Healthcare Quarterly

Trend report

Emergency department, ambulance, admitted patients and elective surgery

April to June 2019

bureau of health information

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

© Copyright Bureau of Health Information 2019
This work is copyrighted. It may be reproduced in whole or in part for study or training purposes subject to the inclusion of an acknowledgement of the source. It may not be reproduced for commercial usage or sale. Reproduction for purposes other than those indicated above requires written permission from the Bureau of Health Information.

Suggested citation:
Bureau of Health Information. Healthcare Quarterly, Trend report, Emergency department, ambulance, admitted patients and elective surgery, April to June 2019. Sydney (NSW); BHI; 2019.

Please note there is the potential for minor revisions of data in this report.
Please check the online version at **bhi.nsw.gov.au** for any amendments or errata.

Published September 2019

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.

Full results for *Healthcare Quarterly* are available through BHI's interactive data portal, Healthcare Observer. Results are reported at a state, local health district, hospital peer group and individual hospital level for public hospitals and at a state level and by statistical area level 3 (SA3) for ambulance services.

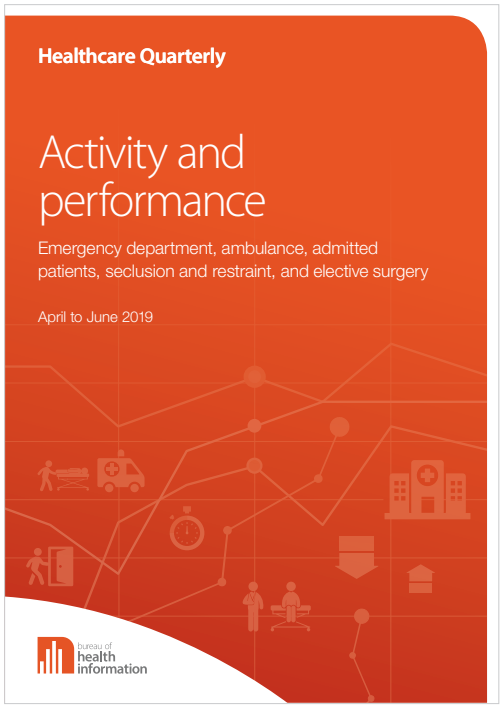
Figures published in Healthcare Observer, may differ from those in published reports and information products due to subsequent changes in data coverage and analytic methods, and updates to databases. At any time, the most up-to-date data are available in Healthcare Observer and supersede all previously published figures.

Please visit **bhi.nsw.gov.au/Healthcare_Observer**

Table of contents

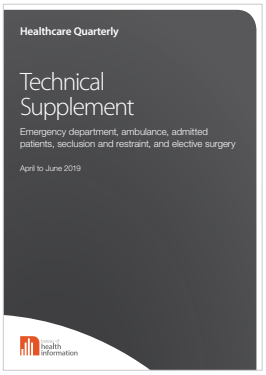
A guide to Healthcare Quarterly

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

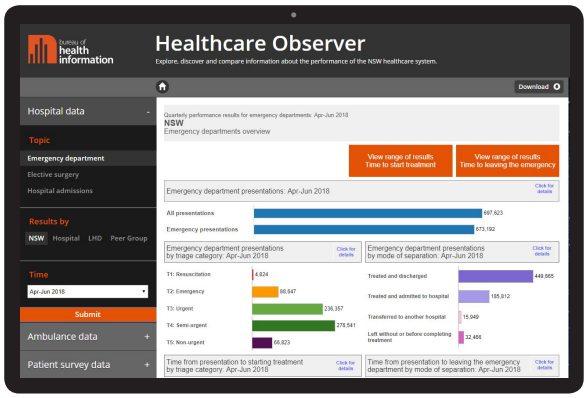


This *Healthcare Quarterly* shows how public hospitals and ambulance services performed in the April to June 2019 quarter. The key measures focus on the timeliness of services delivered to people across NSW.

The *Trend report* provides five-year trends in activity and performance for emergency departments, ambulance services, admitted patients and elective surgical procedures.



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



Full results are available from BHI's interactive data portal Healthcare Observer, at **bhi.nsw.gov.au/healthcare_observer**

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

Emergency department activity and performance

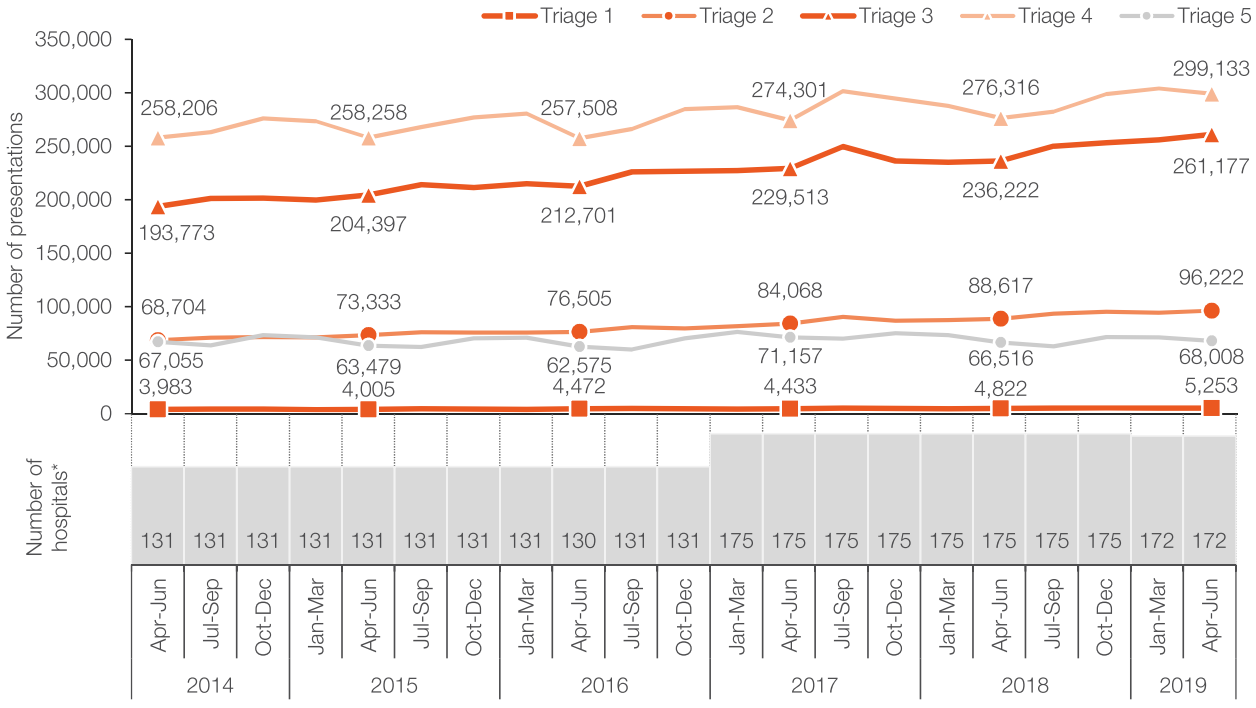
Emergency department presentations

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 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*.

Figure 1 Emergency presentations by triage category, April 2014 to June 2019



* See Technical Supplement for information on hospital emergency department counts.

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)

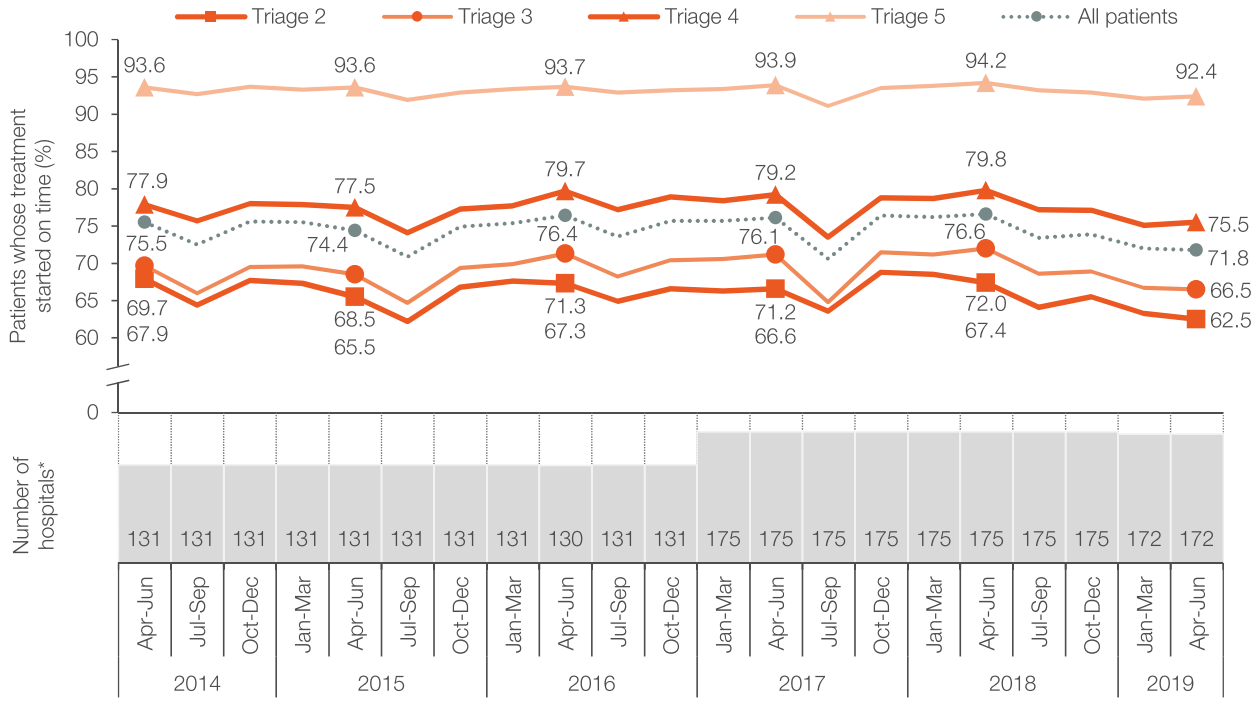
Time to treatment refers to the time between a patient's arrival at the ED and when their treatment began. It is calculated for triage categories 2 to 5. Time to treatment is not shown for the most urgent patients (triage 1) because clinicians are focused on providing immediate and essential care, rather 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 (Page 4, Figure 3).

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 (Page 4, Figure 4).

Figure 2 Percentage of patients whose treatment started on time, by triage category, April 2014 to June 2019



* See Technical Supplement for information on hospital emergency department counts.

Time to treatment (continued)

Figure 3 **Median time from presentation to starting treatment, by triage category, April 2014 to June 2019**

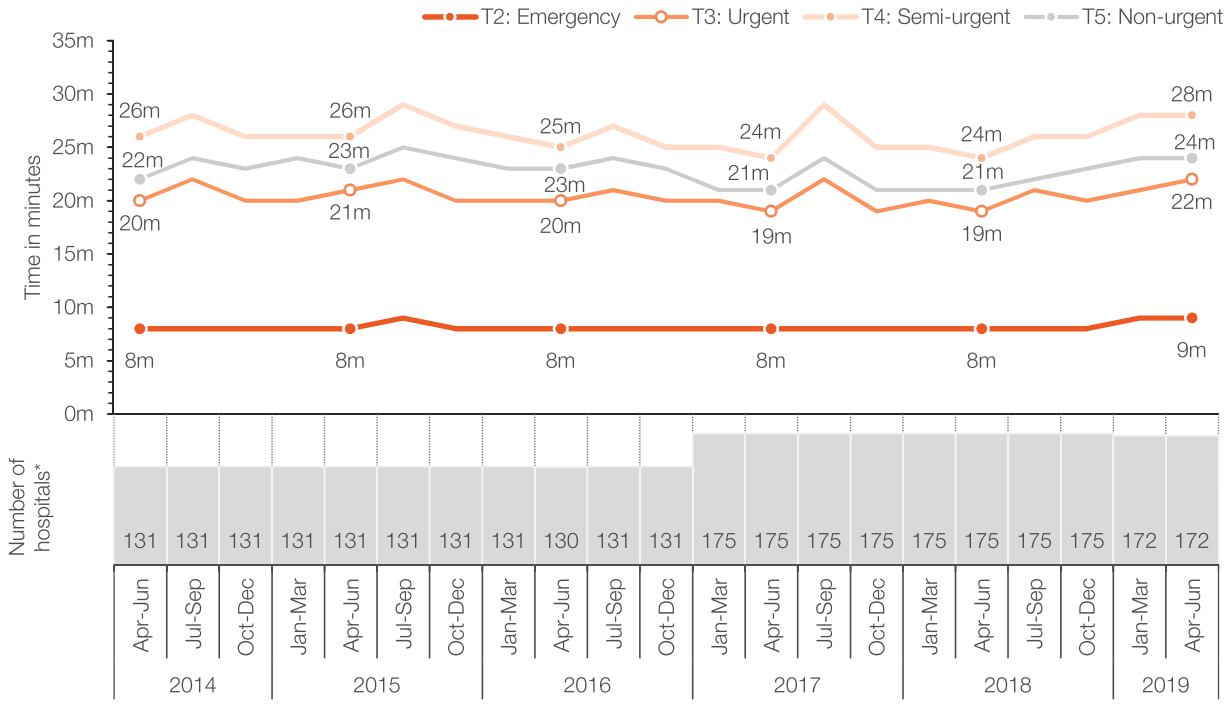
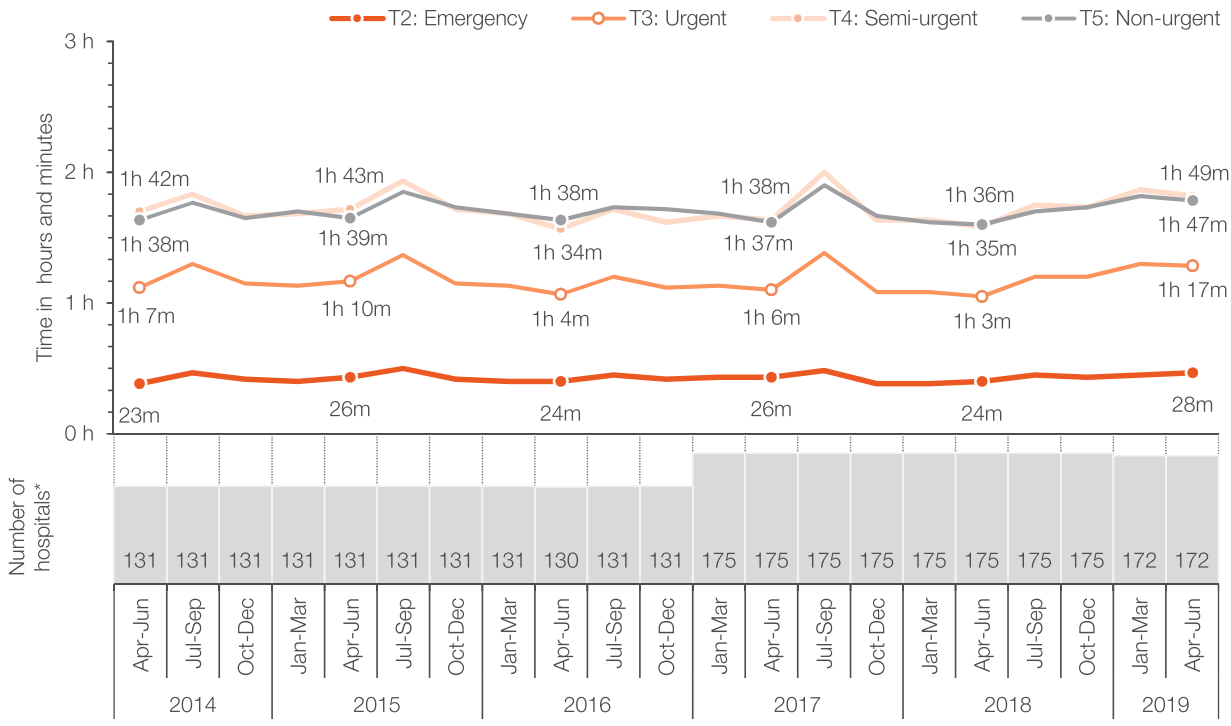


Figure 4 **90th percentile time from presentation to starting treatment, by triage category, April 2014 to June 2019**



* See Technical Supplement for information on hospital emergency department counts.

Time spent in the emergency department

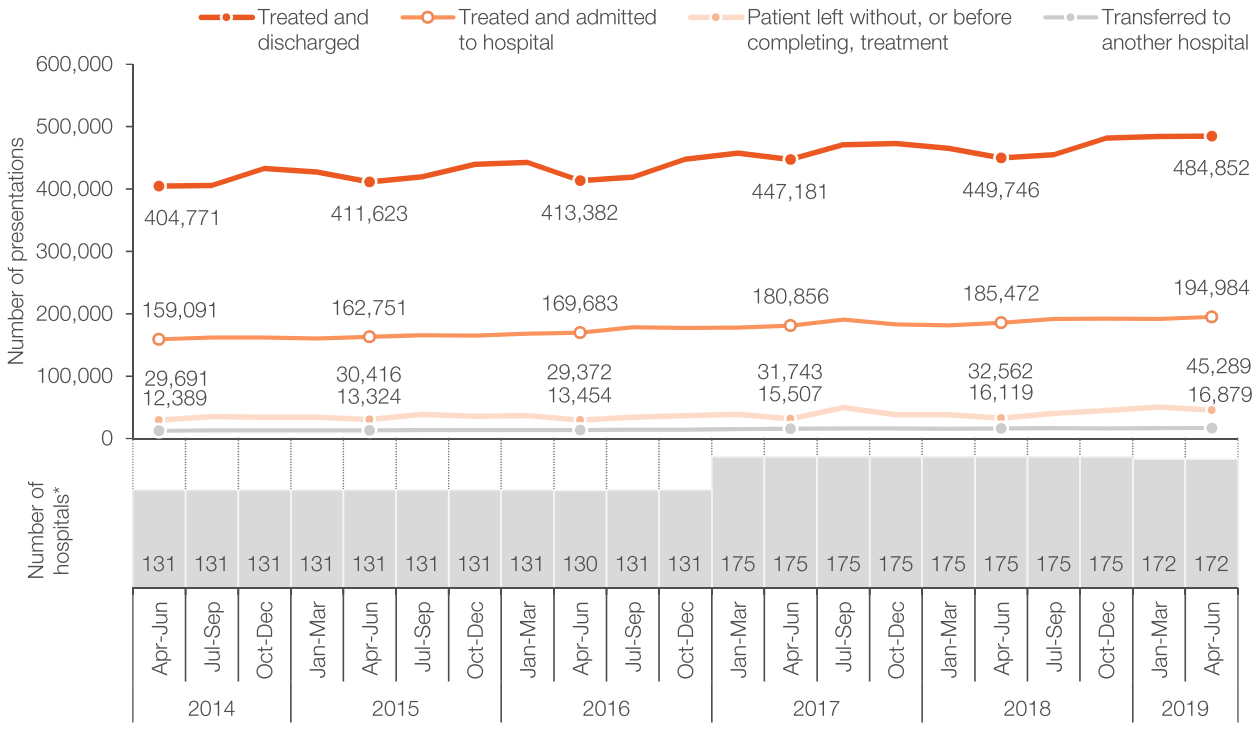
Following treatment in the ED, the majority of patients are either discharged home or admitted to hospital. Some patients choose not to wait for treatment and leave, and others are transferred to a different hospital. Collectively, these categories are referred to as the 'mode of separation'.

Classifying ED activity levels by mode of separation provides information on changes over time in the volume and 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 tranport.

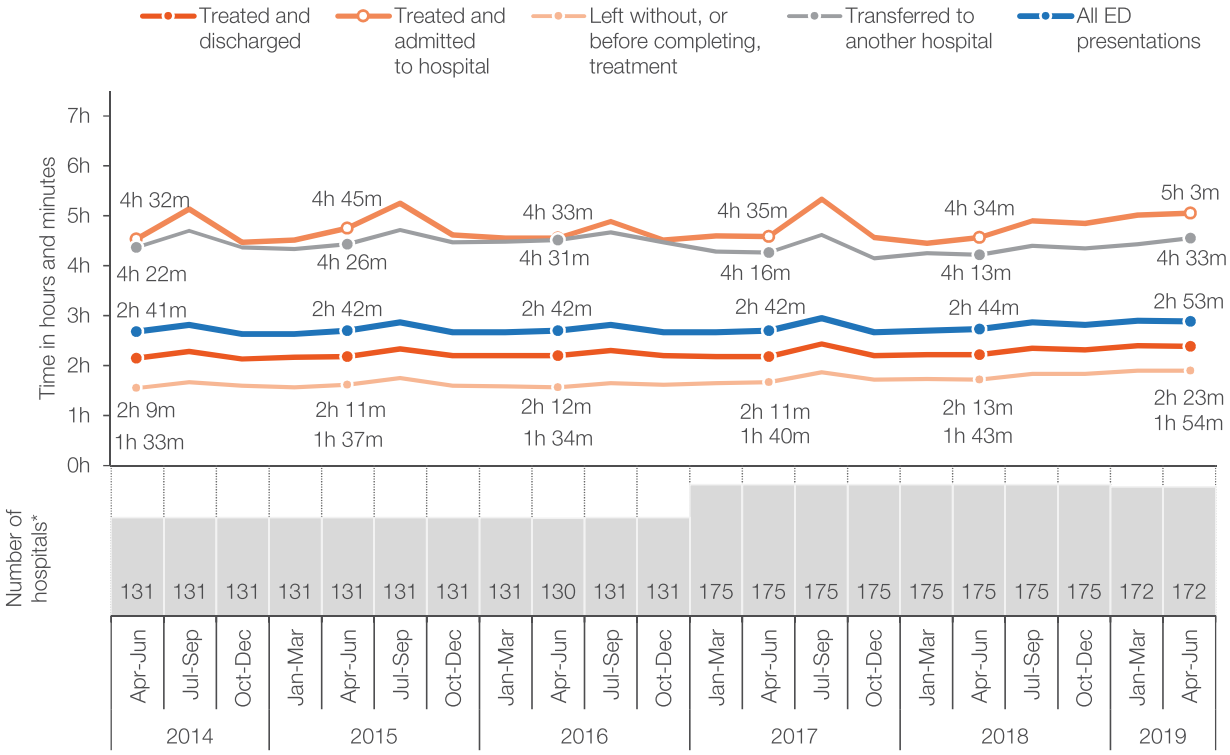
The median time patients spent in the ED refers to the time from arrival by which half of the patients had left the ED. The other half of patients spent equal to or longer than this time in the ED (Page 6, Figure 6).

Figure 5 Emergency presentations by mode of separation, April 2014 to June 2019



* See Technical Supplement for information on hospital emergency department counts.

Figure 6 **Median time patients spent in the emergency department, by mode of separation, April 2014 to June 2019**



* See Technical Supplement for information on hospital emergency department counts.

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.

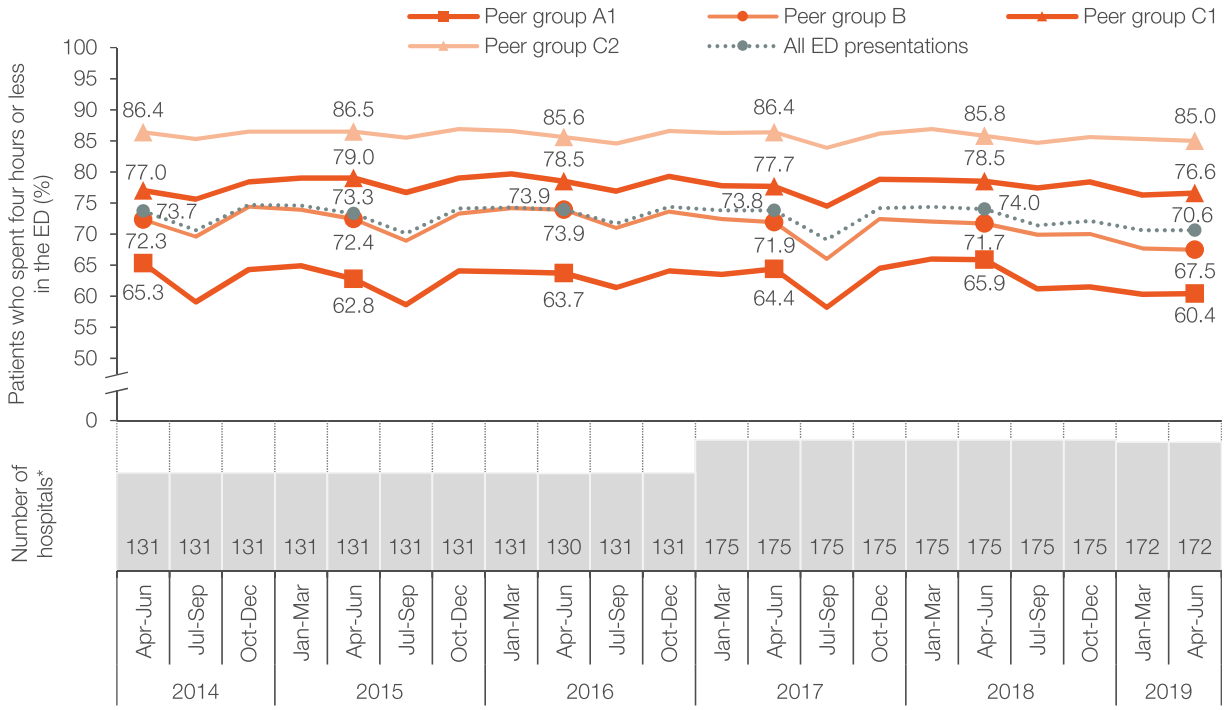
Analyses of how long patients spend in the ED are categorised by hospital peer group: principal referral (peer group A), major hospitals (peer group B) and district hospitals (peer group C). Presenting the percentage of patients who spent four hours or less in the ED by peer group acknowledges the differences in size and functions between hospitals.

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**.

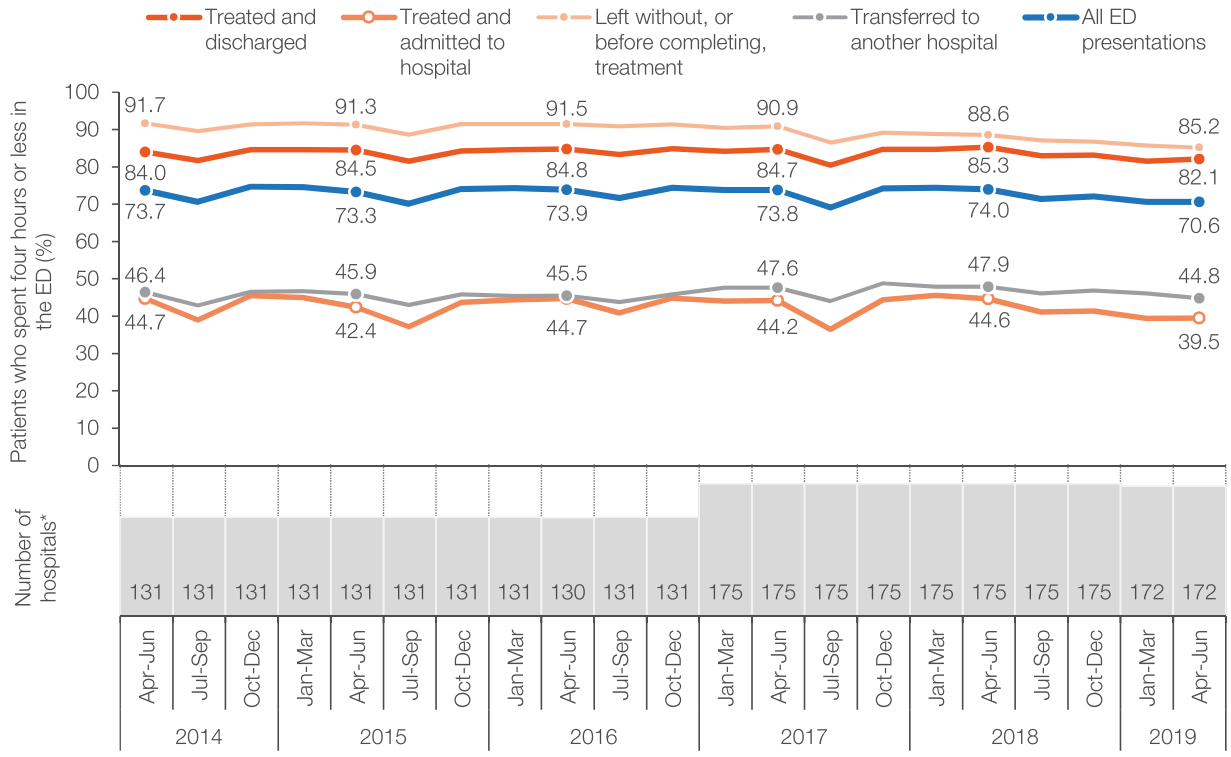
The percentage of patients who spent four hours or less by mode of separation, over time, is summarised in Figure 8.

Figure 7 Percentage of patients who spent four hours or less in the emergency department, by peer group, April 2014 to June 2019



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

Figure 8 **Percentage of patients who spent four hours or less in the emergency department, by mode of separation, April 2014 to June 2019**

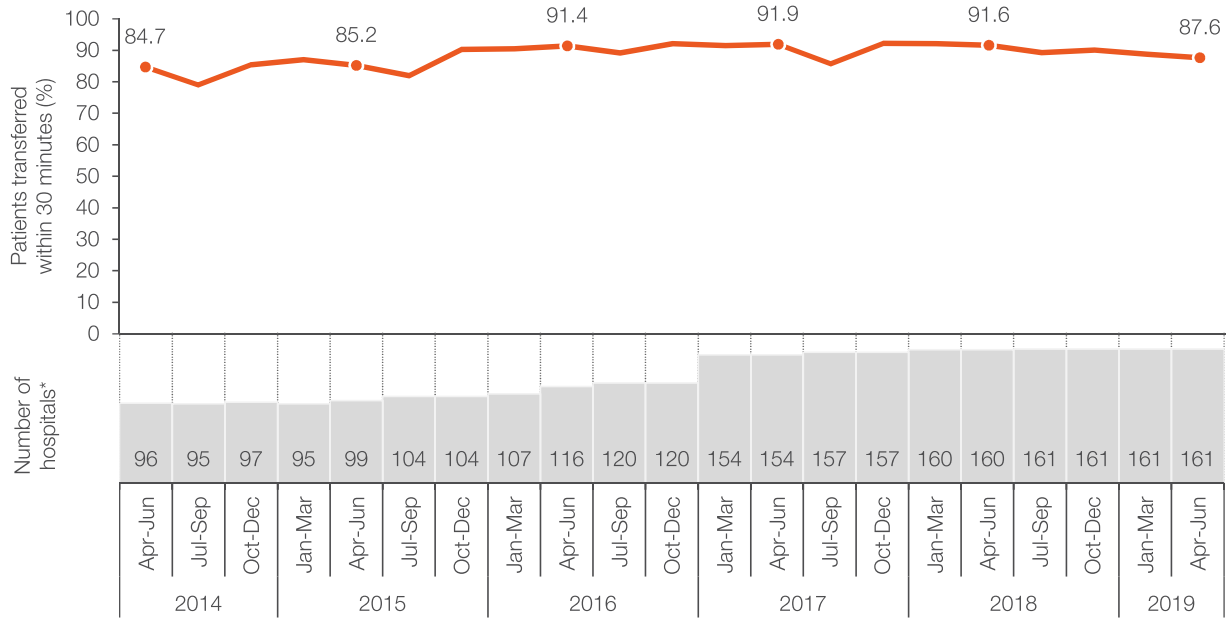


* See Technical Supplement for information on hospital emergency department counts.

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 ED staff. Transfer of care time is measured from when an ambulance arrives at the hospital to responsibility for a patient's care being transferred to ED staff. In NSW, the target for transfer of care from paramedics to ED staff is 30 minutes for at least 90% of patients.

Figure 9 Percentage of ambulance arrivals with transfer of care time within 30 minutes, April 2014 to June 2019



* See *Technical Supplement* for information on hospital emergency department counts.

Ambulance activity and performance

Ambulance activity

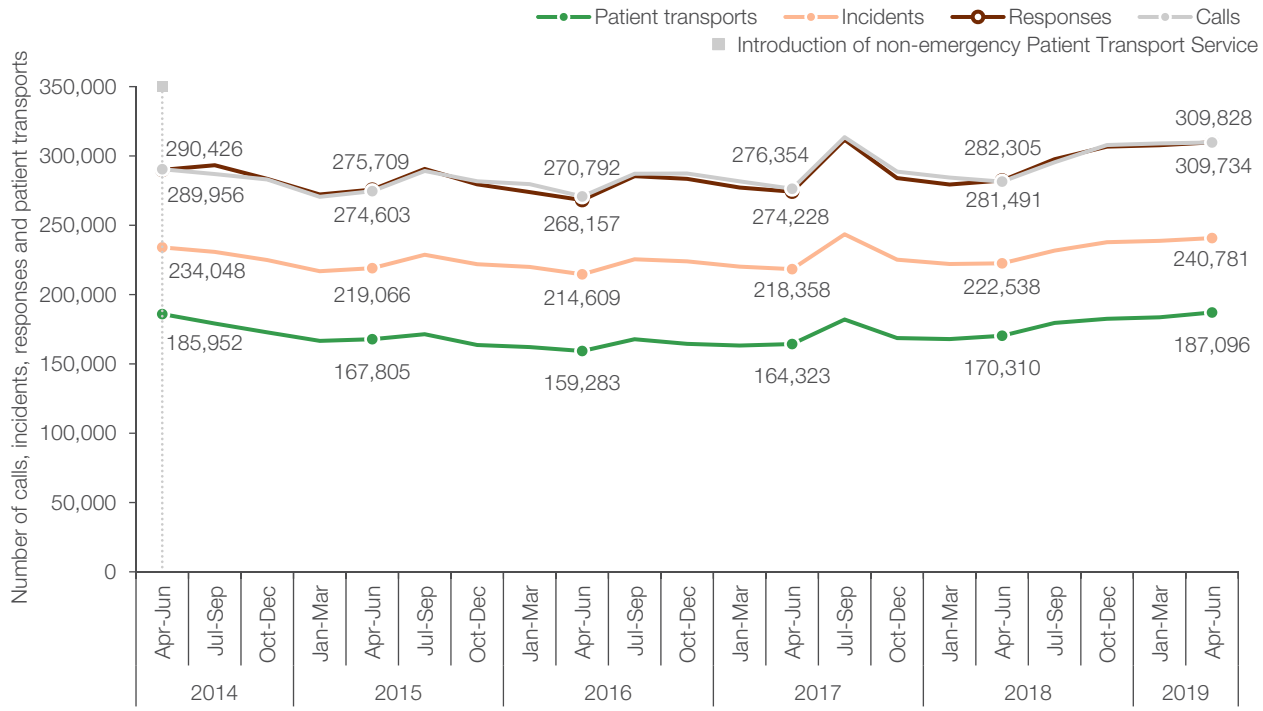
Activity is measured as the number of ambulance calls, incidents, responses and transports during the quarter. A Triple Zero (000) call generally initiates ambulance activity. An incident is an event that results in a response by one or more ambulances. A response is the dispatch of one or more ambulances.

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.

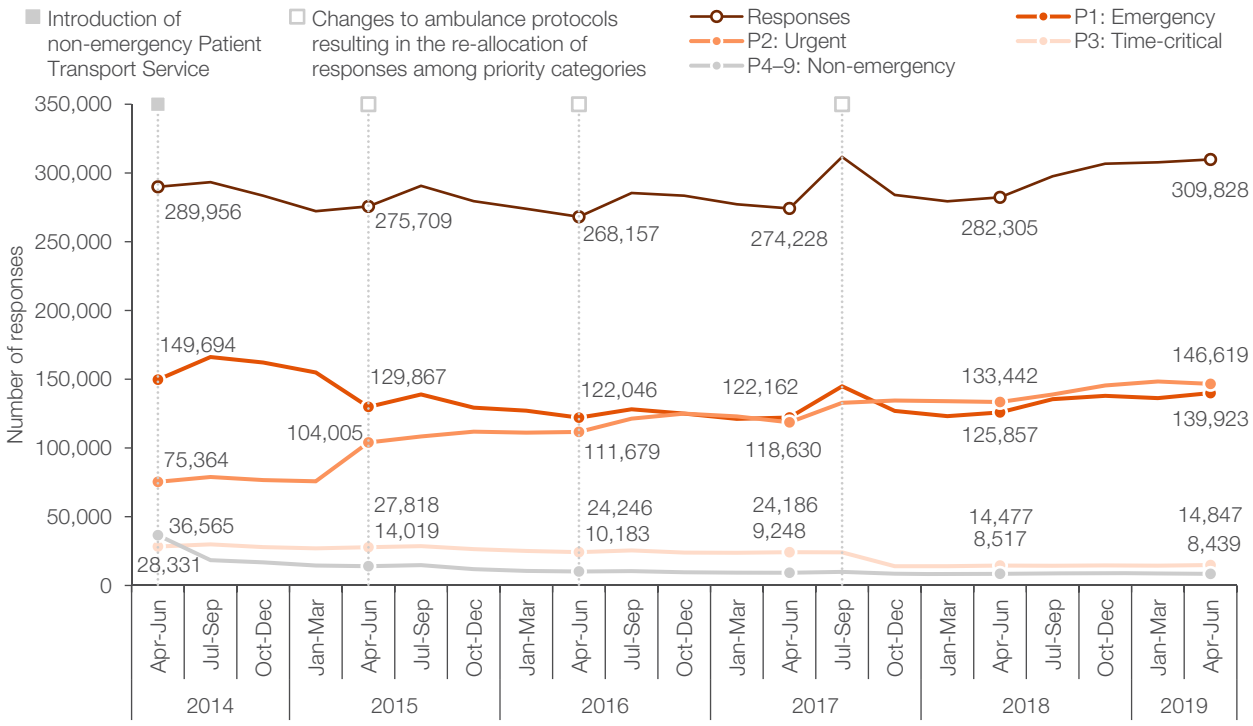
There are nine main priority categories. Three of these – priority 1 (emergency), priority 2 (urgent) and priority 3 (time critical) – are commonly used to assess the timeliness of ambulance services. Within the priority 1 category, there is the sub-category of priority 1A for life-threatening conditions (e.g. cardiac or respiratory arrest). The numbers over time of ambulance responses by priority group are summarised in Figure 11.

Figure 10 Ambulance calls, incidents, responses and patient transports, April 2014 to June 2019



Ambulance activity (continued)

Figure 11 **Ambulance responses by priority, April 2014 to June 2019**

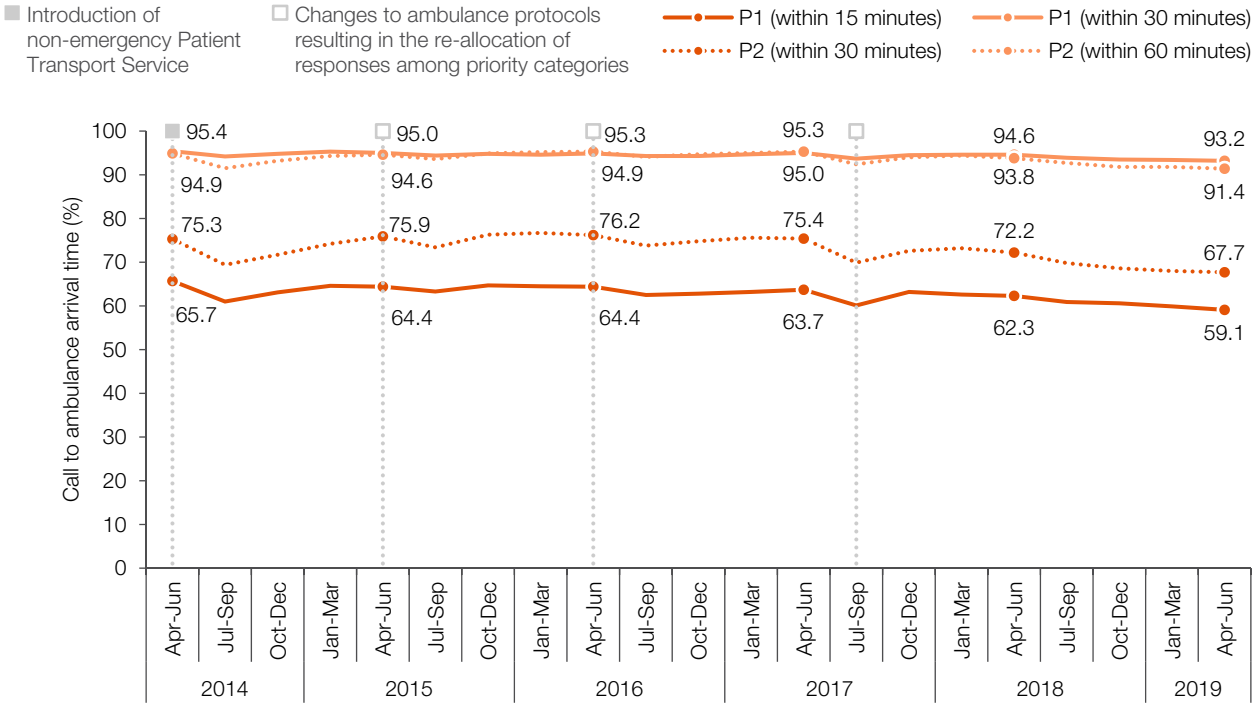


Call to ambulance arrival time – NSW performance

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 12 Intervals covering call to ambulance arrival time, NSW

Figure 13 Percentage of call to ambulance arrival times, by priority category, April 2014 to June 2019



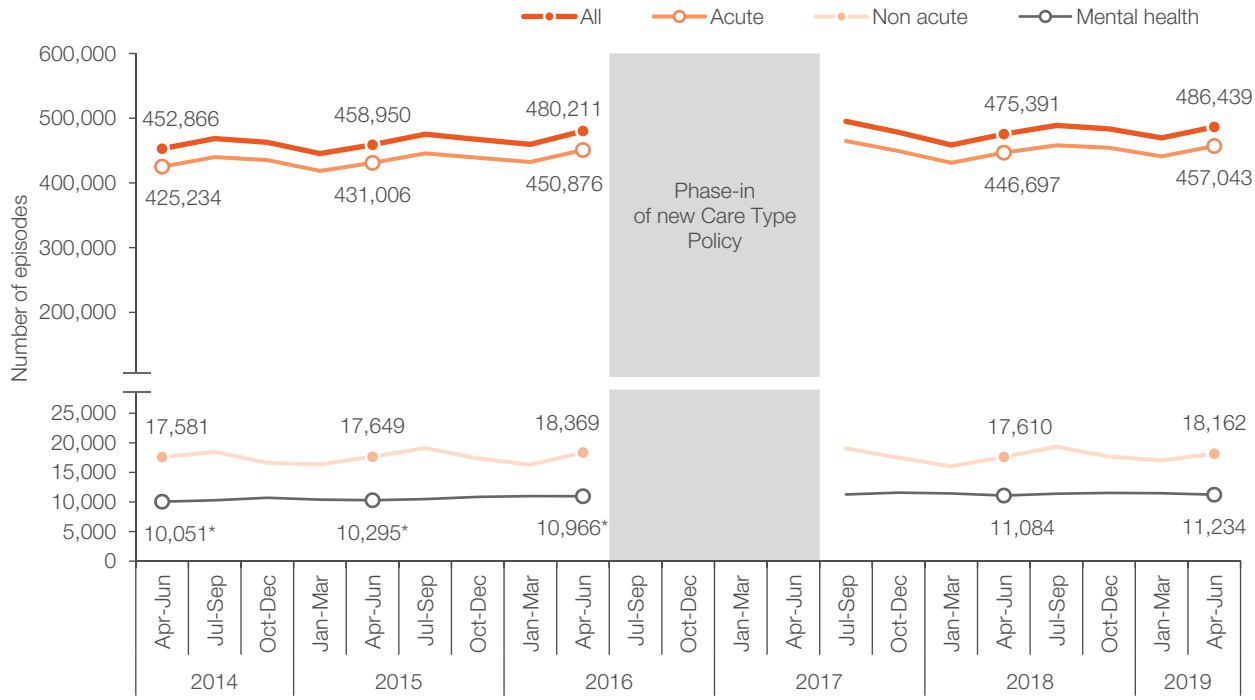
Admitted patient activity

Admitted patients

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.

The trend in acute overnight admitted patient episodes shows more seasonal variation than the number of same-day acute episodes (Page 16, Figure 15).

Figure 14 Total, acute, non-acute and mental health episodes, April 2014 to June 2019



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

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

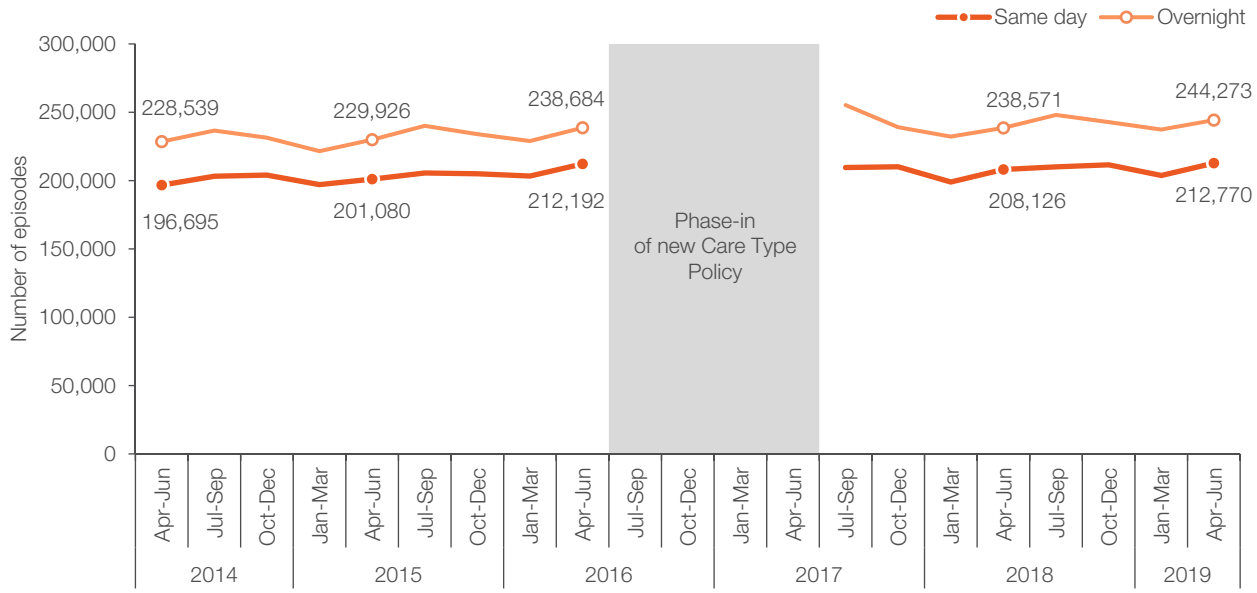
Phase-in of new Care Type Policy

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.

Admitted patients (continued)

Figure 15 **Overnight and same day acute admitted patient episodes, April 2014 to June 2019**



Phase-in of new Care Type 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.

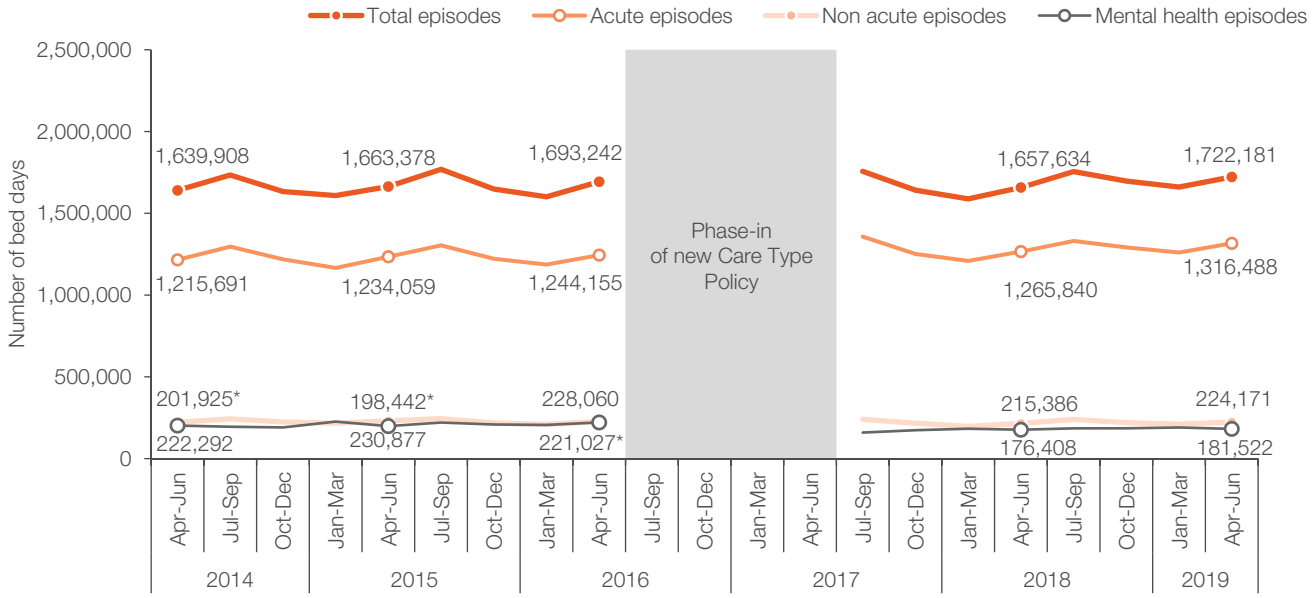
Bed days and length of stay in hospital

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.

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 day.

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. The average length of stay by episode type is calculated over time and summarised in Figure 17.

Figure 16 Total number of hospital bed days by episode type, April 2014 to June 2019



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

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

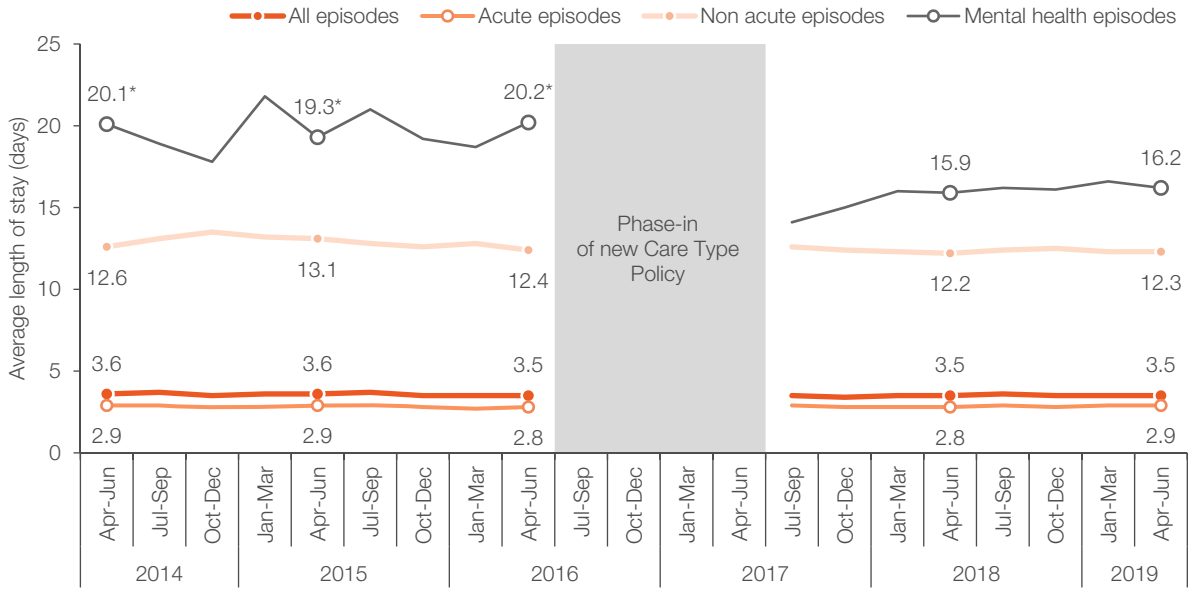
Phase-in of new Care Type Policy

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.

Bed days and length of stay in hospital (continued)

Figure 17 **Average length of stay, by type of admitted patient episode, April 2014 to June 2019**



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

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

Phase-in of new Care Type 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.

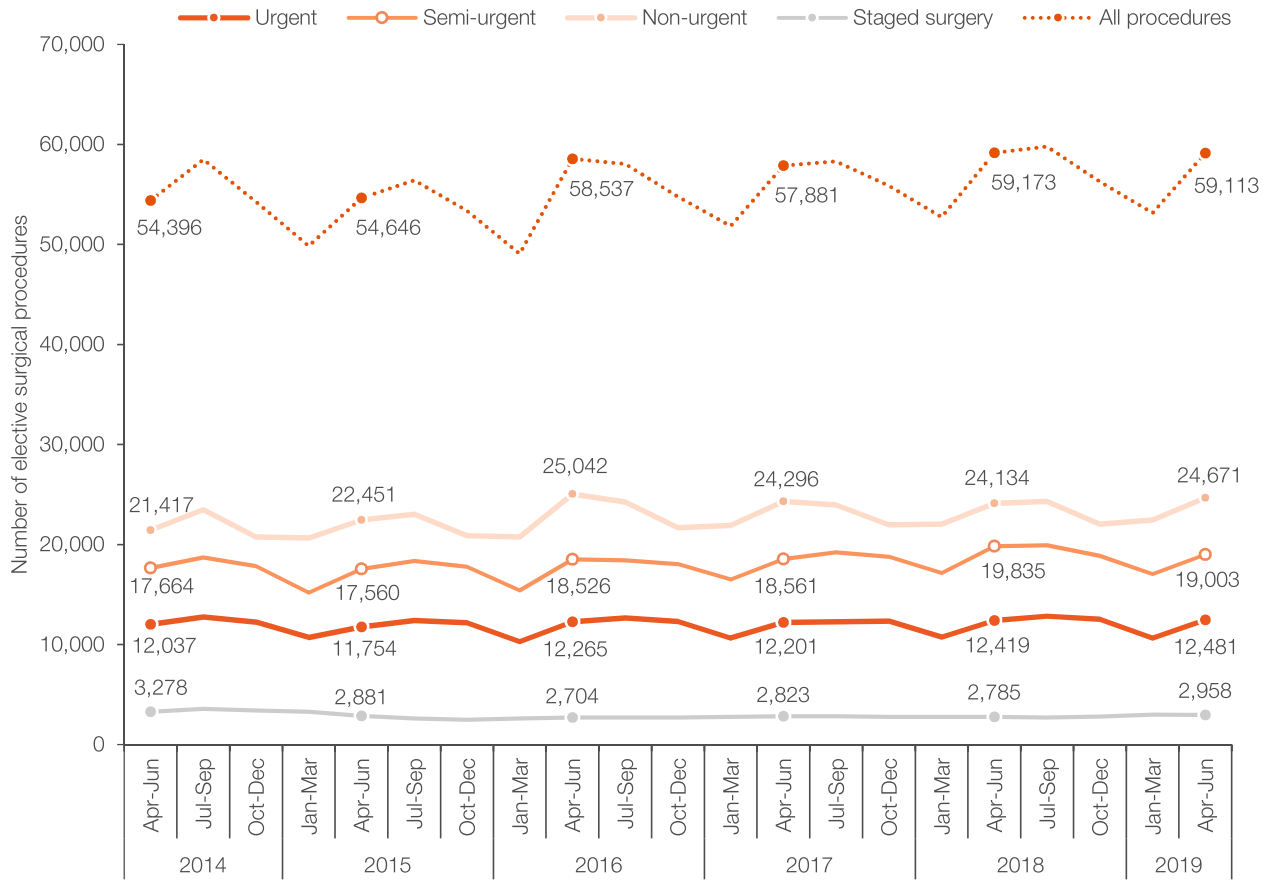
Fair comparisons cannot be made with results from the policy phase-in period due to staggered implementation across LHDs that affected activity counts in the acute, non-acute and mental health categories. Mental health activity counts presented before the introduction of the classification change are 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.

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.

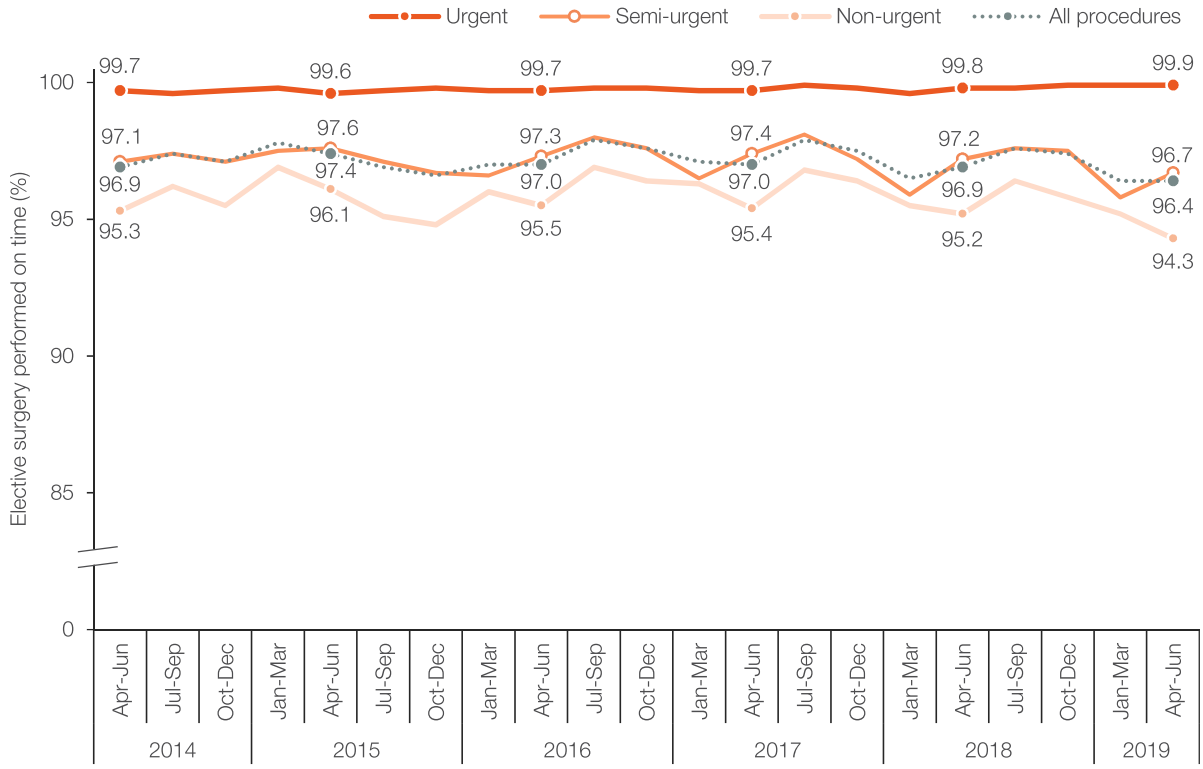
Figure 18 Elective surgical procedures performed, by urgency category, April 2014 to June 2019



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.

Figure 19 **Percentage of elective surgical procedures performed on time, by urgency, April 2014 to June 2019**



Waiting time for elective surgery

Waiting time for elective surgical procedures 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 20 Median waiting time for elective surgery, by urgency category, April 2014 to June 2019

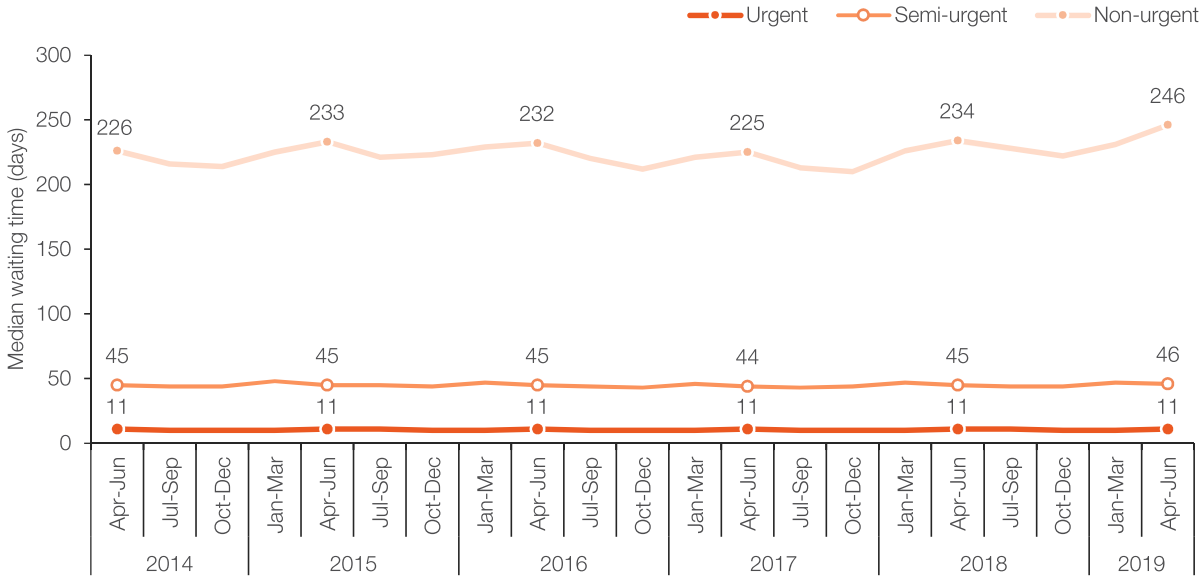
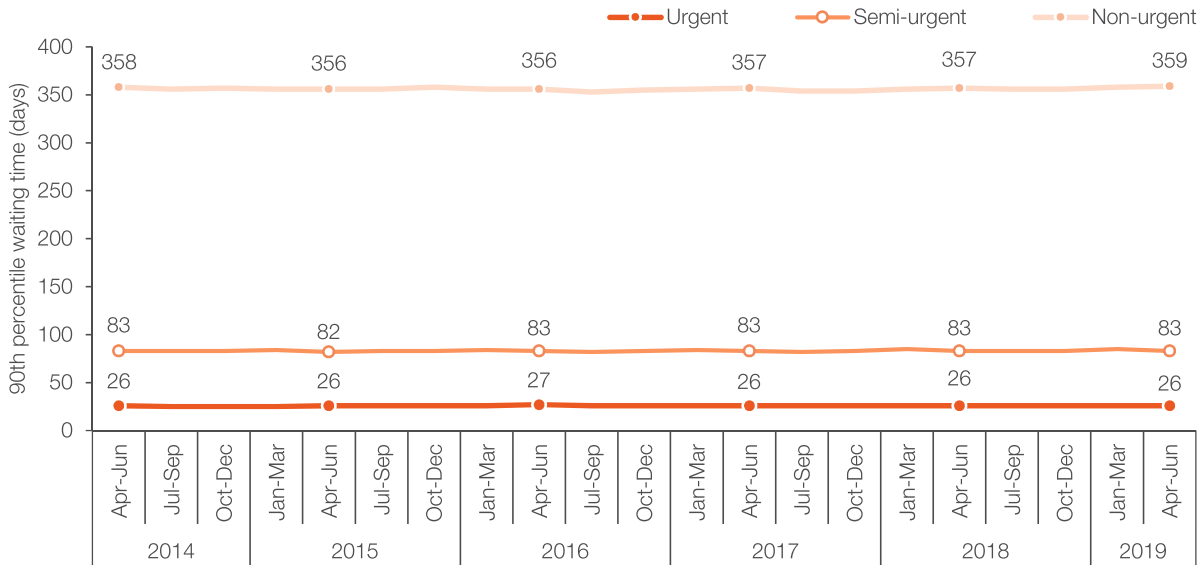


Figure 21 90th percentile waiting time for elective surgery, by urgency category, April 2014 to June 2019



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.

bhi.nsw.gov.au