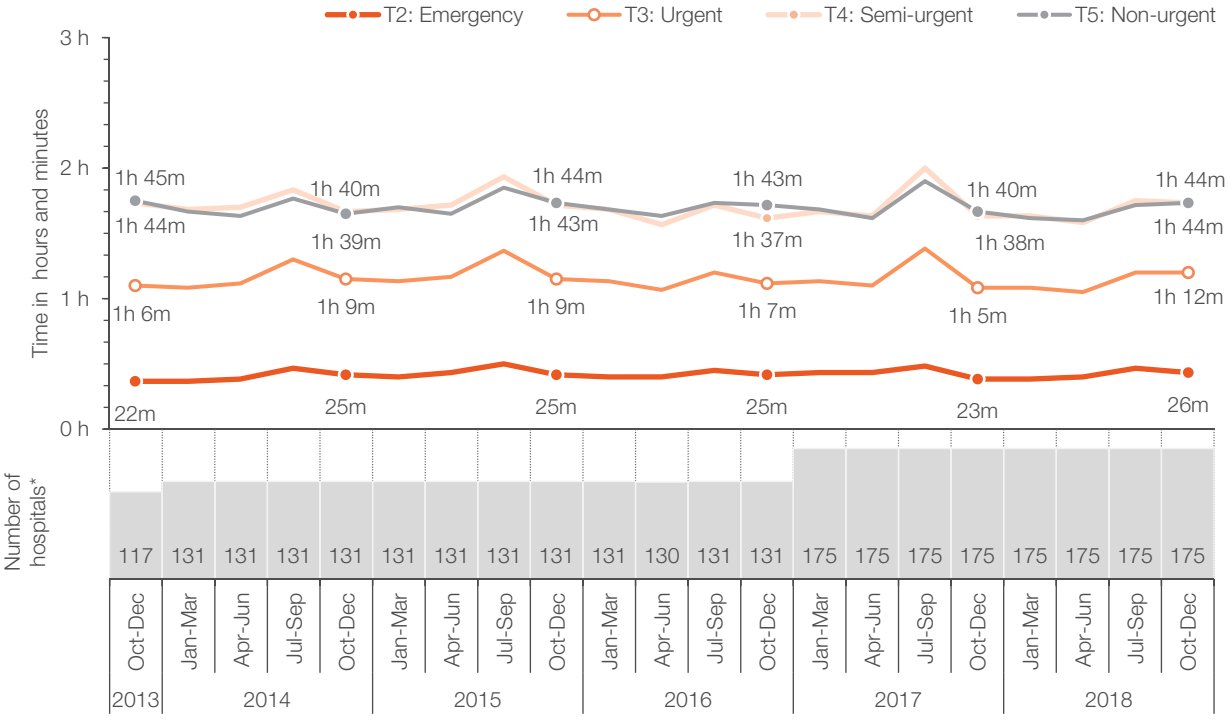


Figure 5 **90th percentile time from presentation to starting treatment, by triage category, October 2013 to December 2018**



* See Technical Supplement for information on hospital inclusions.

After leaving 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'.

There is a correlation between certain modes of separation and triage categories. Patients who are admitted to hospital from the ED are more likely to be classified in the higher urgency categories. Conversely, patients who are treated and discharged tend to be classified in lower urgency categories.

Similar to ED activity levels by triage categories, classifying by mode of separation also provides information on changes over time in the type of demand on ED resources.

Certain modes of separation, such as being treated and admitted to hospital or being transferred to another hospital, depend on services outside of the ED. This could mean waiting for hospital beds to become available or waiting for an ambulance pick-up.

Figure 6 Percentage of patients who presented to the emergency department, by mode of separation, October to December 2018

		This quarter	Same quarter last year	Change since one year ago
Treated and discharged	64.2%	481,310	472,998	1.8%
Treated and admitted to hospital	25.6%	192,128	182,996	5.0%
Left without, or before completing, treatment	6.0%	44,937	38,395	17.0%
Transferred to another hospital	2.2%	16,296	15,951	2.2%
Other	2.0%	14,833	14,358	3.3%

Figure 7 Percentage of patients who were treated and admitted, by triage category, October to December 2018

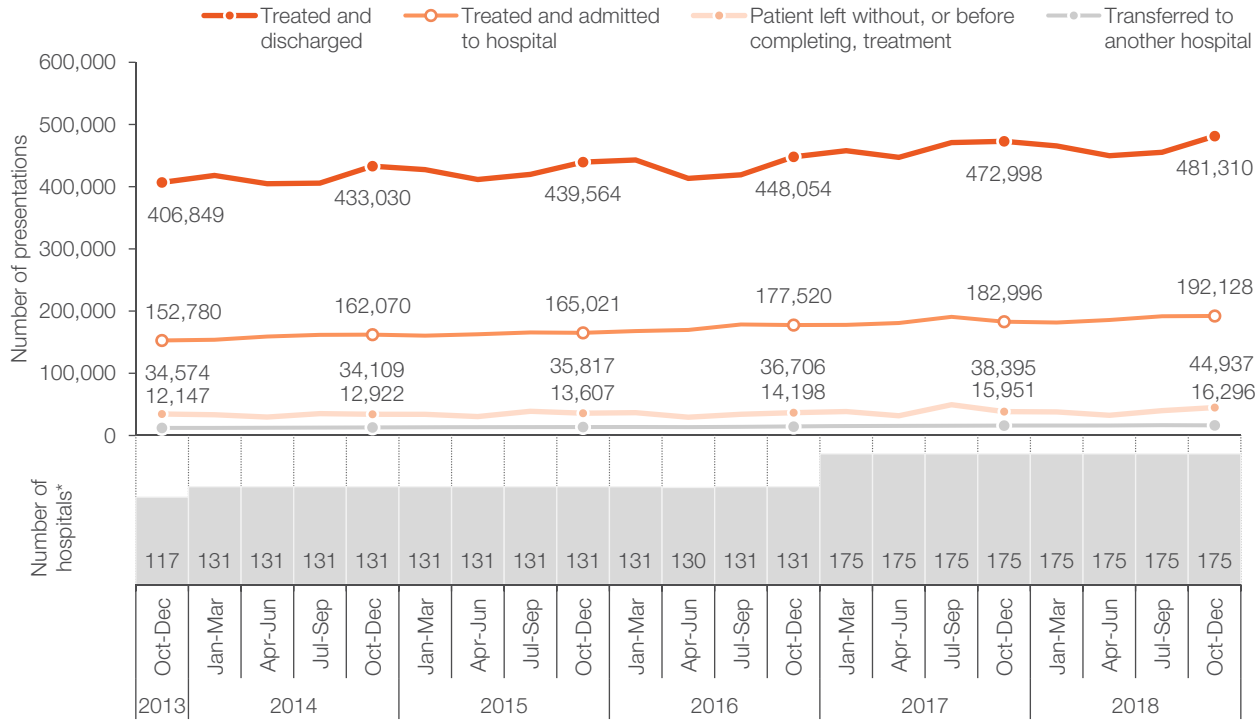
	This quarter	Same quarter last year	Percentage point change since one year ago
All emergency presentations	25.7%	25.3%	0.4
Triage 1	75.4%	75.6%	-0.2
Triage 2	51.4%	52.1%	-0.7
Triage 3	36.0%	36.4%	-0.4
Triage 4	14.1%	14.3%	-0.2
Triage 5	4.7%	4.5%	0.2

After leaving the emergency department (continued)

Figure 8 **Percentage of patients who were treated and discharged, by triage category, October to December 2018**

	This quarter	Same quarter last year	Percentage point change since one year ago
All emergency presentations	64.3%	65.3%	-1.0
Triage 1	12.3%	12.2%	0.1
Triage 2	40.0%	39.8%	0.2
Triage 3	55.9%	56.1%	-0.2
Triage 4	74.9%	75.8%	-0.9
Triage 5	81.2%	81.8%	-0.6

Figure 9 **Emergency presentations by mode of separation, October 2013 to December 2018**



* See Technical Supplement for information on hospital inclusions.

Median time patients spent in the emergency department

The median time patients spent in the ED refers to the time from arrival by which half of the patients had left the ED. The other half of patients spent equal to or longer than this time in the ED.

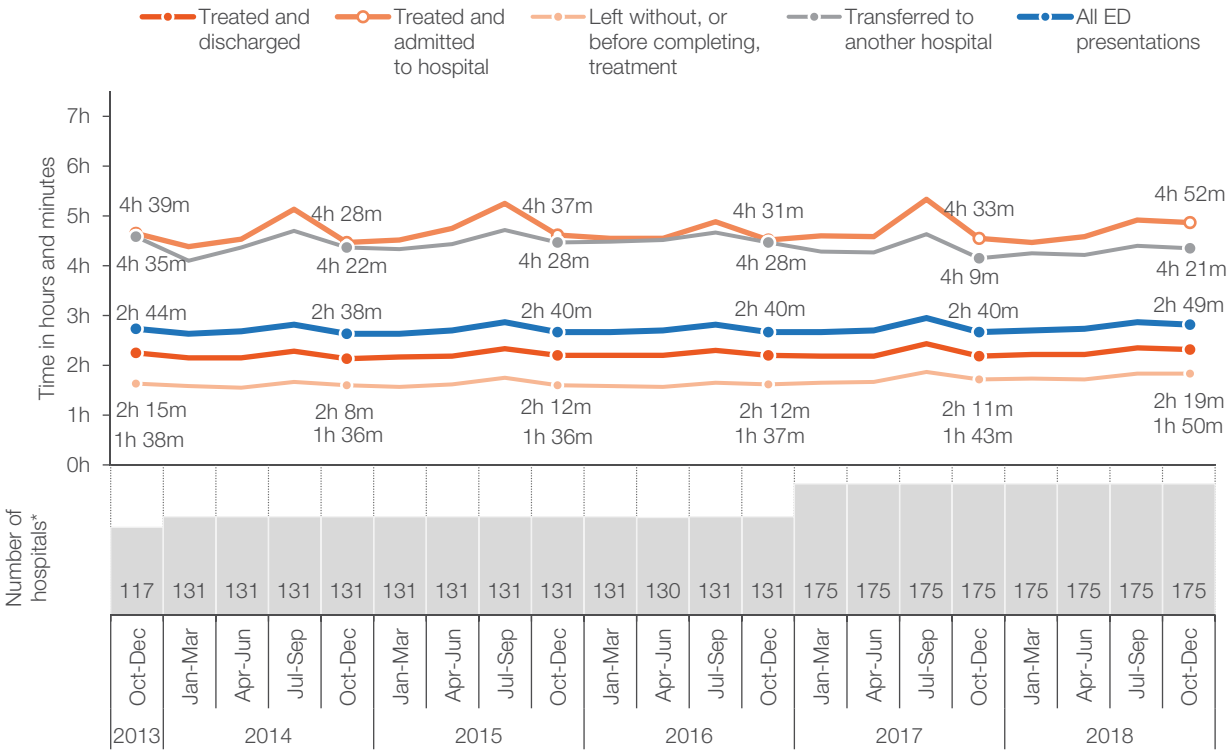
The 90th percentile time gives a sense of the longest times spent in the ED over the quarter. It is the time from presentation by which 90% of patients had left the ED. The 10% of patients spent either equal to longer than this time.

Figure 10 Time patients spent in the emergency department, October to December 2018

	This quarter	Same quarter last year	Change since one year ago
Median time spent in the ED	2h 49m	2h 40m	9m
90th percentile time spent in the ED	7h 19m	6h 50m	29m
Triage 2 Emergency (e.g. chest pain, severe burns):			
Median	3h 53m	3h 50m	3m
90th percentile	10h 36m	9h 39m	57m
Triage 3 Urgent (e.g. moderate blood loss, dehydration)			
Median	3h 33m	3h 26m	7m
90th percentile	8h 54m	8h 15m	39m
Triage 4 Semi-urgent (e.g. sprained ankle, earache)			
Median	2h 19m	2h 15m	4m
90th percentile	5h 43m	5h 30m	13m
Triage 5 Non-urgent (e.g. small cuts or abrasions)			
Median	1h 10m	1h 7m	3m
90th percentile	3h 33m	3h 27m	6m

Median time patients spent in the emergency department (continued)

Figure 11 **Median time patients spent in the emergency department, by mode of separation, October 2013 to December 2018**



* See Technical Supplement for information on hospital inclusions.

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

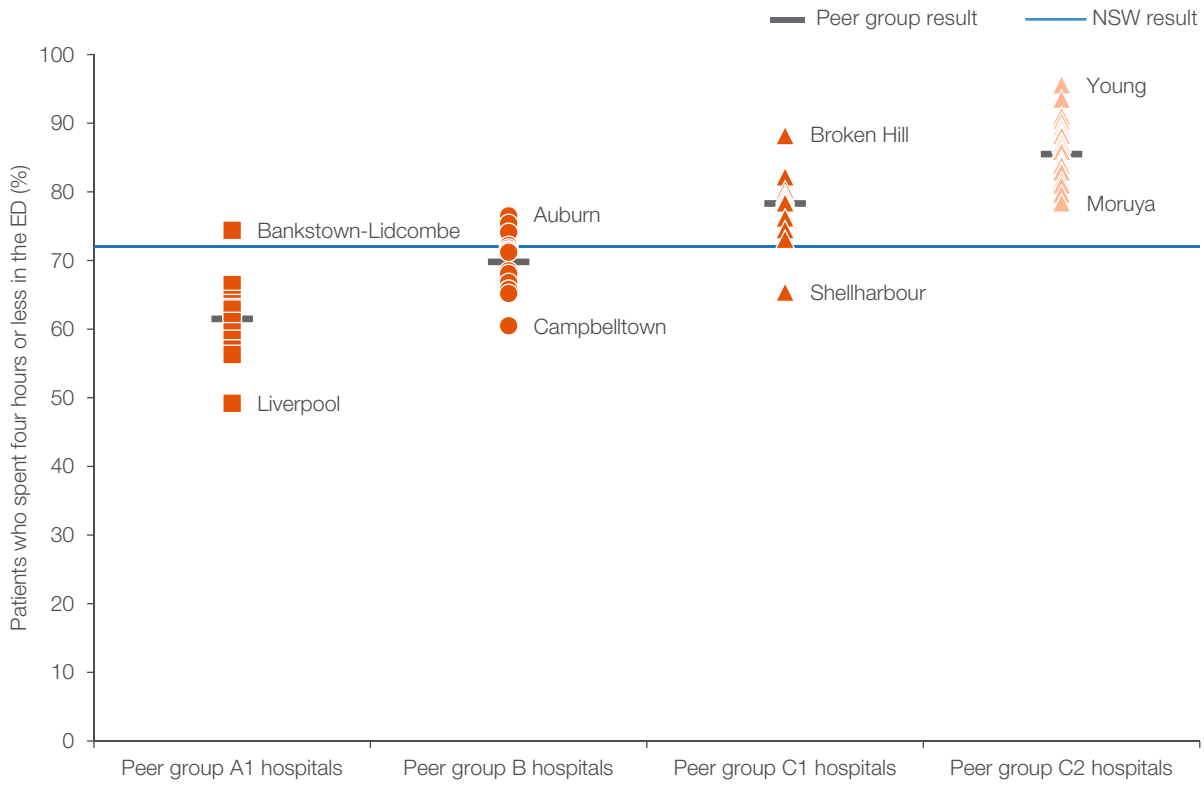
The total time patients spend in the ED is measured to gauge the efficiency of service delivery. In NSW, the benchmark for time to departure is four hours.

Analyses of how long patients spend in the ED are categorised by hospital peer group: principal referral (peer group A), major hospitals (peer group B) and district hospitals (peer group C). Presenting results in this way acknowledges the differences between hospitals in terms of their size and functions.

Patients who are treated and admitted to hospital from the ED or those who are transferred to another hospital tend to have more complex health needs, and therefore often spend longer periods in the ED.

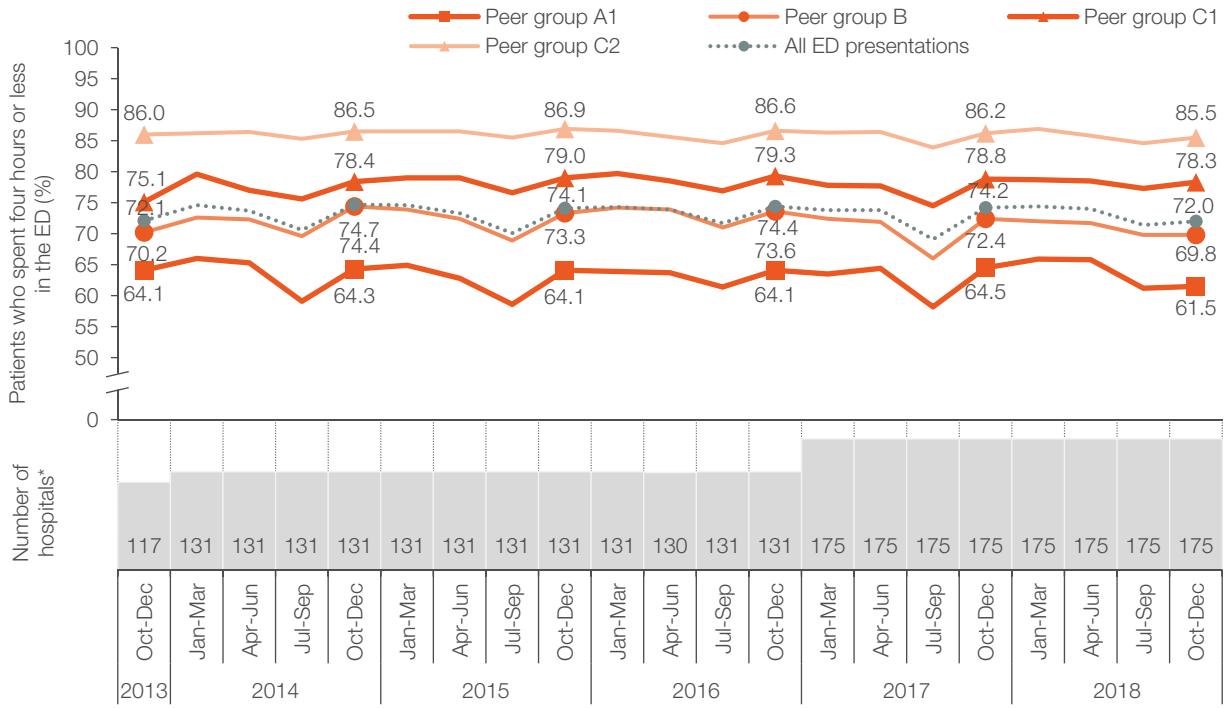
Due to differences in data definitions, period of reporting and the number of hospitals included, *Healthcare Quarterly* results for the percentage of patients who spent four hours or less in the ED are not directly comparable with figures reported by the NSW Ministry of Health or the Commonwealth. For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

Figure 12 Percentage of patients who spent four hours or less in the emergency department, by peer group, October to December 2018



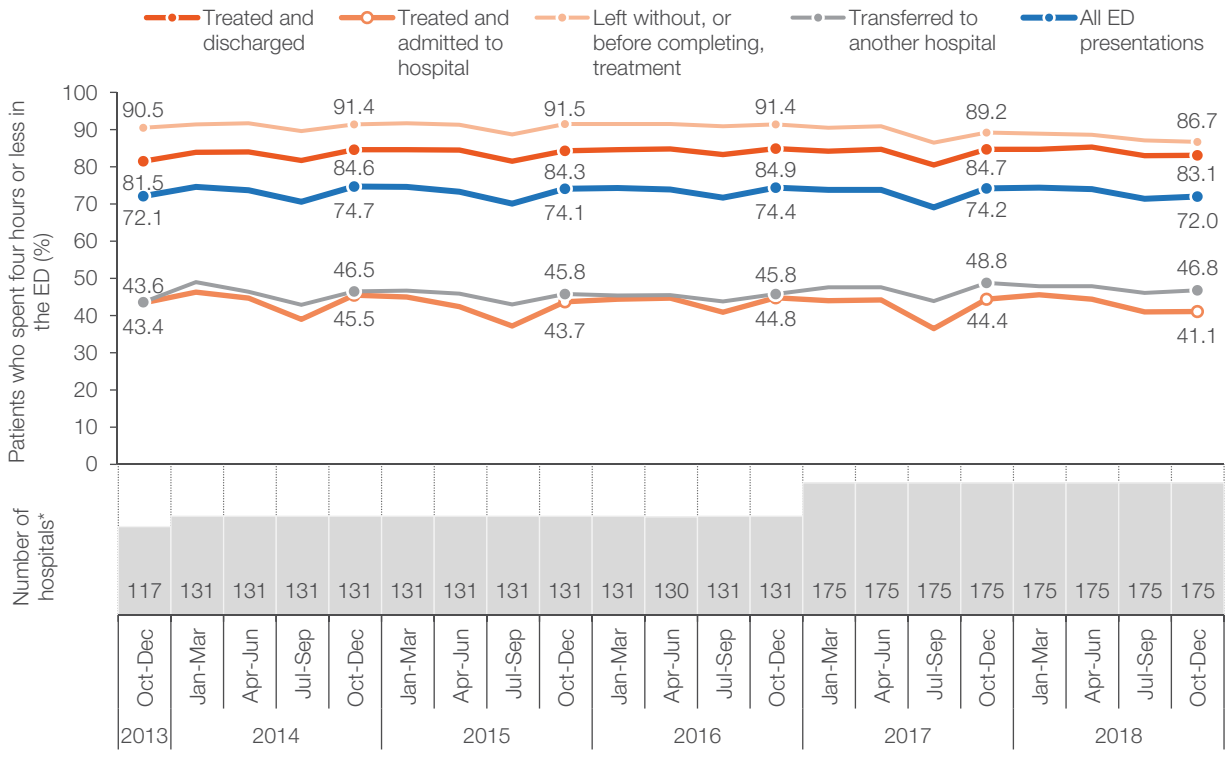
Percentage of patient stays of four hours or less – peer group variation (continued)

Figure 13 **Percentage of patients who spent four hours or less in the emergency department, by peer group, October 2013 to December 2018**



* See Technical Supplement for information on hospital inclusions.

Figure 14 **Percentage of patients who spent four hours or less in the emergency department, by mode of separation, October 2013 to December 2018**



* See Technical Supplement for information on hospital inclusions.

Ambulance activity and performance

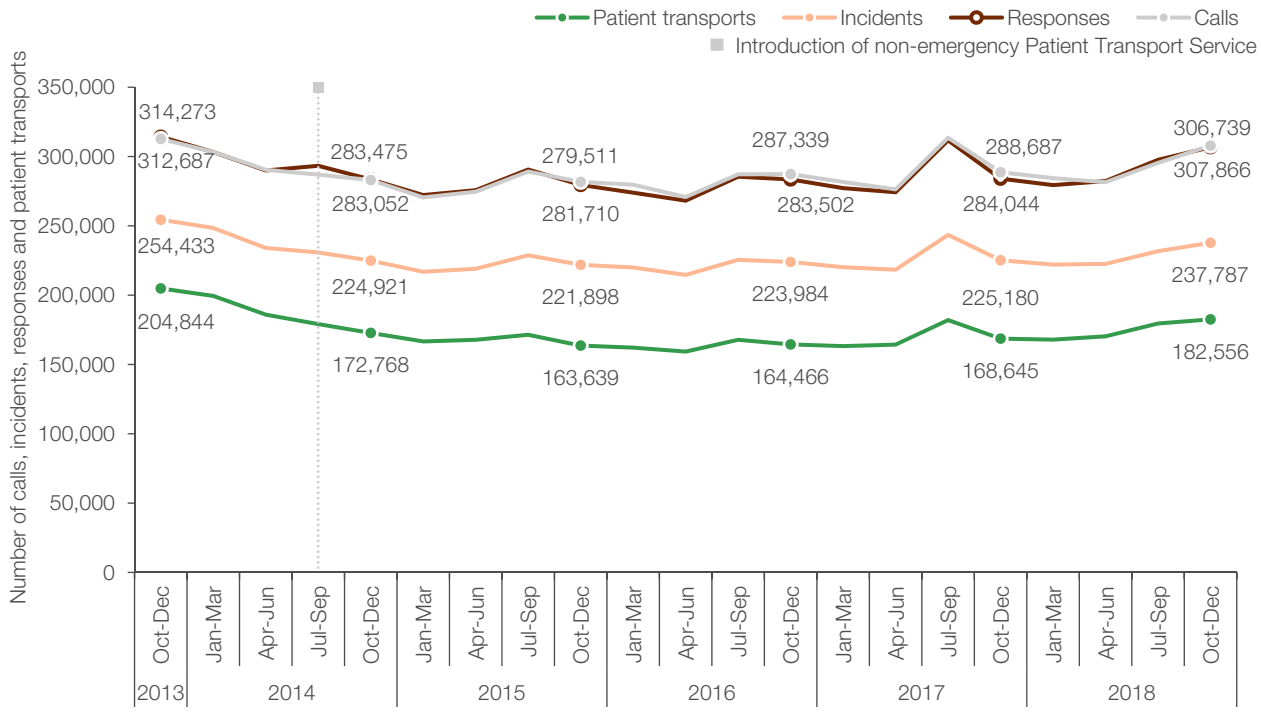
Ambulance activity

Activity is measured as the number of ambulance calls, incidents, responses and transports during the quarter. A Triple Zero (000) call generally initiates ambulance activity. An incident is an event that results in a response by one or more ambulances. A response is the dispatch of one or more ambulances from a local response area (LRA). LRAs are mapped geographically around individual ambulance stations and are incorporated into larger administrative units known as zones.

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

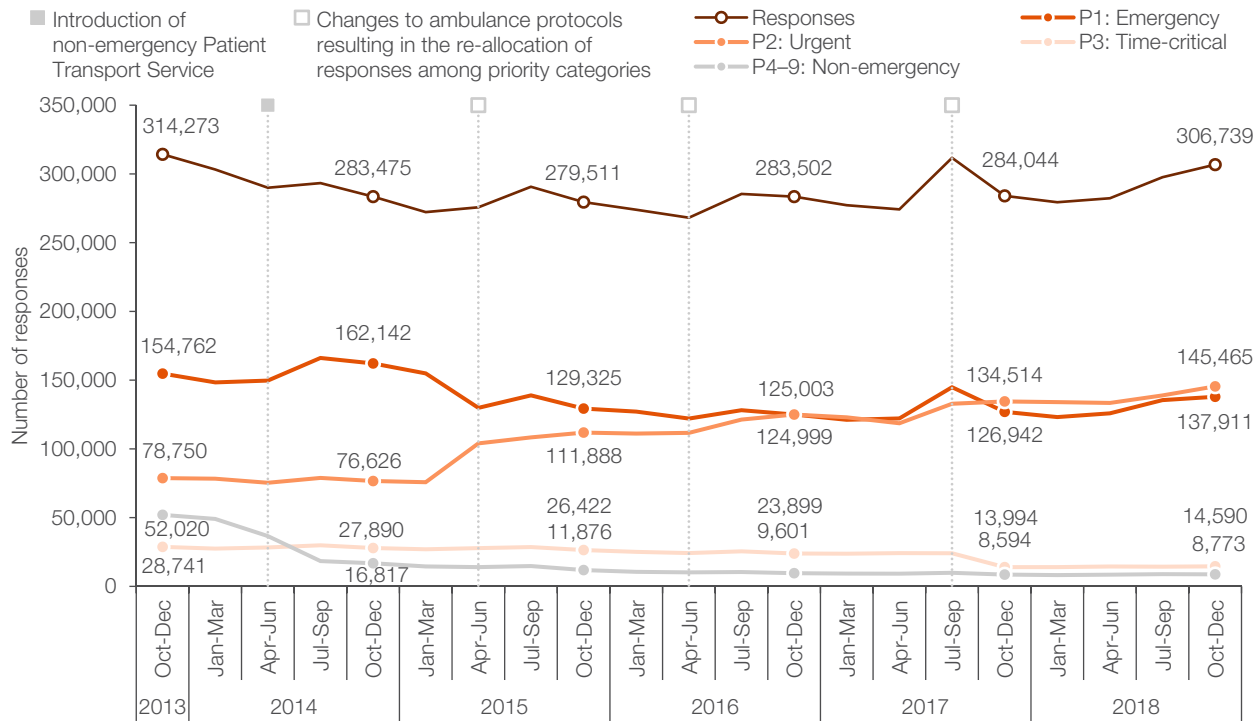
There are nine main priority categories. Three of these – priority 1 (emergency), priority 2 (urgent) and priority 3 (time critical) – are commonly used to assess the timeliness of ambulance services. Within the priority 1 category, there is the sub-category of priority 1A for life-threatening conditions (e.g. cardiac or respiratory arrest).

Figure 15 Ambulance calls, incidents, responses and patient transports, October 2013 to December 2018



Ambulance activity (continued)

Figure 16 **Ambulance responses by priority, October 2013 to December 2018**

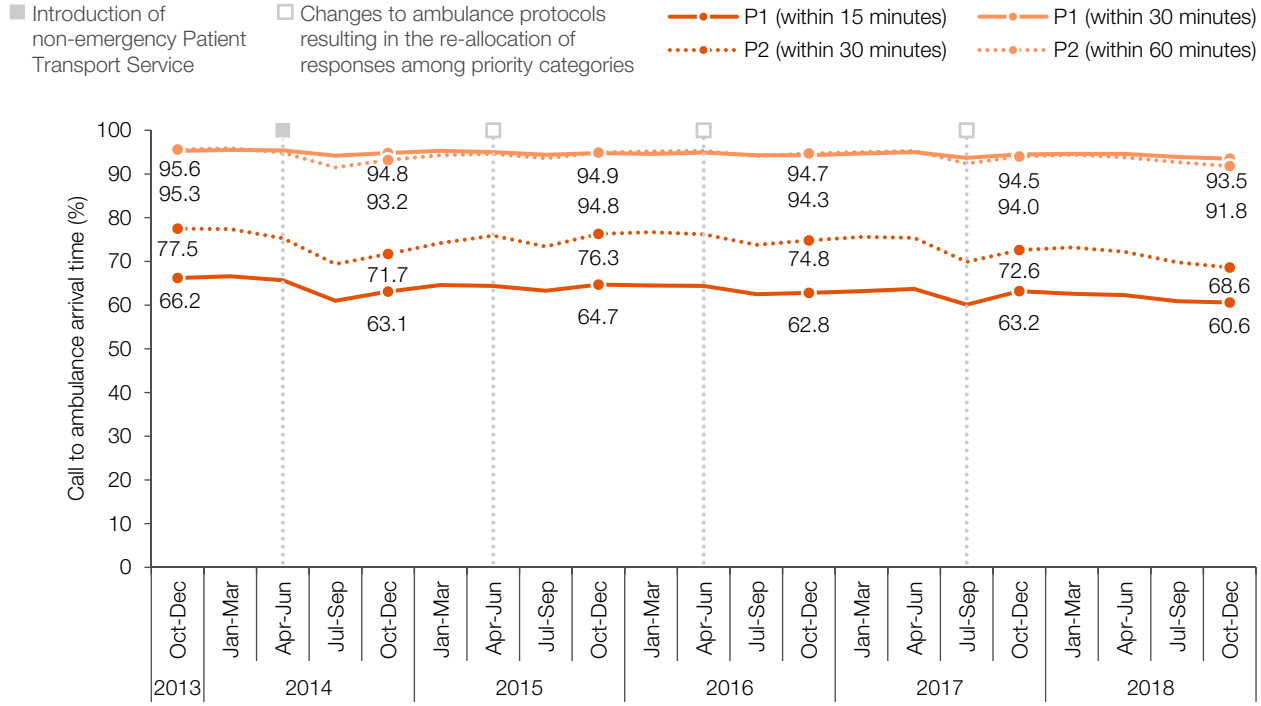


Call to ambulance arrival time – NSW and zone performance

Call to ambulance arrival time spans 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. For priorities 1 (emergency) and 2 (urgent), two time benchmarks are considered: the percentage of priority 1 call to ambulance arrival times within 15 and 30 minutes, and the percentage of priority 2 call to ambulance arrival times within 30 and 60 minutes.

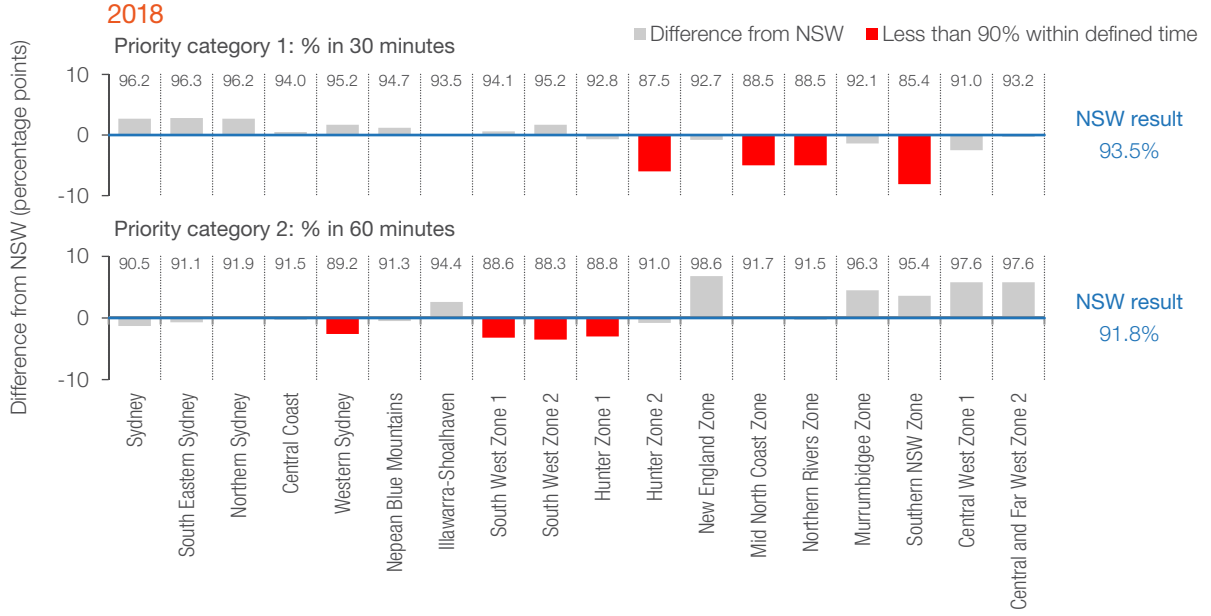
Figure 17 Intervals covering call to ambulance arrival time, NSW

Figure 18 Percentage of call to ambulance arrival times, by priority category, October 2013 to December 2018



Call to ambulance arrival time – NSW and zone performance (continued)

Figure 19 **Percentage of call to ambulance arrival times, by zone, relative to NSW, October to December 2018**



Call to ambulance arrival time – variation

Measures of timeliness by LRA are based on the location of the patient, not the station from which paramedics respond, which may be outside the LRA in which the patient is located.

Figure 21 **Percentage of priority 1 call to ambulance arrival times within 30 minutes, by zone and local response area type, October to December 2018**

	Number	Total LRAs	LRAs achieving 90% in 30 minutes 2018	2017
Sydney	10,389	8	8	8
South Eastern Sydney	7,238	7	7	7
Northern Sydney	7,878	9	9	9
Central Coast	6,141	9	7	7
Western Sydney	9,053	5	5	5
Nepean Blue Mountains	6,215	7	6	5
Illawarra-Shoalhaven	6,511	11	9	9
South West Zone 1	5,582	5	4	5
South West Zone 2	8,106	4	4	4
Hunter Zone 1	6,062	9	7	7
Hunter Zone 2	3,735	7	3	7
New England Zone	2,455	9	6	6
Mid North Coast Zone	5,085	13	4	4
Northern Rivers Zone	4,627	11	3	5
Murrumbidgee Zone	3,864	8	5	4
Southern NSW Zone	3,324	12	4	4
Central West Zone 1	2,834	12	6	7
Central and Far West Zone 2	1,975	7	4	6
Total		**153**	**101**	**109**

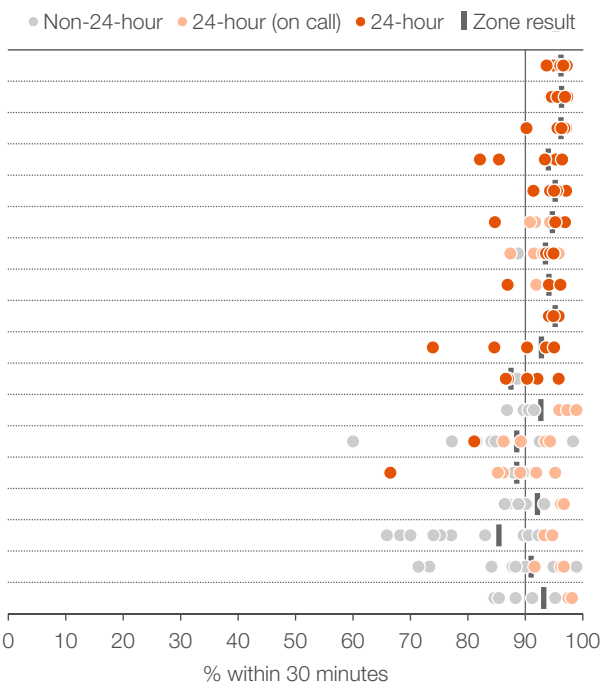
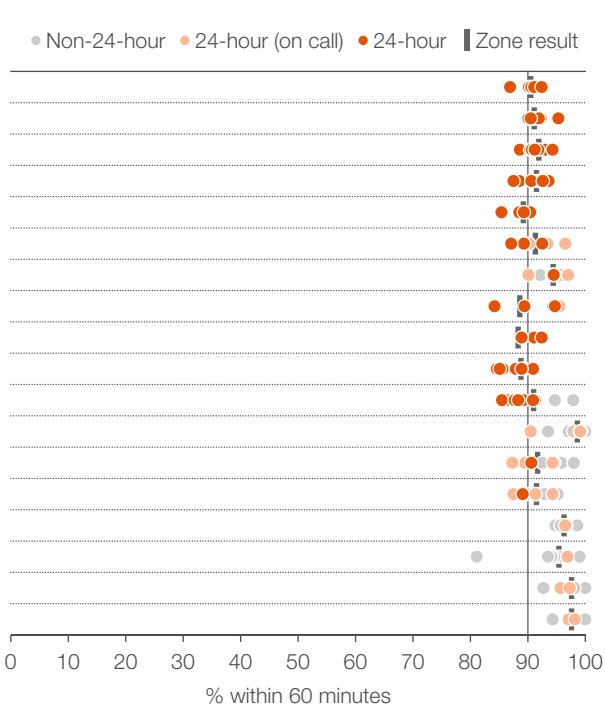


Figure 20 **Percentage of priority 2 call to ambulance arrival times within 60 minutes, by zone and local response area type, October to December 2018**

	Number	Total LRAs	LRAs achieving 90% in 60 minutes 2018	2017
Sydney	10,630	8	6	7
South Eastern Sydney	8,168	7	7	7
Northern Sydney	8,645	9	8	9
Central Coast	6,826	9	7	9
Western Sydney	8,576	5	2	4
Nepean Blue Mountains	6,164	7	4	7
Illawarra-Shoalhaven	7,396	11	11	11
South West Zone 1	5,134	5	2	5
South West Zone 2	7,447	4	1	4
Hunter Zone 1	6,483	9	1	8
Hunter Zone 2	3,966	7	4	7
New England Zone	3,105	9	9	9
Mid North Coast Zone	5,842	13	11	9
Northern Rivers Zone	5,170	11	7	9
Murrumbidgee Zone	4,963	8	8	8
Southern NSW Zone	3,781	12	11	11
Central West Zone 1	3,407	12	12	12
Central and Far West Zone 2	2,491	7	7	7
Total		**153**	**118**	**143**



Call to ambulance arrival time – variation (continued)

It is also important to determine where call to ambulance arrival time benchmarks are not being met, relative to caseload. This is achieved by comparing the distribution of cases across NSW against the percentage of cases not meeting the benchmark in each zone.

Figure 22 **Percentage of priority 1 cases and call to ambulance arrival times outside 30 minutes, by zone, October to December 2018**

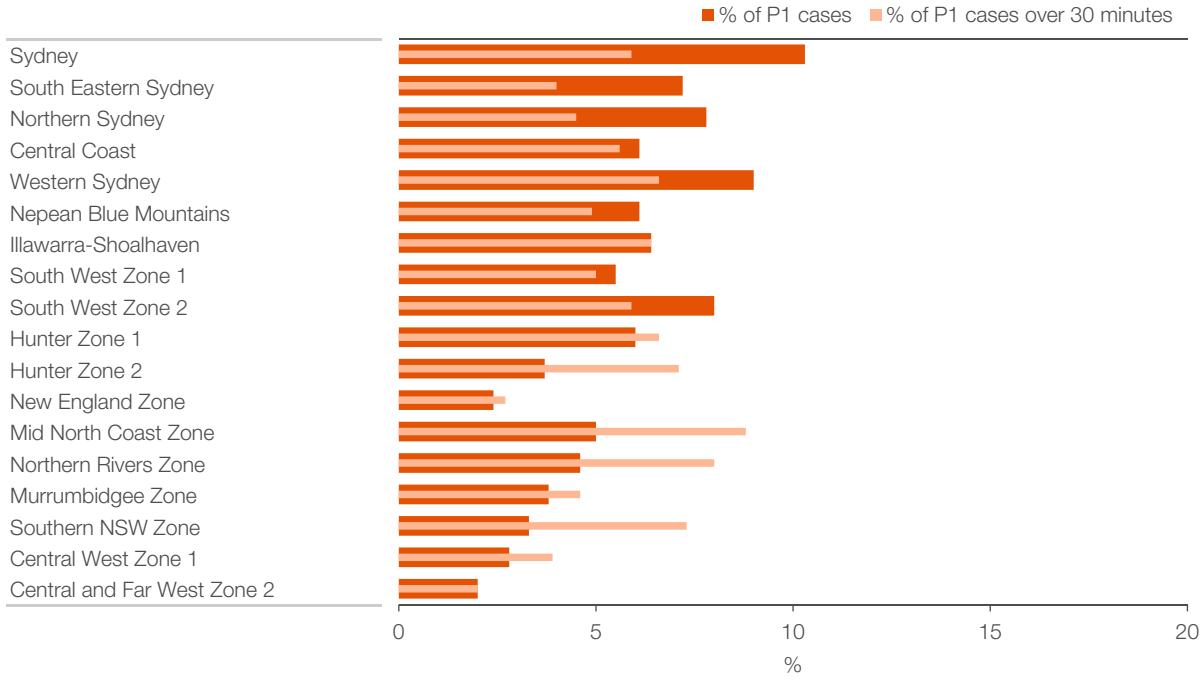
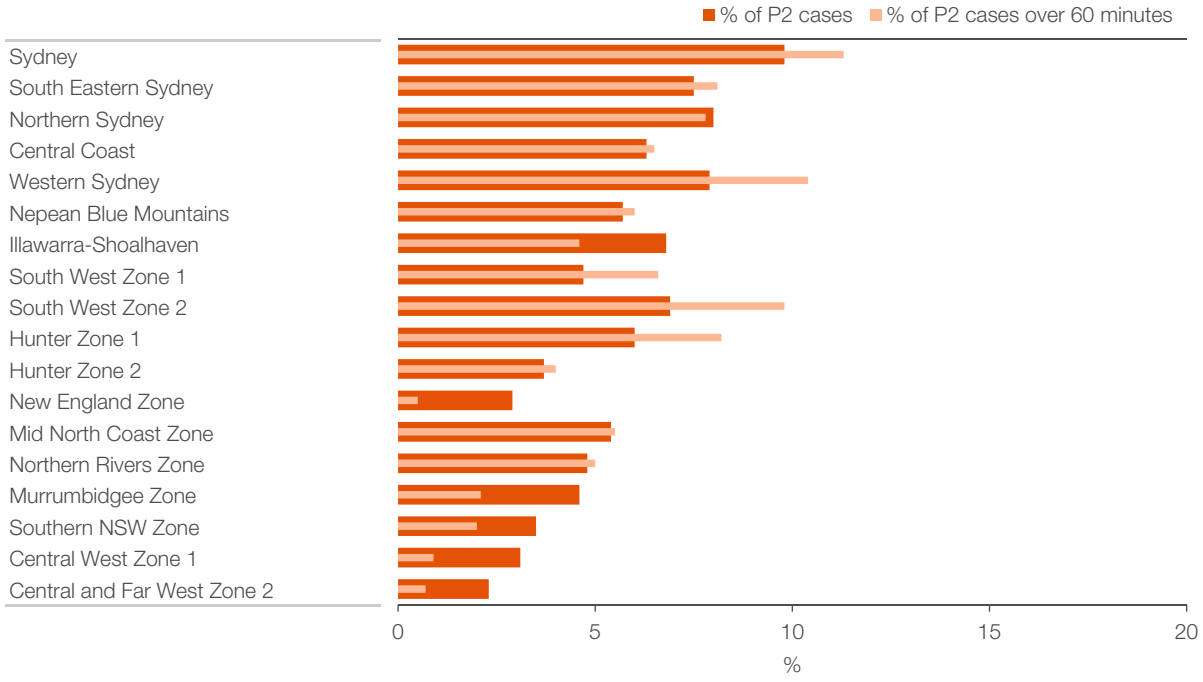


Figure 23 **Percentage of priority 2 cases and call to ambulance arrival times outside 60 minutes, by zone, October to December 2018**



Mobilisation time – NSW performance

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

The median mobilisation time is the period between a call being placed in the queue and when half of first response vehicles began driving to an incident. The remaining half took equal to or longer than this time.

The 90th percentile mobilisation time is the time from when a call was placed in queue by which 90% of first response vehicles began driving to the incident. The remaining 10% took equal to or longer than this time.

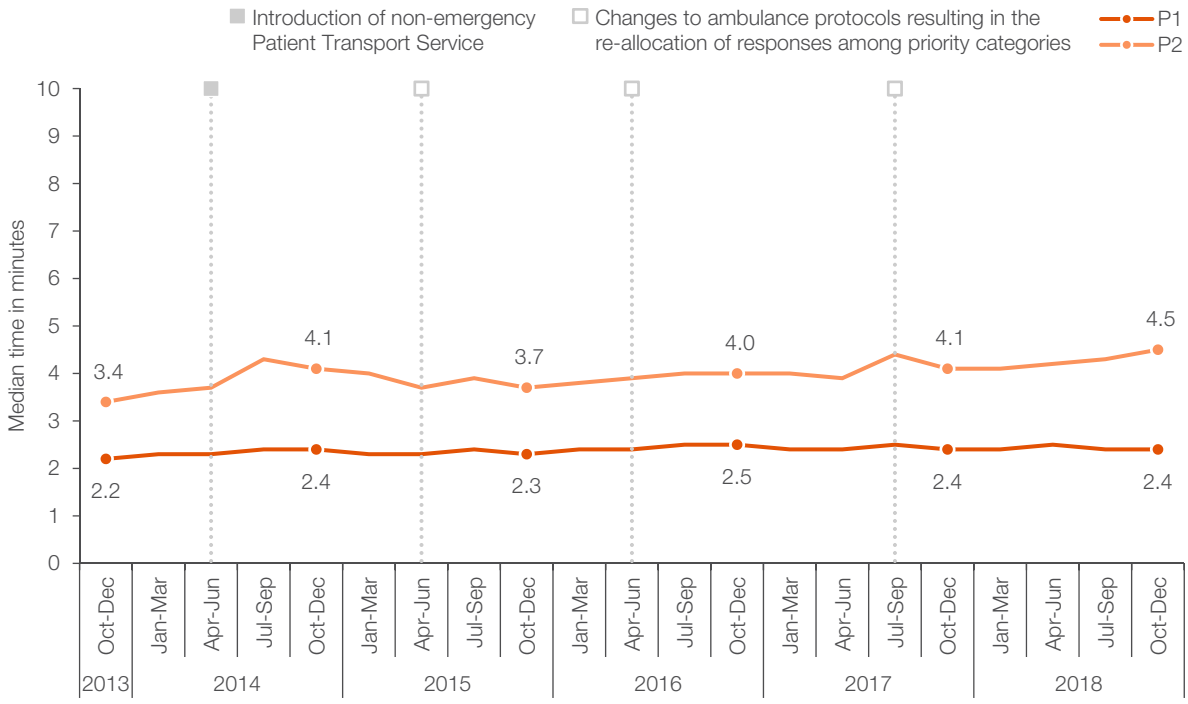
Figure 24 Intervals covering mobilisation time, NSW

Figure 25 Mobilisation time, by priority category, October to December 2018

	Volume	This quarter	Same quarter last year	Change since one year ago
P1	101,090			
Median		2.4m	2.4m	unchanged
90th percentile		6.5m	6.1m	0.4m
Percentage P1 within 3 minutes		62.2%	63.8%	-1.6 percentage points
P2	108,219			
Median		4.5m	4.1m	0.4m
90th percentile		25.6m	22.6m	3.0m

Mobilisation time – NSW performance (continued)

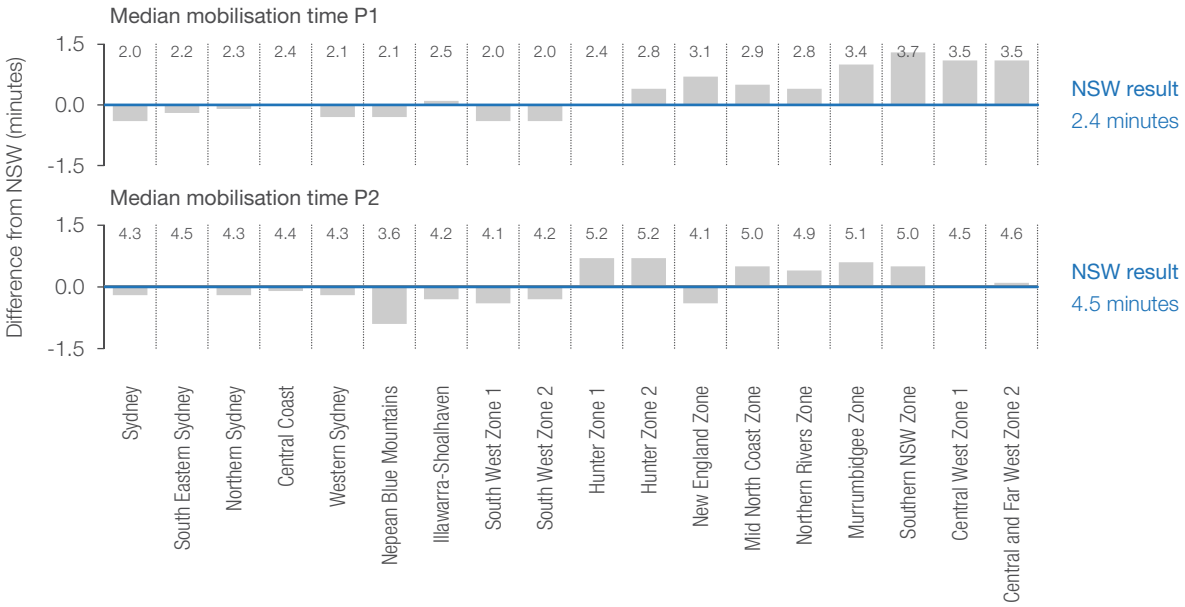
Figure 26 **Median mobilisation time, by priority category, October 2013 to December 2018**



Mobilisation time – variation

Mobilisation times for individual LRAs can be more variable in some zones. This may reflect differences in the distribution of LRA types across zones. Metropolitan zones primarily have 24-hour LRAs while non-metropolitan zones mostly have non-24 hour and 24-hour (on-call) LRAs, which rely on staff that are not always based at the ambulance station.

Figure 27 Median mobilisation time, by zone, relative to NSW, October to December 2018



Mobilisation time – variation (continued)

Figure 28 **Median priority 1 mobilisation time, by zone and local response area type, October to December 2018**

	Number
Sydney	10,384
South Eastern Sydney	7,236
Northern Sydney	7,876
Central Coast	6,140
Western Sydney	9,051
Nepean Blue Mountains	6,213
Illawarra-Shoalhaven	6,511
South West Zone 1	5,581
South West Zone 2	8,104
Hunter Zone 1	6,061
Hunter Zone 2	3,735
New England Zone	2,454
Mid North Coast Zone	5,085
Northern Rivers Zone	4,625
Murrumbidgee Zone	3,862
Southern NSW Zone	3,324
Central West Zone 1	2,834
Central and Far West Zone 2	1,974

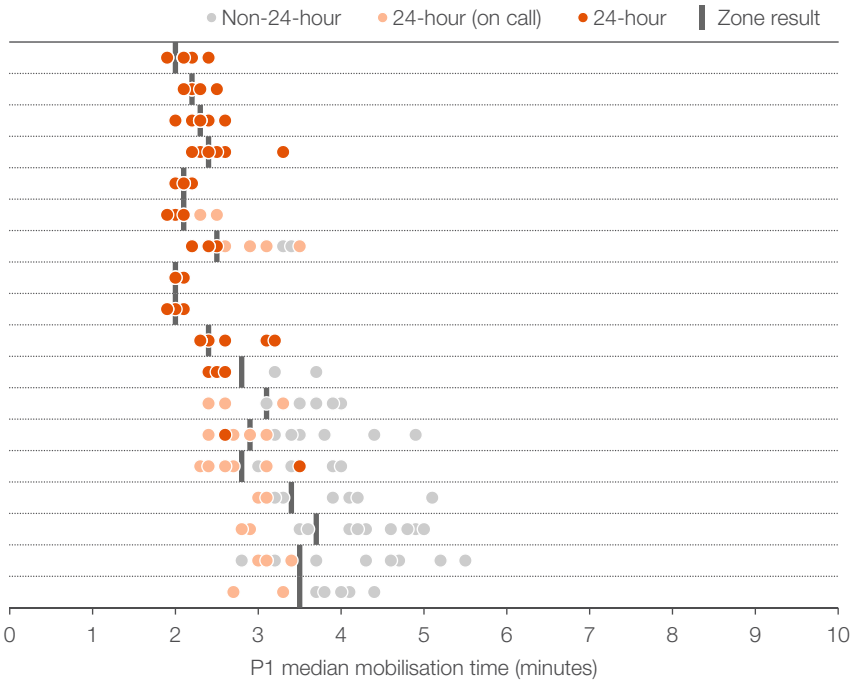
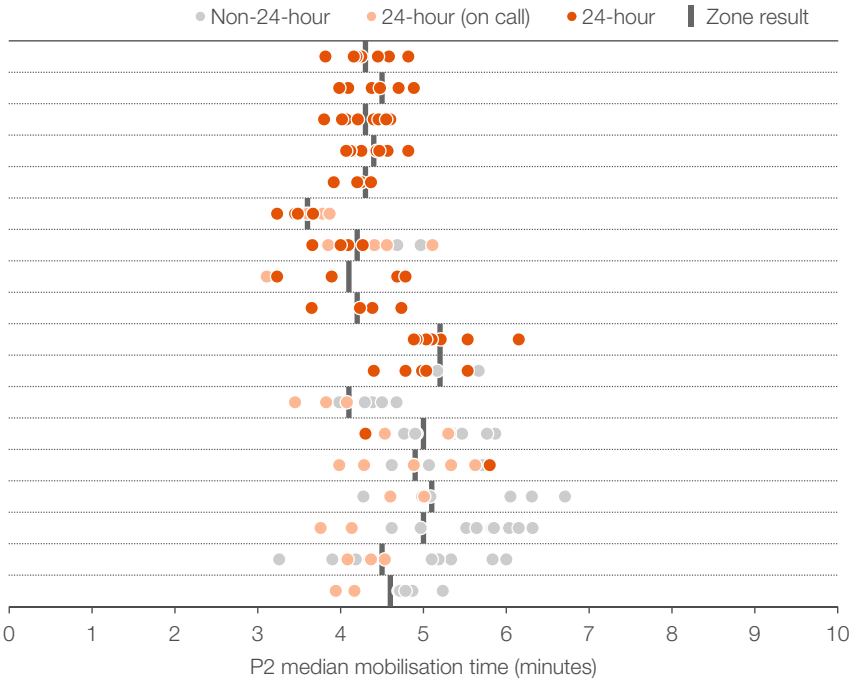


Figure 29 **Median priority 2 mobilisation time, by zone and local response area type, October to December 2018**

	Number
Sydney	10,629
South Eastern Sydney	8,168
Northern Sydney	8,644
Central Coast	6,826
Western Sydney	8,575
Nepean Blue Mountains	6,162
Illawarra-Shoalhaven	7,396
South West Zone 1	5,134
South West Zone 2	7,447
Hunter Zone 1	6,481
Hunter Zone 2	3,966
New England Zone	3,104
Mid North Coast Zone	5,841
Northern Rivers Zone	5,170
Murrumbidgee Zone	4,961
Southern NSW Zone	3,781
Central West Zone 1	3,407
Central and Far West Zone 2	2,491



Response time

Ambulance response time is measured from when a call for an ambulance is placed 'in queue' for vehicle dispatch by the ambulance control centre to the time the first vehicle arrives at the scene. For priority 1A (life-threatening) cases, there is a target median response time of 10 minutes.

The median response time is the time from a call being placed in a queue by which half of first response vehicles reached the scene of an incident. The other half took equal to or longer than this time.

The 90th percentile gives a sense of the longest response times. It is the time from a call being placed in a queue by which 90% of first response vehicles reached the scene of an incident. The remaining 10% took equal to or longer than this time.

Figure 30 Intervals covering response time, NSW

Figure 31 Ambulance response time, by priority category, October to December 2018

	This quarter	Same quarter last year	Change since one year ago
P1: emergency (101,114 responses)			
Median response time	11.3m	11.0m	0.3m
90th percentile response time	24.0m	23.0m	1.0m
P1A: Highest priority (2,390 responses)			
Median response time	7.6m	7.4m	0.2m
90th percentile response time	15.6m	15.4m	0.2m
P2: urgent (108,230 responses)			
Median response time	19.6m	18.3m	1.3m
90th percentile response time	53.1m	47.0m	6.1m
Percentage P1A responses within 10 minutes	70.7%	72.1%	-1.4 percentage points
Number of days P1A median response time exceeded 10 minutes	1 day	0 days	1 day

Response time (continued)

Figure 32 **Median priority category 1 ambulance response time, by zone and local response area type, October to December 2018**

	Number
Sydney	10,389
South Eastern Sydney	7,238
Northern Sydney	7,878
Central Coast	6,141
Western Sydney	9,053
Nepean Blue Mountains	6,215
Illawarra-Shoalhaven	6,511
South West Zone 1	5,582
South West Zone 2	8,106
Hunter Zone 1	6,062
Hunter Zone 2	3,735
New England Zone	2,455
Mid North Coast Zone	5,085
Northern Rivers Zone	4,627
Murrumbidgee Zone	3,864
Southern NSW Zone	3,324
Central West Zone 1	2,834
Central and Far West Zone 2	1,975

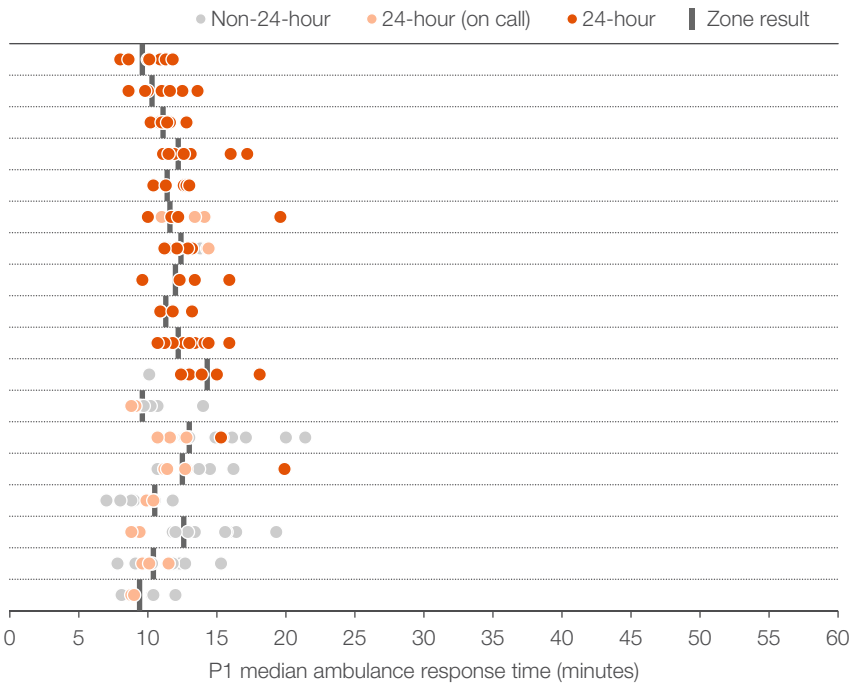
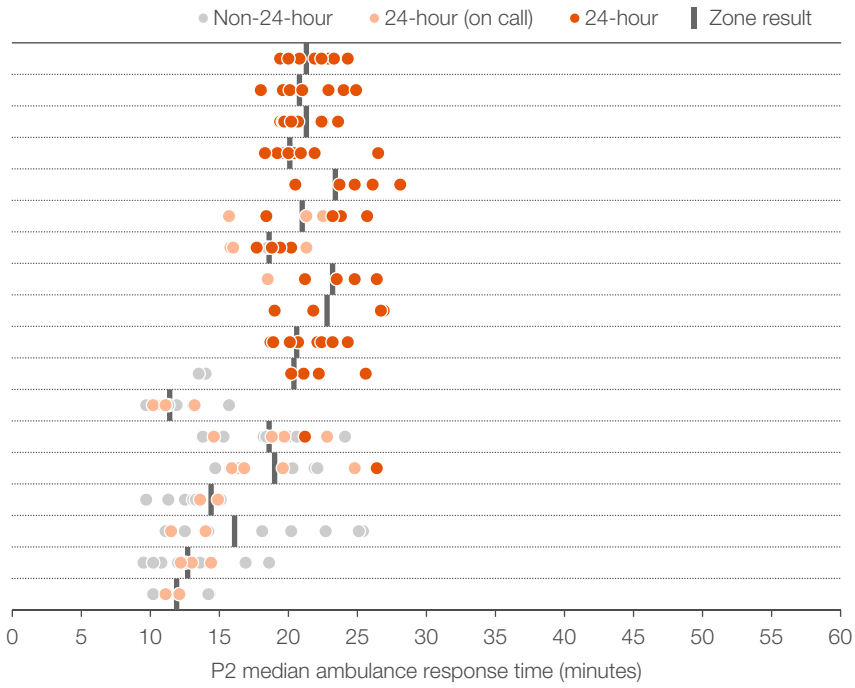


Figure 33 **Median priority category 2 ambulance response time, by zone and local response area type, October to December 2018**

	Number
Sydney	10,630
South Eastern Sydney	8,168
Northern Sydney	8,645
Central Coast	6,826
Western Sydney	8,576
Nepean Blue Mountains	6,164
Illawarra-Shoalhaven	7,396
South West Zone 1	5,134
South West Zone 2	7,447
Hunter Zone 1	6,483
Hunter Zone 2	3,966
New England Zone	3,105
Mid North Coast Zone	5,842
Northern Rivers Zone	5,170
Murrumbidgee Zone	4,963
Southern NSW Zone	3,781
Central West Zone 1	3,407
Central and Far West Zone 2	2,491



Turnaround time – NSW and zone performance

Turnaround time refers to the length of time paramedics spend at hospital emergency departments. It is measured from the time an ambulance arrives with a patient at a hospital until the time it is cleared and available to respond to another incident. Turnaround time encapsulates transfer of care, off stretcher time and make ready time.

The median turnaround time is the period between an ambulance arriving at the hospital with a patient and when half of those ambulances were ready to respond to a new incident. The other half took equal to or longer than this time.

The 90th percentile is the time by which 90% of the ambulance transports take from when they arrive at a hospital to when they are ready to respond to a new incident. The remaining 10% took equal to or longer than this time.

Figure 34 Intervals covering turnaround time, NSW

Figure 35 Turnaround time, by priority category, October to December 2018

	This quarter	Same quarter last year	Change since one year ago
Patients transported to hospital	159,635	146,326	9.1%
P1: Emergency			
Median	37.9m	37.0m	0.9m
90th percentile	61.7m	60.0m	1.7m
Percentage P1 within 45 minutes	67.1%	69.1%	-2.0 percentage points
P2: Urgent			
Median	35.8m	34.7m	1.1m
90th percentile	58.5m	56.5m	2.0m
Percentage P2 within 45 minutes	72.0%	74.3%	-2.3 percentage points

Turnaround time – NSW and zone performance (continued)

Figure 36 **Median turnaround time, by priority category, October 2013 to December 2018**

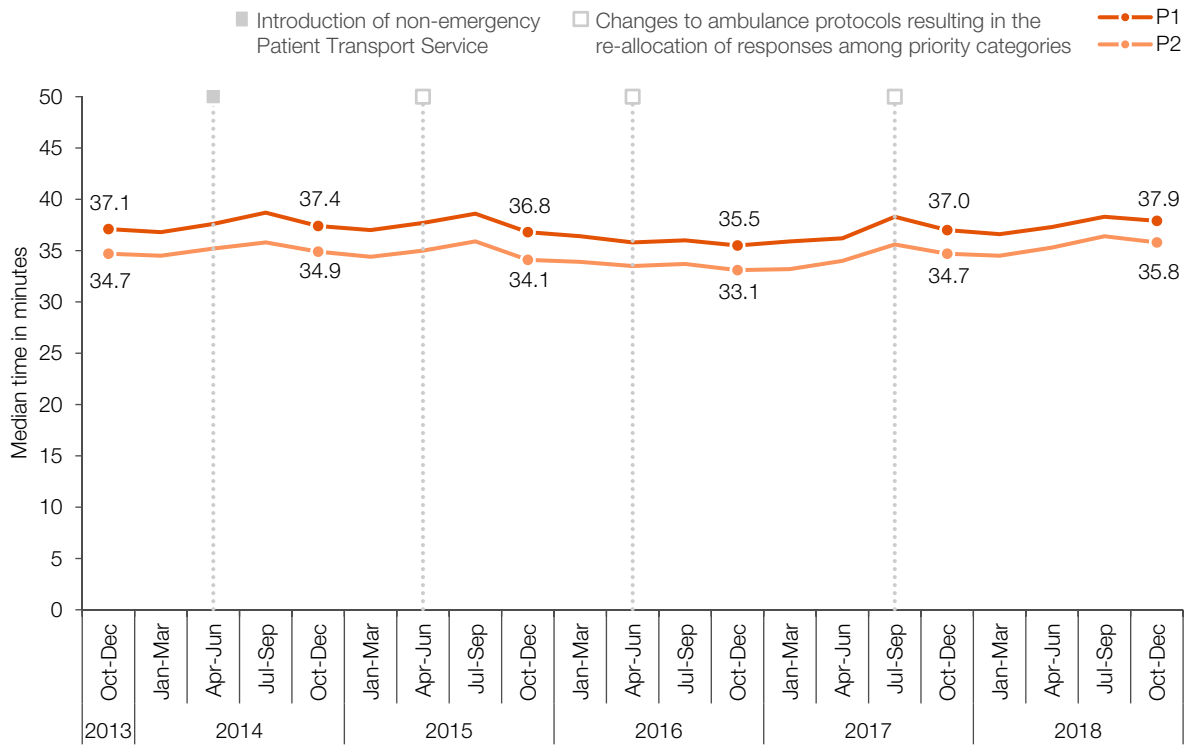
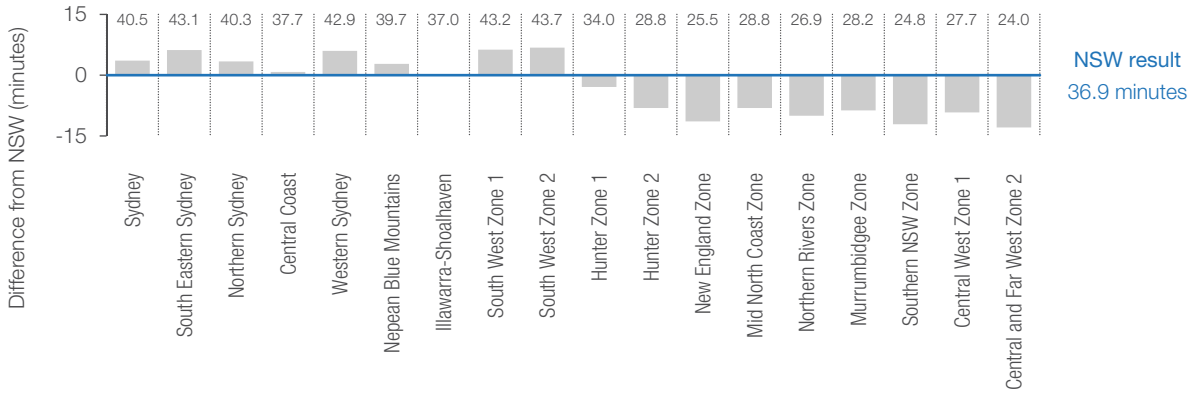


Figure 37 **Median turnaround time, by zone, priority category 1 and 2, relative to NSW, October to December 2018**

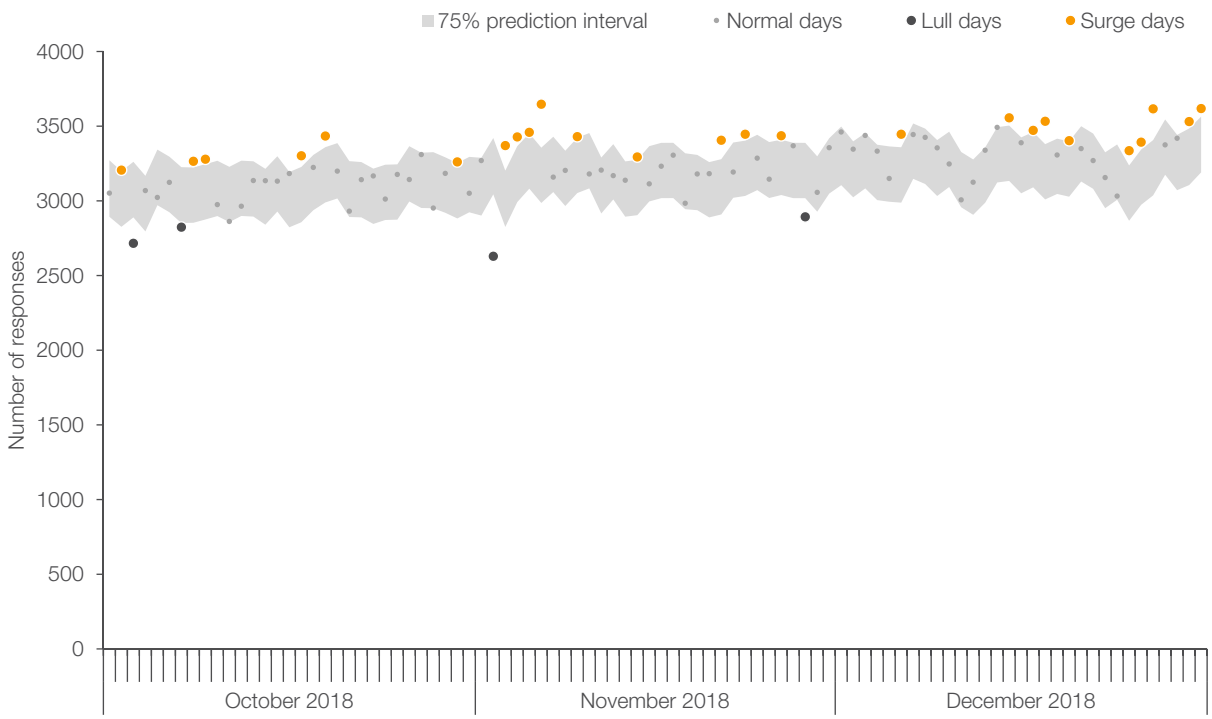


Daily activity and performance

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

Presenting this data against measures of timeliness provides information on the ambulance service's preparedness when demand for services is above expected. Identifying unexpectedly busy or quiet days can be done using a statistical model.

Figure 38 Daily ambulance responses, observed and expected, October to December 2018



Daily activity and performance (continued)

Figure 39 **Daily activity and timeliness measures, October to December 2018**

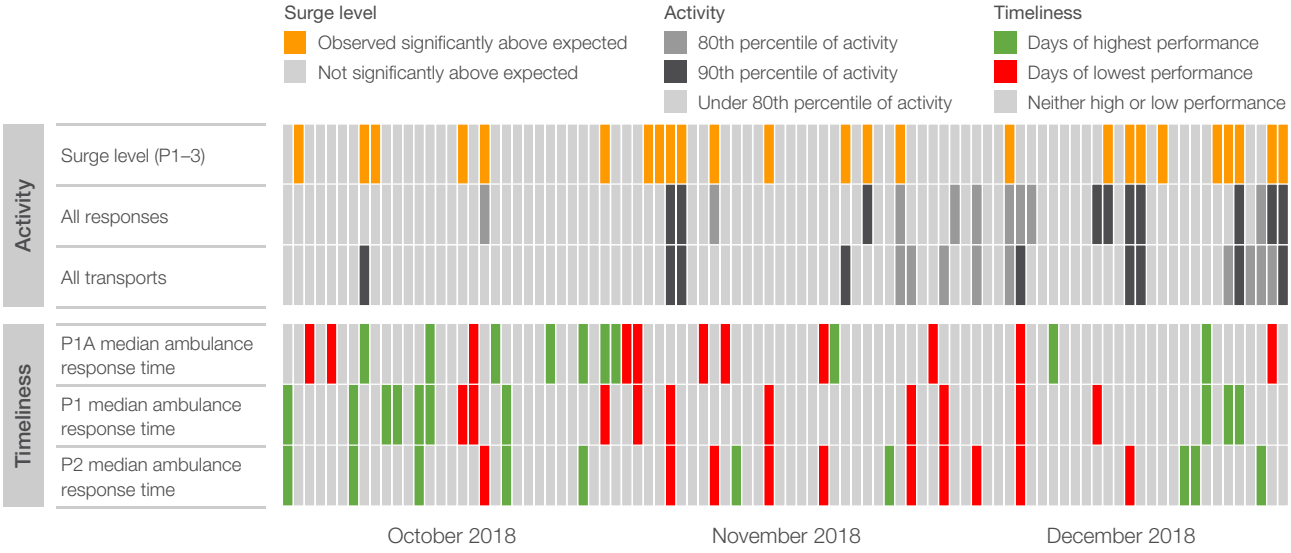


Figure 40 **Summary of daily activity and timeliness measures, October to December 2018**

	Of the 25 surge days this quarter, performance was:			Of the 10 busy days this quarter (all responses), performance was:			Of the 10% of days this quarter with relatively poor performance:		
	Relatively low		Relatively high	Relatively low		Relatively high	Normal days	Busy days	Surge days
P1A median ambulance response time	1	22	2	1	9		10	1	1
P1 median ambulance response time	4	19	2	2	7	1	8	2	4
P2 median ambulance response time	5	20		2	8		8	2	5

Note: The range of daily median response times was: 5.5 minutes to 10.3 minutes for priority 1A, 10.6 minutes to 12.6 minutes for priority 1 and 16.5 minutes to 22.5 minutes for priority 2.

Admitted patient activity

Patients admitted to a public hospital

Admitted patient episodes can be acute (short-term admissions for immediate treatment) or non-acute (longer admissions for rehabilitation, palliative care, or other reasons). Admissions that involve treatment for mental health can be acute or non-acute.

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

Average length of stay for acute overnight episodes varies within peer groups. Length of stay measures were not adjusted for differences in case mix and variation across hospitals should be interpreted with caution.

Changes to Northern Sydney LHD

On 30 October 2018, services at Manly and Mona Vale hospitals were transferred to Northern Beaches Hospital. Admitted patient results from Northern Beaches, Manly and Mona Vale hospitals contribute to NSW, Northern Sydney LHD and peer group B totals throughout this report and associated information products. *Healthcare Quarterly* only includes data relating to publicly contracted services at Northern Beaches Hospital.

BHI cautions against comparing results for Northern Beaches, Manly and Mona Vale hospitals against other hospitals because their results do not cover the full October to December 2018 reporting period.

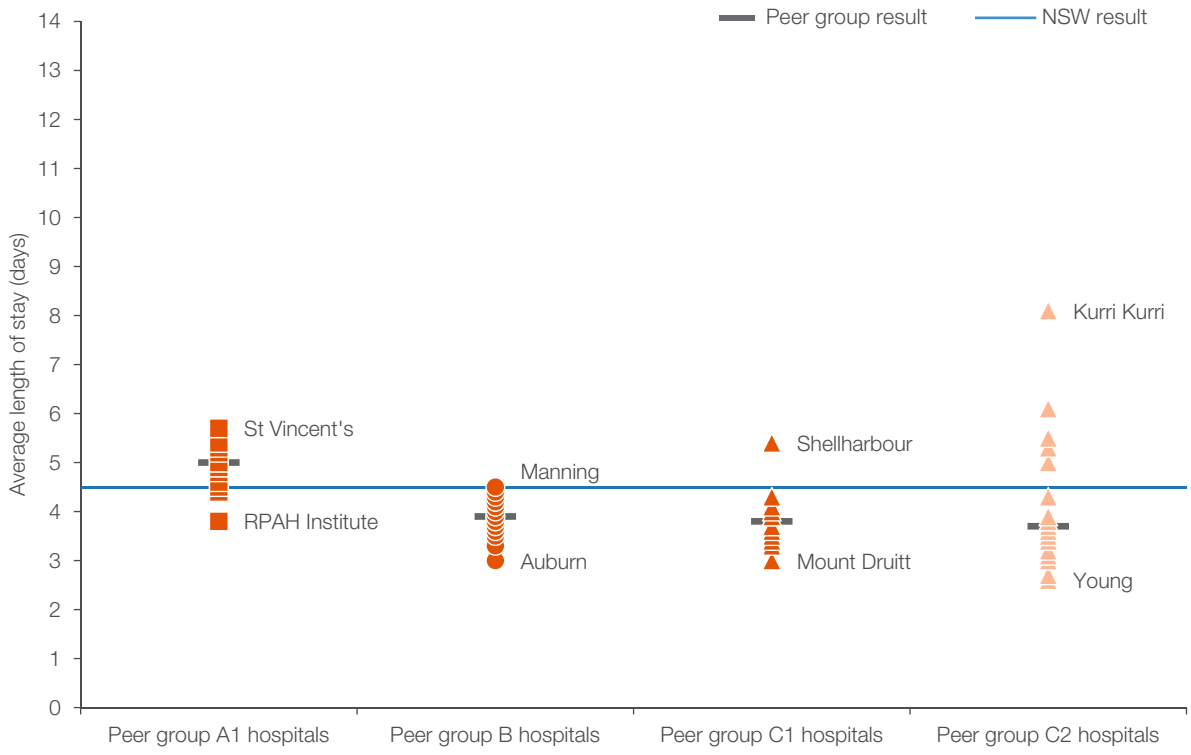
Figure 41 Total number of hospital bed days, by episode type, October to December 2018

		This quarter	Same quarter last year	Change since one year ago
Total bed days		1,697,107	1,641,486	3.4%
Acute	76.1%	1,292,032	1,251,422	3.2%
Non-acute	13.0%	220,014	216,565	1.6%
Mental health	10.9%	185,061	173,499	6.7%*

* Between 1 July 2016 and 30 June 2017, all LHDs and health networks introduced a mental health stay type when classifying newly admitted or long-standing mental health patients. As those long-standing patients were progressively categorised under the new mental health stay type, their bed day count re-started at zero – this continues to have an impact on bed day counts and average length of stay.

Patients admitted to a public hospital (continued)

Figure 42 **Average length of stay for acute overnight admitted patient episodes, by peer group, October to December 2018**



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

Bed days and length of stay in hospital

Bed days are a unit of time used to establish levels of inpatient occupancy. A higher number of bed days suggests that either more patients are being hospitalised or that patients are hospitalised for longer periods or both.

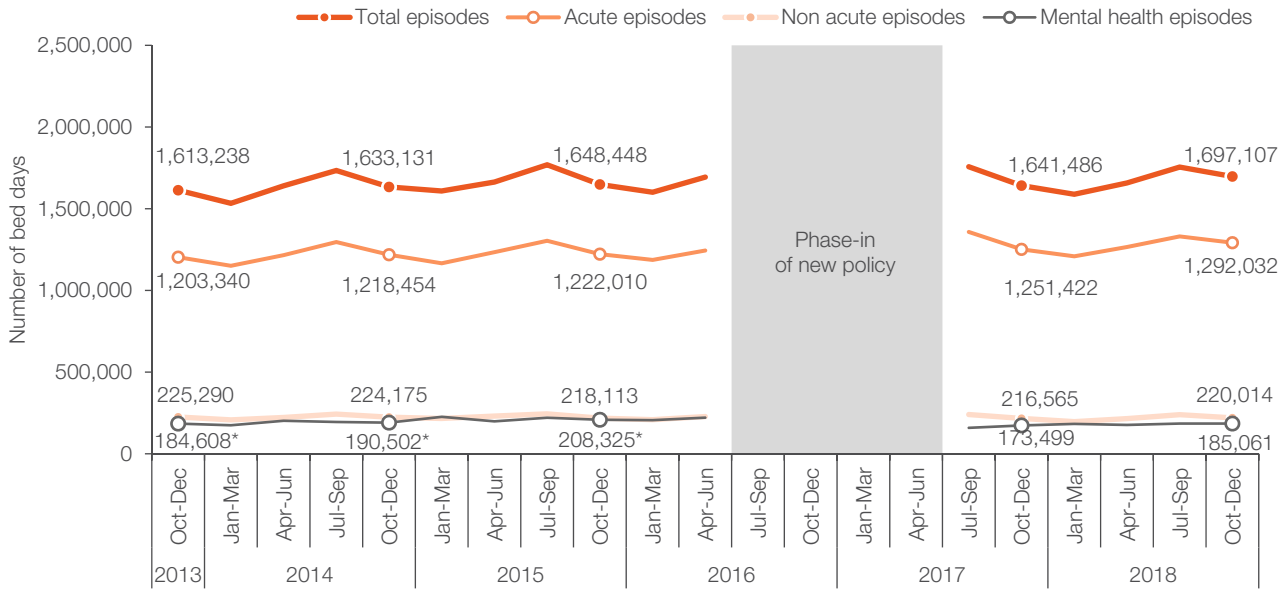
Length of stay is often presented in conjunction with the number of bed days to give a sense of how long, on average, hospital beds are in use. Bed days and average length of stay are calculated for all episodes of care that ended during the quarter. Same-day episodes count as one day.

Phase-in of new policy

Between 1 July 2016 and 30 June 2017, all 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.

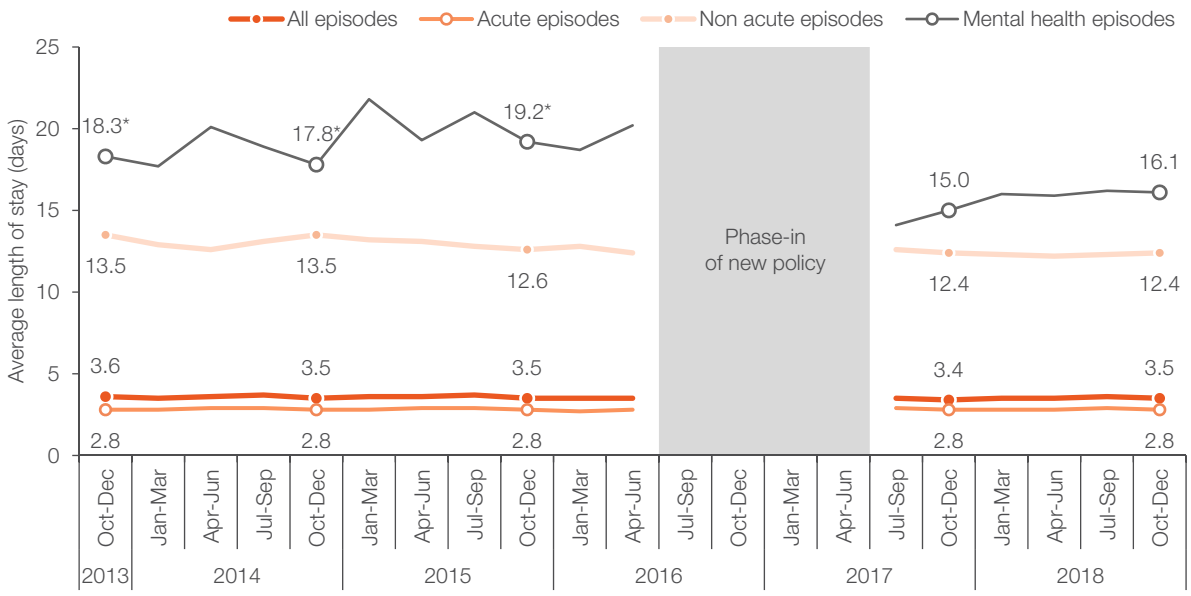
Figure 43 Total number of hospital bed days by episode type, October 2013 to December 2018



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.

Bed days and length of stay in hospital (continued)

Figure 44 **Average length of stay, by type of admitted patient episode, October 2013 to December 2018**



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.

Elective surgery activity and performance

Elective surgical procedures

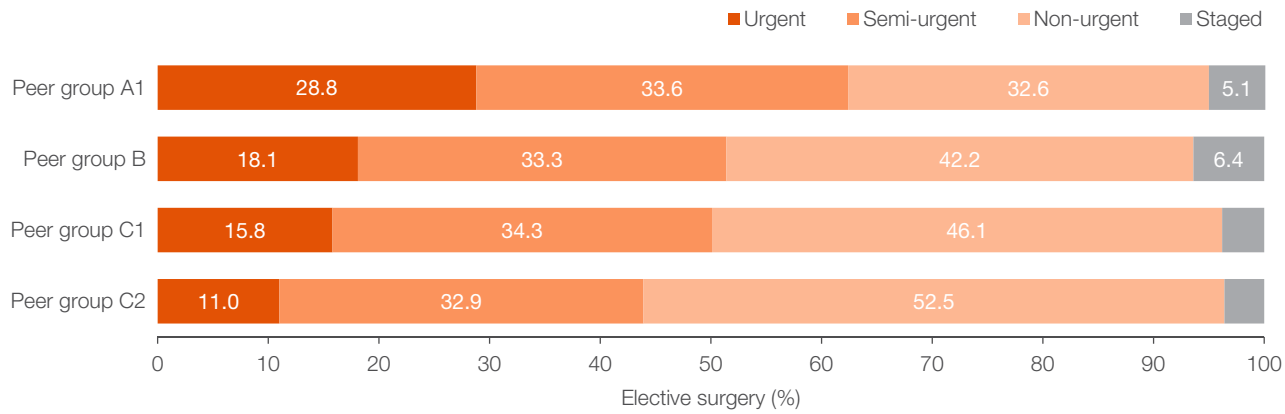
There are three main urgency categories for elective surgery: urgent, semi-urgent and non-urgent. Staged procedures refer to surgeries that for medical reasons, cannot be performed before a certain amount of time has passed. The surgeon decides which urgency category the patient falls into. The surgeon also decides whether a change in the patient's condition warrants a shift to a different urgency category.

Changes to Northern Sydney LHD

On 30 October 2018, services at Manly and Mona Vale hospitals were transferred to Northern Beaches Hospital. Elective surgery results from Northern Beaches, Manly and Mona Vale hospitals contribute to NSW, Northern Sydney LHD and peer group B totals throughout this report and associated information products. *Healthcare Quarterly* only includes data relating to publicly contracted services at Northern Beaches Hospital.

BHI cautions against comparing results for Northern Beaches, Manly and Mona Vale hospitals against other hospitals because their results do not cover the full October to December 2018 reporting period.

Figure 45 Distribution of elective surgery, by urgency category and peer group, October to December 2018



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

Waiting time for elective surgery

Waiting time for elective surgeries is measured as the number of days from when a patient was placed on the list to when they were removed. Among the patients in the quarter who received surgery, the median waiting time refers to the number of days it took for half of the patients to be admitted to hospital and undergo surgery. The other half waited the same amount of time or longer.

The 90th percentile gives a sense of the longest waiting times to receive surgery. Among patients over the quarter who received surgery, this measure indicates the number of days it took for 90% of the patients to undergo surgery. The waiting time for the remaining 10% was the same or longer.

Figure 46 Median waiting time for elective surgery, by urgency category, October 2013 to December 2018

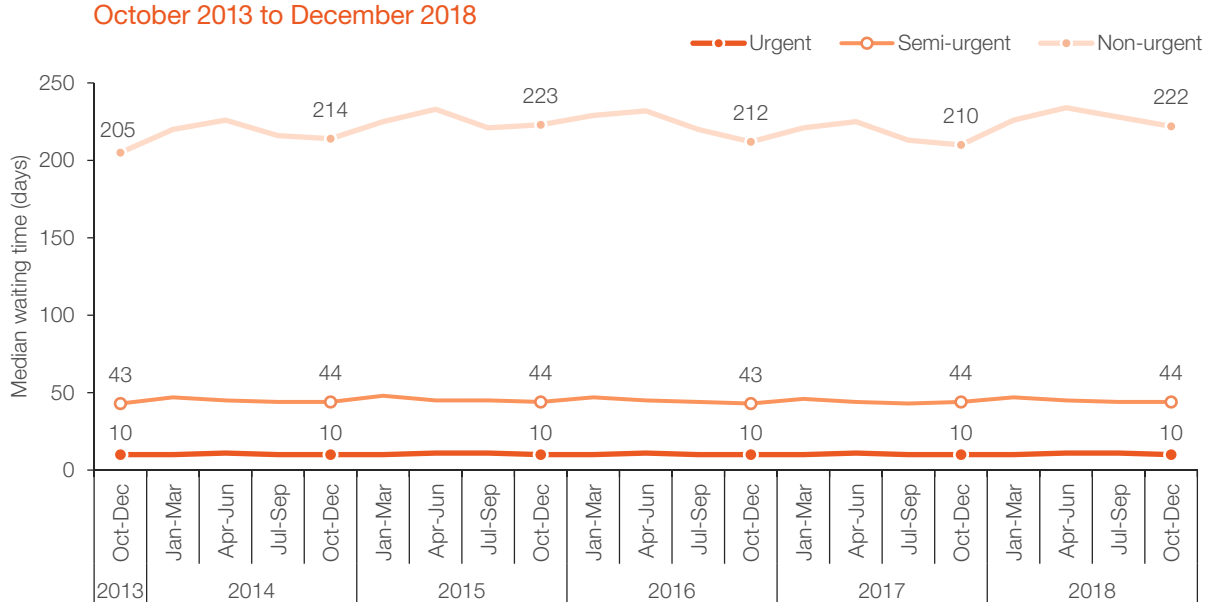
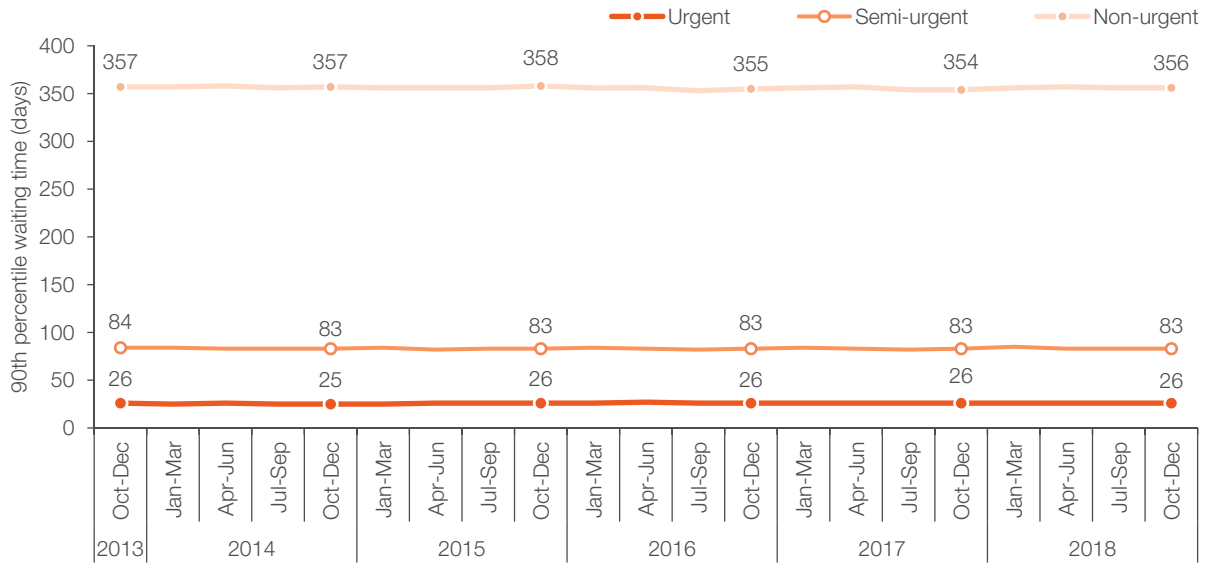


Figure 47 90th percentile waiting time for elective surgery, by urgency category, October 2013 to December 2018



Waiting time for elective surgery (continued)

Figure 48 **Median waiting time for patients who received elective surgery, by specialty, October to December 2018**

	Number of procedures	This quarter	Same quarter last year	Change since one year ago
Ophthalmology	7,669	203 days	182 days	21 days
Ear, nose and throat surgery	4,116	156 days	131 days	25 days
Orthopaedic surgery	8,972	105 days	109 days	-4 days
Plastic surgery	2,493	38 days	30 days	8 days
Gynaecology	7,145	36 days	36 days	unchanged
Neurosurgery	1,212	36 days	38 days	-2 days
Urology	7,922	35 days	35 days	unchanged
General surgery	13,672	33 days	33 days	unchanged
Cardiothoracic surgery	861	22 days	26 days	-4 days
Medical	528	20 days	12 days	8 days
Vascular surgery	1,678	20 days	21 days	-1 day

Figure 49 **Median waiting time for patients who received elective surgery, by common procedure, October to December 2018**

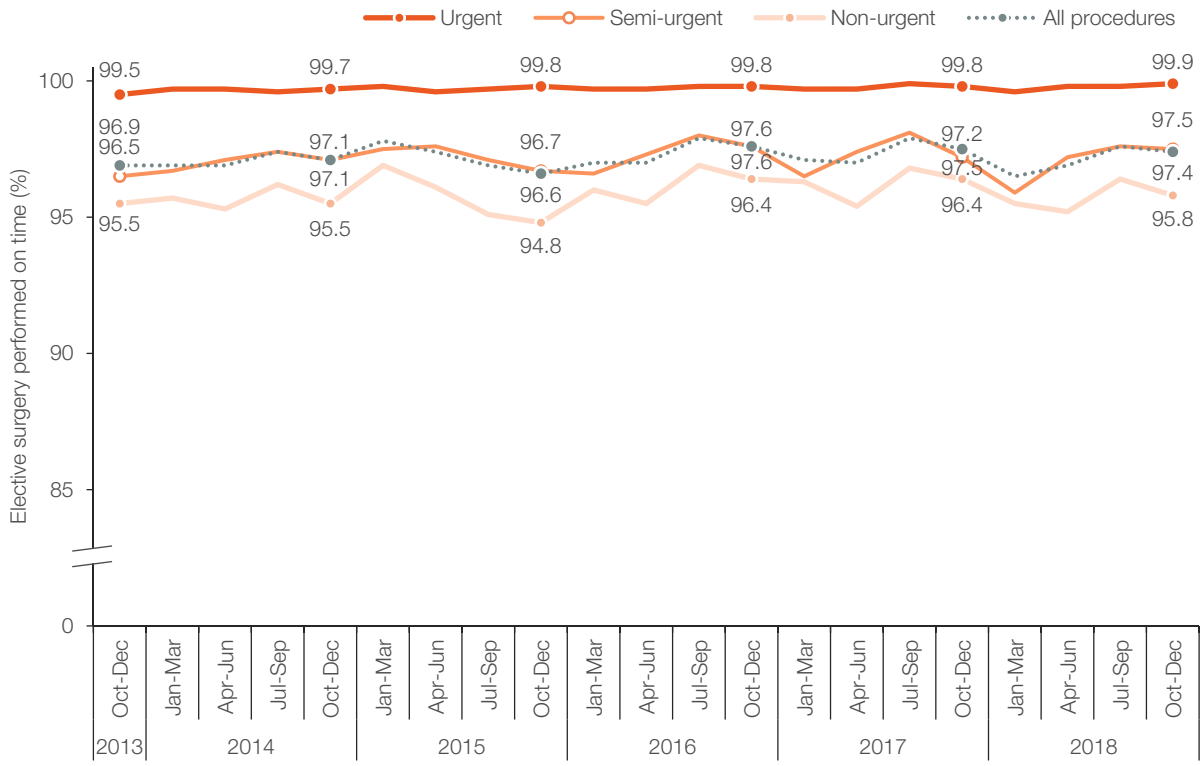
	Number of procedures	This quarter	Same quarter last year	Change since one year ago
Septoplasty	406	333 days	323 days	10 days
Tonsillectomy	1,260	297 days	273 days	24 days
Myringoplasty / Tympanoplasty	95	281 days	315 days	-34 days
Total knee replacement	1,737	264 days	271 days	-7 days
Cataract extraction	6,140	237 days	211 days	26 days
Total hip replacement	1,007	203 days	197 days	6 days
Varicose veins stripping and ligation	300	186 days	116 days	70 days
Myringotomy	60	78 days	71 days	7 days
Inguinal herniorrhaphy	1,473	74 days	69 days	5 days
Haemorrhoidectomy	314	65 days	58 days	7 days
Prostatectomy	649	64 days	59 days	5 days
Abdominal hysterectomy	618	56 days	57 days	-1 day
Cholecystectomy	1,524	51 days	50 days	1 day
Hysteroscopy	2,452	35 days	33 days	2 days
Coronary artery bypass graft	138	29 days	32 days	-3 days
Cystoscopy	3,226	29 days	31 days	-2 days
Other - General	1,669	22 days	21 days	1 day

Percentage of elective surgery on time

For each urgency category there are clinically recommended timeframes within which elective surgeries should be performed: 30 days for urgent surgery, 90 days for semi-urgent surgery, and 365 days for non-urgent surgery.

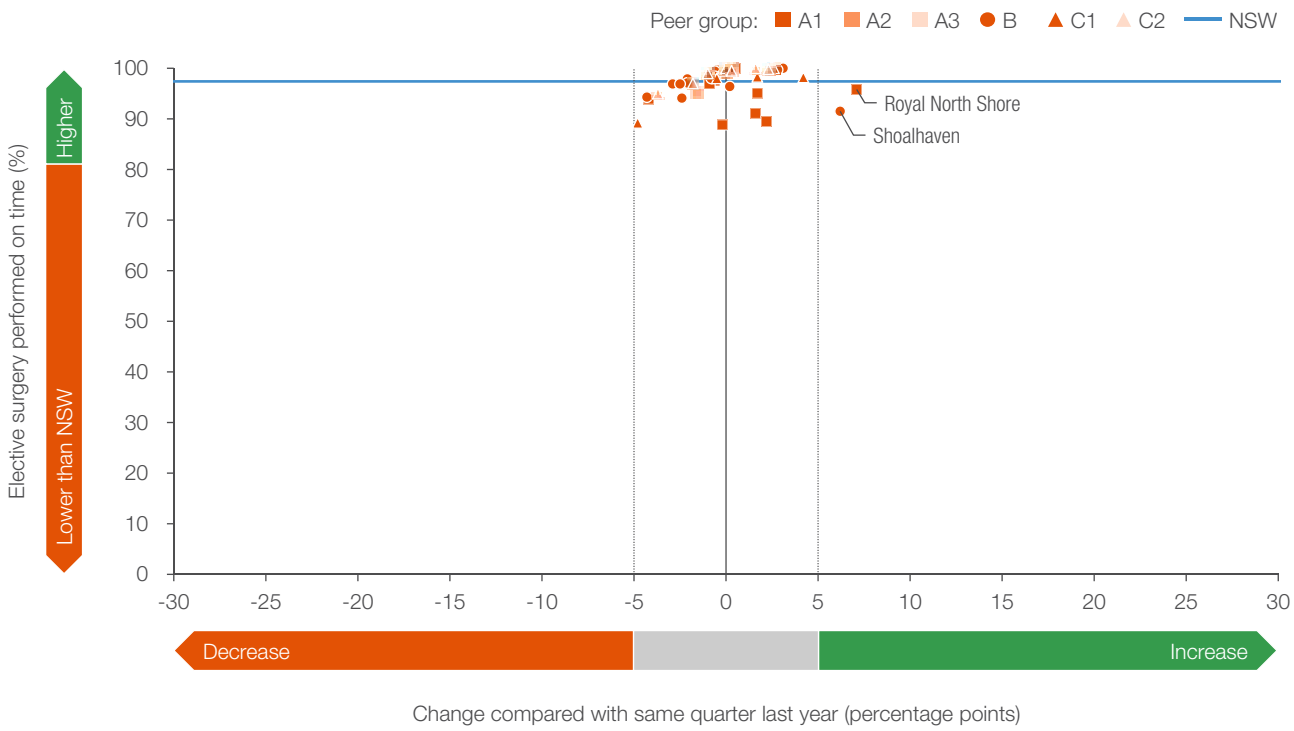
The hospital-level results for this quarter are presented on two axes: the percentage of elective surgeries performed on time (Y-axis), and the percentage point change since the same quarter last year (X-axis). For hospitals shown above the blue NSW line, a higher percentage of procedures were performed on time this quarter compared with the overall NSW result. Hospitals are named if they had more than a five percentage point change in performance.

Figure 50 Percentage of elective surgical procedures performed on time, by urgency, October 2013 to December 2018



Percentage of elective surgery on time (continued)

Figure 51 **Percentage of elective surgical procedures performed on time and percentage point change since same quarter last year, hospitals by peer group, October to December 2018**



Percentage of elective surgery on time (continued)

Figure 52 **Percentage of elective surgical procedures performed on time, by specialty, October to December 2018**

	Number of procedures	Percentage on time	Same quarter last year	Percentage point change since one year ago
Ophthalmology	7,669	99.3%	98.8%	0.5
Medical	528	99.2%	99.8%	-0.6
Vascular surgery	1,678	98.8%	99.2%	-0.4
Gynaecology	7,145	98.6%	98.6%	unchanged
General surgery	13,672	98.4%	98.6%	-0.2
Cardiothoracic surgery	861	98.3%	98.2%	0.1
Urology	7,922	96.9%	97.6%	-0.7
Plastic surgery	2,493	96.8%	96.1%	0.7
Neurosurgery	1,212	96.3%	94.9%	1.4
Orthopaedic surgery	8,972	95.2%	95.5%	-0.3
Ear, nose and throat surgery	4,116	93.0%	93.9%	-0.9

Figure 53 **Percentage of elective surgical procedures performed on time, by common procedure, October to December 2018**

	Number of procedures	Percentage on time	Same quarter last year	Percentage point change since one year ago
Myringotomy	60	100.0%	92.1%	7.9
Cataract extraction	6,140	99.4%	99.0%	0.4
Cholecystectomy	1,524	98.7%	98.0%	0.7
Hysteroscopy	2,452	98.7%	99.1%	-0.4
Other - General	1,669	98.7%	98.9%	-0.2
Haemorrhoidectomy	314	97.7%	99.0%	-1.3
Cystoscopy	3,226	97.6%	97.5%	0.1
Inguinal herniorrhaphy	1,473	97.5%	97.9%	-0.4
Varicose veins stripping and ligation	300	97.3%	99.3%	-2.0
Abdominal hysterectomy	618	97.2%	97.5%	-0.3
Coronary artery bypass graft	138	96.4%	96.2%	0.2
Total hip replacement	1,007	94.2%	91.7%	2.5
Tonsillectomy	1,260	93.4%	94.5%	-1.1
Prostatectomy	649	93.1%	98.3%	-5.2
Total knee replacement	1,737	92.4%	91.3%	1.1
Septoplasty	406	87.6%	87.9%	-0.3
Myringoplasty / Tympanoplasty	95	84.2%	86.2%	-2.0

End of quarter elective surgery waiting list

The waiting list is dynamic and the information about the number of patients still waiting for surgery is a snapshot of the list on a single day. In this case, it is the number of patients who were ready for surgery on the last day of the quarter. A patient would not be considered ready for surgery if, for example, they were receiving a staged procedure (i.e. their medical condition does not require, or is not amenable to, surgery until a future date) or the patient is unavailable for personal reasons.

Figure 54 Elective surgery waiting list, by urgency category, as at 31 December 2018

	This quarter	Same quarter last year	Change since one year ago
Patients ready for surgery on waiting list as at 31 December 2018	80,836	76,037	6.3%
Urgent 1.2%	951	918	3.6%
Semi-urgent 14.6%	11,838	11,376	4.1%
Non-urgent 84.2%	68,047	63,743	6.8%
Patients not ready for surgery on waiting list at the end of quarter	15,922	14,885	7.0%

End of quarter elective surgery waiting list (continued)

Figure 55 **Patients waiting for elective surgery and patients still waiting after more than 12 months on the waiting list at the end of the quarter, by specialty, as at 31 December 2018**

	Patients on waiting list at end of quarter			Patients still waiting after more than 12 months	
	This quarter	Same quarter last year	Percentage change since one year ago	This quarter	Same quarter last year
All specialties	**80,836**	**76,037**	**6.3**	**429**	**426**
Ophthalmology	20,023	18,066	10.8	10	15
Orthopaedic surgery	19,626	18,756	4.6	194	153
General surgery	13,539	12,398	9.2	30	48
Ear, nose and throat surgery	10,673	11,363	-6.1	142	141
Gynaecology	6,475	5,827	11.1	7	28
Urology	4,558	4,098	11.2	9	18
Plastic surgery	2,512	2,338	7.4	21	15
Neurosurgery	1,696	1,523	11.4	14	6
Vascular surgery	1,052	1,093	-3.8	<5	<5
Cardiothoracic surgery	413	389	6.2	0	0
Medical	269	186	44.6	0	0

Figure 56 **Patients waiting for elective surgery and patients still waiting after more than 12 months on the waiting list at the end of the quarter, by common procedure, as at 31 December 2018**

	Patients on waiting list at end of quarter			Patients still waiting after more than 12 months	
Procedure	This quarter	Same quarter last year	Percentage change since one year ago	This quarter	Same quarter last year
Cataract extraction	17,480	15,870	10.1	0	5
Total knee replacement	6,076	5,935	2.4	91	66
Tonsillectomy	4,064	4,516	-10.0	40	41
Total hip replacement	2,733	2,611	4.7	33	29
Inguinal herniorrhaphy	2,296	2,187	5.0	8	6
Hysteroscopy	1,797	1,552	15.8	0	<5
Cholecystectomy	1,761	1,535	14.7	7	<5
Septoplasty	1,638	1,650	-0.7	25	26
Other - General	1,221	1,113	9.7	<5	6
Cystoscopy	1,092	1,068	2.2	0	<5
Prostatectomy	792	763	3.8	<5	<5
Abdominal hysterectomy	766	720	6.4	<5	5
Varicose veins stripping and ligation	662	663	-0.2	0	<5
Haemorrhoidectomy	454	335	35.5	<5	0
Myringoplasty / Tympanoplasty	359	378	-5.0	11	11
Coronary artery bypass graft	88	102	-13.7	0	0
Myringotomy	84	106	-20.8	0	<5

bureau of health information

About the Bureau of Health Information

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

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