

# Trend report

Emergency department, ambulance,  
admitted patients and elective surgery

January to March 2020



## BUREAU OF HEALTH INFORMATION

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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 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 results are available in Healthcare Observer and supersede all previously published figures.

Please visit **bhi.nsw.gov.au/Healthcare\_Observer**

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# Foreword

This issue of *Healthcare Quarterly* covers public hospital and ambulance activity and performance in NSW during January to March 2020, an unprecedented quarter for the people of the state and their healthcare system.

At the beginning of 2020, the bushfire crisis was at its peak and continued through January, making it the most devastating bushfire season on record.

Meanwhile, what would eventually become the COVID-19 pandemic was continuing to develop overseas and would go on to dramatically and rapidly change the world we live in well before the end of March.

Healthcare workers in public health, community care, NSW Ambulance and hospitals are on the frontline, responding to an ongoing series of challenges never experienced before while continuing to care for patients.

**“ The majority of people confirmed to have contracted COVID-19, have remained outside of hospital settings, including ‘health hotels’ and at home, to recover. ”**

The relationship between each of these crises and the impact on the activity and performance measures in this report is far from straightforward. As I outlined previously in relation to the October to December 2019 quarter, there were a range of factors at play in bushfire-affected areas that may have reduced hospital and ambulance demand, including road closures, holidaymakers staying away and people with less urgent health issues avoiding emergency departments (EDs).

The impact of COVID-19 on activity and performance is also not straightforward. The arrival of COVID-19 has had far-reaching impacts on the way people live their lives, from rigorous hand hygiene to social distancing, alongside the many other actions taken to protect the health and safety of the community.

At the same time, the health system shifted into emergency response mode, including freeing up capacity in hospitals and making significant changes in service delivery, from the rapid introduction of new virtual models of care to the establishment of dedicated COVID-19 testing clinics. From 26 March, non-urgent elective surgery was suspended.

The majority of people confirmed to have contracted COVID-19, have remained outside of hospital settings, including ‘health hotels’ and at home, to recover. While, sadly, people have also required care in intensive care units (ICUs) and there has been tragic loss of life, the scale of the impact of the virus on both the population and health services has been far less than initially feared, thanks primarily to the efforts and sacrifices of the people of NSW.

Overall, the full scale of the impact of COVID-19 on activity and performance measures for the full January to March quarter is not always easily discernible, including at a local level. Due to the many factors at play, primarily the significant changes to how health services are delivered and how we all live our lives, caution should also be taken when comparing the results of January to March 2020 with the first quarter of previous years, whether those results compare favourably or not. These comparisons will continue to need to be addressed with caution in future quarters.

The *COVID-19 Supplement* released with this report provides additional information on hospital and ambulance activity at NSW level during March, when cases peaked. This is intended to provide greater insights into the impact of the pandemic on the public health system.

Now more than ever, it is vital that the Bureau of Health Information (BHI) continues to report on the performance of the NSW public healthcare system, providing transparency for the wider community and providing useful information to healthcare professionals making critical decisions about the management of their services, to ensure that patients in NSW receive the best possible experiences and outcomes of care during this very difficult period.

**Dr Diane Watson**

Chief Executive, Bureau of Health Information

# About this report

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

Activity and performance are reported at NSW level over a five-year period. For hospital-based measures, results are stratified by peer group or acuity. For ambulance-based measures, results are stratified by urgency.

Activity measures are reported by counts of events or proportion within the total events. Timeliness measures are reported based on units of time such as minutes or days using median and 90th percentile times, or based on achievement against a recommended or defined time.

For more information on the January to March 2020 quarter results refer to *Healthcare Quarterly – Activity and Performance*.

Table 1 Description of main measures featured in *Healthcare Quarterly – Trend report\**

Emergency departments (ED)	
ED attendances	Count of all patient visits to the emergency department (ED) during the defined period.
Emergency presentations	The vast majority of ED attendances are classified as emergency presentations. The remaining ED attendances include non-emergency visits such as planned returns, pre-arranged admissions, some outpatient visits and private referrals.
Transfer of care time	For patients who are transported to the ED by ambulance, the time from arrival at hospital to when responsibility for their care is transferred from paramedics to ED staff in an ED treatment zone.
Time to start treatment	The time from patient arrival at an ED until the start of clinical treatment.
Time spent in the ED	The time from patient arrival at the ED until their departure.
Ambulance	
Number of incidents	Count of all events requiring one or more ambulance responses.
Number of responses	Count of all dispatches of an ambulance service vehicle.
Call to ambulance arrival time	The time 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 of an incident.
Response time	The time 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.
Admitted patients	
Total episodes	Episode of care is a period of care in a hospital or other healthcare facility with a defined start and end. Total episodes is the count of all records with an episode end date in the defined period.
Total bed days	Bed days are calculated for all admitted patient episodes completed during the reference period. Total acute bed days is the sum of bed days for all acute episodes with an episode end date within the defined period.
Elective surgery	
Elective surgery waiting time	The number of days from a patient's placement on the elective surgery waiting list until they undergo surgery.

\* For some measures, other agencies report similar metrics, often with slightly different data definitions, so cross-publication comparisons should be made with care.





# Emergency department activity and performance

# Emergency department attendances

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

ED attendances for all hospitals increased from 645,531 in the January to March 2015 quarter to 764,658 in January to March 2020, up 18.5% (119,127) over five years. The January to March 2020 quarter had the highest number of ED attendances in January to March quarters over five years (Figure 1).

Excluding EDs that were added from the January to March 2017 quarter, ED attendances in a consistent hospital cohort increased from 645,531 in the January to March 2015 quarter to 739,935 in January to March 2020, up 14.6% over five years (Figure 1).

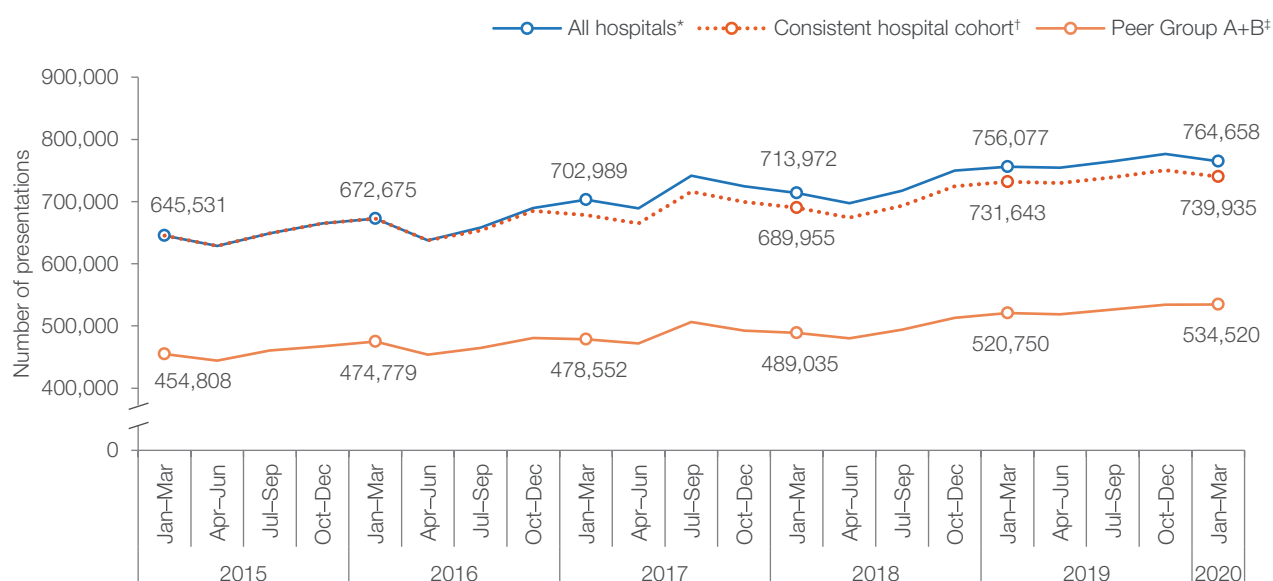
For the EDs in peer groups A and B, attendances increased from 454,808 in the January to March 2015 quarter to 534,520 in January to March 2020, up 17.5% over five years (Figure 1).

Hospital EDs in NSW have progressively replaced historical information systems with more contemporary electronic record systems. BHI reports EDs which have an electronic records system in place and report ED data to the Emergency Department Data Collection (EDDC), representing more than 170 public hospitals in the most recent years.

In the January to March 2017 quarter, an additional 44 EDs were included in *Healthcare Quarterly*. These are small EDs that serve regional populations in NSW and account for a relatively small annual number of patient visits. BHI uses a consistent cohort of hospitals to ensure fair comparison of ED presentations over longer intervals.

The change in the number of hospitals can influence the NSW trends in ED activity. Further information on hospital inclusions is available in the technical supplement to *Healthcare Quarterly, January to March 2020*.

Figure 1 Emergency department attendances, January 2015 to March 2020



\* 'All hospitals' cohort includes all EDs submitting valid data to EDDC in each quarter. This includes more than 170 EDs as of the January to March 2017 quarter.

† A consistent cohort of hospitals was used to report ED presentations so that comparisons of presentations over longer intervals will not be affected by inclusion of additional EDs.

‡ Peer group A+B cohort includes all hospitals in peer groups A1, A2, A3 and B.

§ Change in hospital cohort: in the January to March 2017 quarter, an additional 44 EDs were included in *Healthcare Quarterly*, contributing to activity and performance results. See the technical supplement to this *Healthcare Quarterly* for further information.



# Emergency presentations by triage category

The vast majority of ED attendances are classified as 'emergency presentations'. The remaining ED attendances include non-emergency visits such as planned returns, pre-arranged admissions, some outpatient visits and private referrals.

Reporting emergency presentations by triage category provides information on changes in the urgency of patients.

Across all triage categories, emergency presentations have increased over time. Triage category 4 had the highest number of emergency presentations.

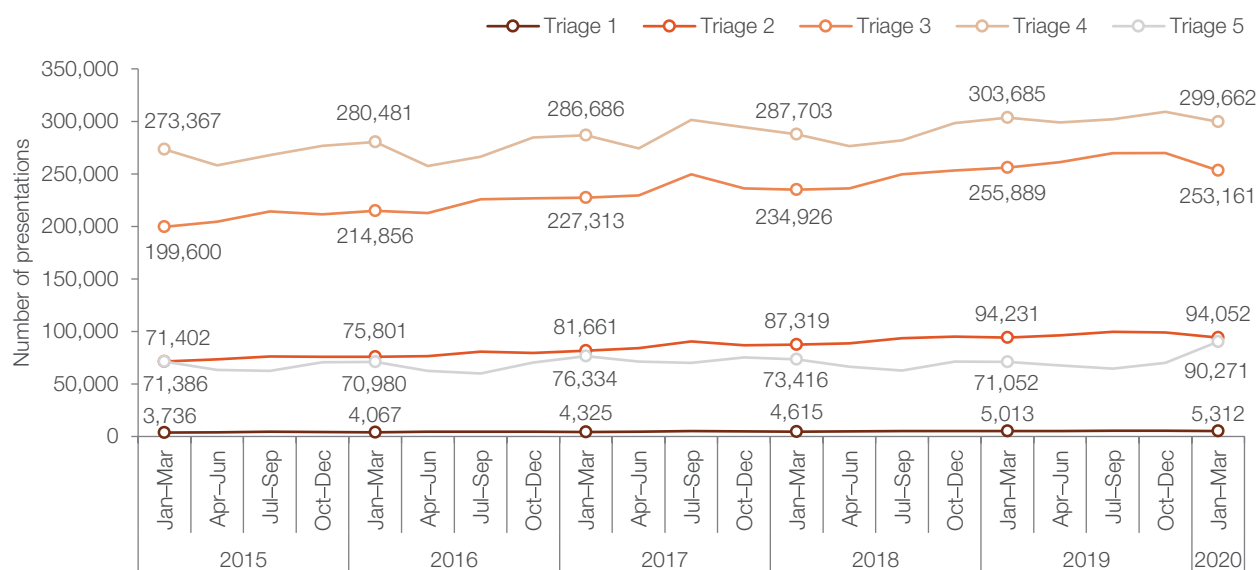
Triage 1 (resuscitation) and triage 2 (emergency) had the largest percentage increases in presentations, up 42.2% (1,576) to 5,312, and 31.7% (22,650) to 94,052, respectively, over five years.

Triage 5 (non-urgent) saw the largest change in presentations, up 27.0% (19,219) compared with the same quarter in 2019, to 90,271 presentations in January to March 2020, the highest number of emergency presentations for triage category 5 of any quarter over the five-year period (Figure 2).

Percentage of emergency presentations by triage category, January to March quarters from 2015 to 2020

January–March						
Category	2015	2016	2017	2018	2019	2020
Triage 1 (%)	0.6	0.6	0.6	0.7	0.7	0.7
Triage 2 (%)	11.5	11.7	12.1	12.7	12.9	12.7
Triage 3 (%)	32.2	33.2	33.6	34.1	35.1	34.1
Triage 4 (%)	44.1	43.4	42.4	41.8	41.6	40.4
Triage 5 (%)	11.5	11.0	11.3	10.7	9.7	12.2
Emergency presentations (%)	100	100	100	100	100	100

Figure 2 Emergency presentations by triage category, January 2015 to March 2020



Notes: Results are calculated from all EDs submitting data to EDDC in each quarter. In recent years, more than 170 EDs are included in *Healthcare Quarterly*.  
 †: Change in hospital cohort: in the January to March 2017 quarter, an additional 44 EDs were included in *Healthcare Quarterly*, contributing to activity and performance results. See the technical supplement to this *Healthcare Quarterly* for further information.

# Emergency department attendances by mode of arrival

The mode of arrival refers to the form of transport by which the person arrives at the ED.

The number of arrivals at the ED by ambulance has increased from 140,802 in the January to March 2015 quarter to 167,249 in January to March 2020, up 18.8% (26,447) over five years (Figure 3).

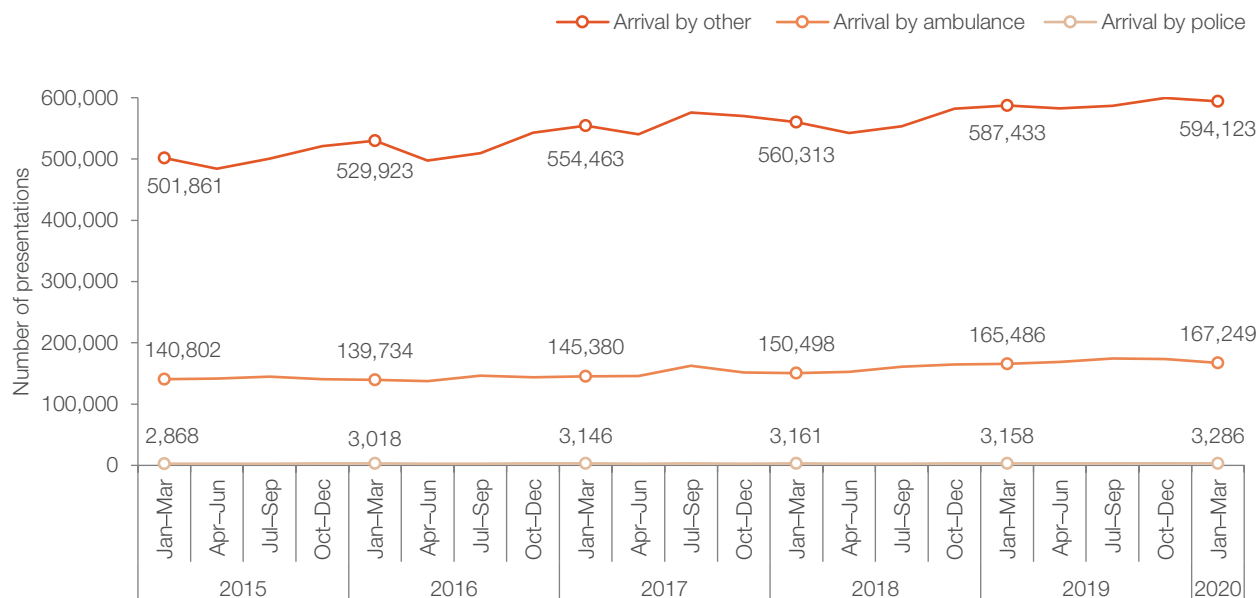
The majority of ED attendances had an arrival mode of 'other', indicating the patient most likely came by: a private vehicle, community/public transport, internal ambulance/transport, or walked into the ED. These arrivals have increased from 501,861 in the January to March 2015 quarter to 594,123 in January to March 2020, up 18.4% over five years (Figure 3).

Percentage of ED attendances by mode of arrival, January to March quarters from 2015 to 2020

January–March						
Mode of arrival	2015	2016	2017	2018	2019	2020
Ambulance (%)	21.8	20.8	20.7	21.1	21.9	21.9
Police (%)	0.4	0.4	0.4	0.4	0.4	0.4
Other (%)	77.7	78.8	78.9	78.5	77.7	77.7
ED attendances (%)	100	100	100	100	100	100

Note: 'Other' mode of arrival includes: private vehicle; community/public transport; no transport (walked in); internal ambulance/transport; other (e.g. undertakers/contractors, retrieval [including NETS], and internal bed/wheelchair. Presentations with missing mode of arrival are also included in this cohort.

Figure 3 Emergency department attendances by mode of arrival, January 2015 to March 2020



Notes: Results are calculated from all EDs submitting data to EDDC in each quarter. In recent years, more than 170 EDs are included in *Healthcare Quarterly*.  
 † Change in hospital cohort: in the January to March 2017 quarter, an additional 44 EDs were included in *Healthcare Quarterly*, contributing to activity and performance results. See the technical supplement to this *Healthcare Quarterly* for further information.

# Emergency department attendances by mode of separation

The mode of separation describes the patient's status (discharge/admitted/transfer/death) when they left the ED.

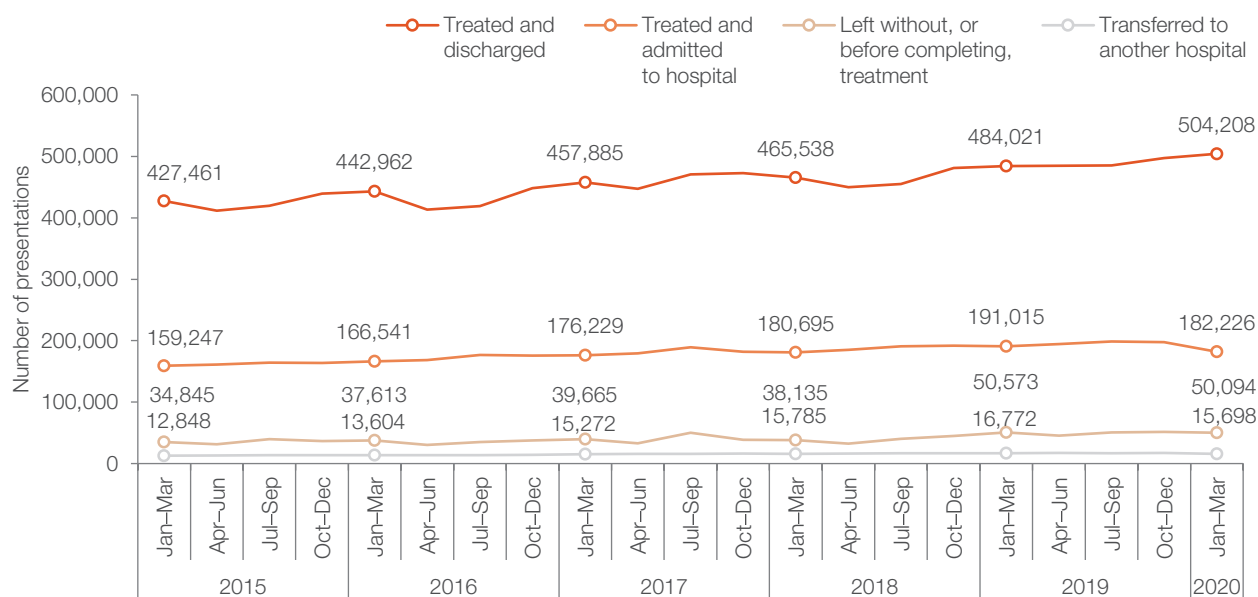
Following treatment in the ED, the majority of patients are either discharged or admitted to hospital. Some patients choose not to wait for treatment and leave, and others are transferred to a different hospital.

Across all modes of separation, ED attendances have increased over time. Between January to March 2015 and January to March 2020, patients who left without, or before completing treatment, had the largest percentage increase, up 43.8% (15,249) to 50,094 over five years (Figure 4).

Percentage of ED attendances by mode of separation, January to March quarters from 2015 to 2020

Mode of separation	January–March					
	2015	2016	2017	2018	2019	2020
Treated and discharged (%)	66.2	65.9	65.1	65.2	64.0	65.9
Treated and admitted (%)	24.7	24.8	25.1	25.3	25.3	23.8
Transferred (%)	2.0	2.0	2.2	2.2	2.2	2.1
Left without, or before completing, treatment (%)	5.4	5.6	5.6	5.3	6.7	6.6

Figure 4 Emergency department attendances by mode of separation, January 2015 to March 2020



Notes: Results are calculated from all EDs submitting data to EDDC in each quarter. In recent years, more than 170 EDs are included in *Healthcare Quarterly*.  
 †: Change in hospital cohort: in the January to March 2017 quarter, an additional 44 EDs were included in *Healthcare Quarterly*, contributing to activity and performance results. See the technical supplement to this *Healthcare Quarterly* for further information.

# 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 2 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. The January to March 2020 quarter had the lowest percentage of patients whose treatment started on time for triage category 2 in January to March quarters over five years (Figure 5).

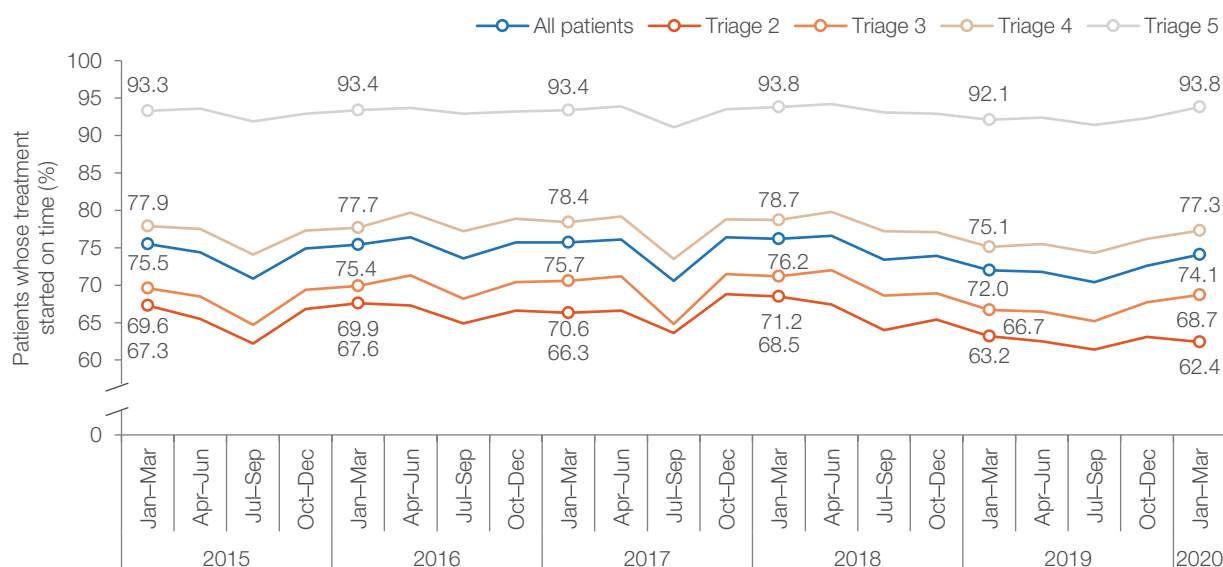
The median time patients waited for treatment refers to the time from arrival at the ED in which half of the patients began treatment. The waiting time for the other half was either equal to this time or longer.

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 the patients was equal to this time or longer.

The median and 90th percentile times patients waited for treatment remained relatively stable for triage category 2 over five years (Figures 6, 7). The January to March 2020 quarter had the lowest median and 90th percentile times patients waited for treatment for triage category 5 of any quarter in the five-year period (Figures 6, 7).

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

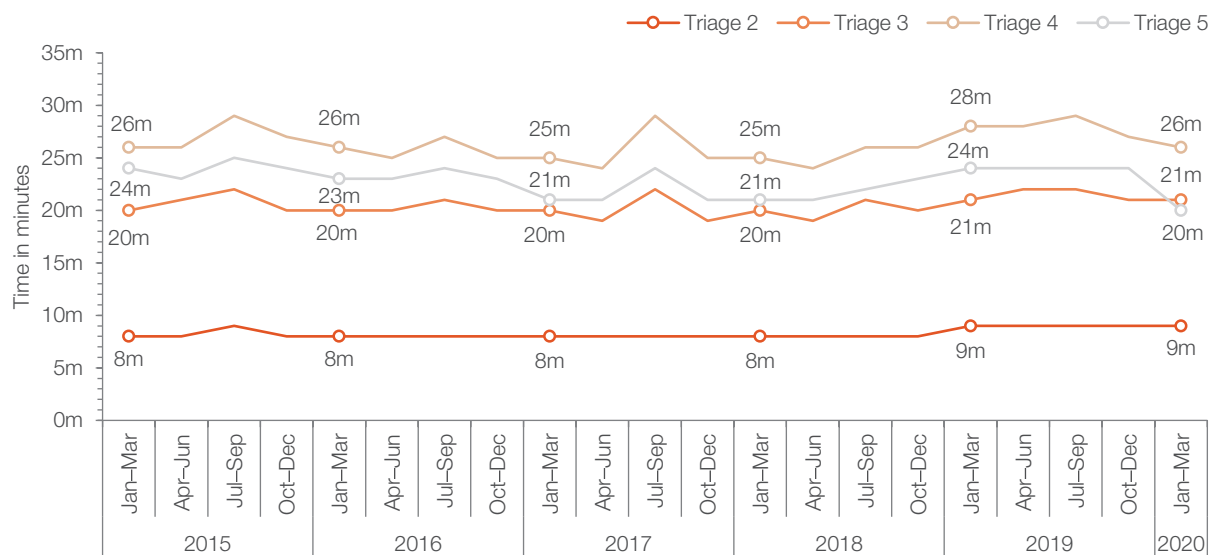
Figure 5 Percentage of patients whose treatment started on time, by triage category\*, January 2015 to March 2020



\* 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.

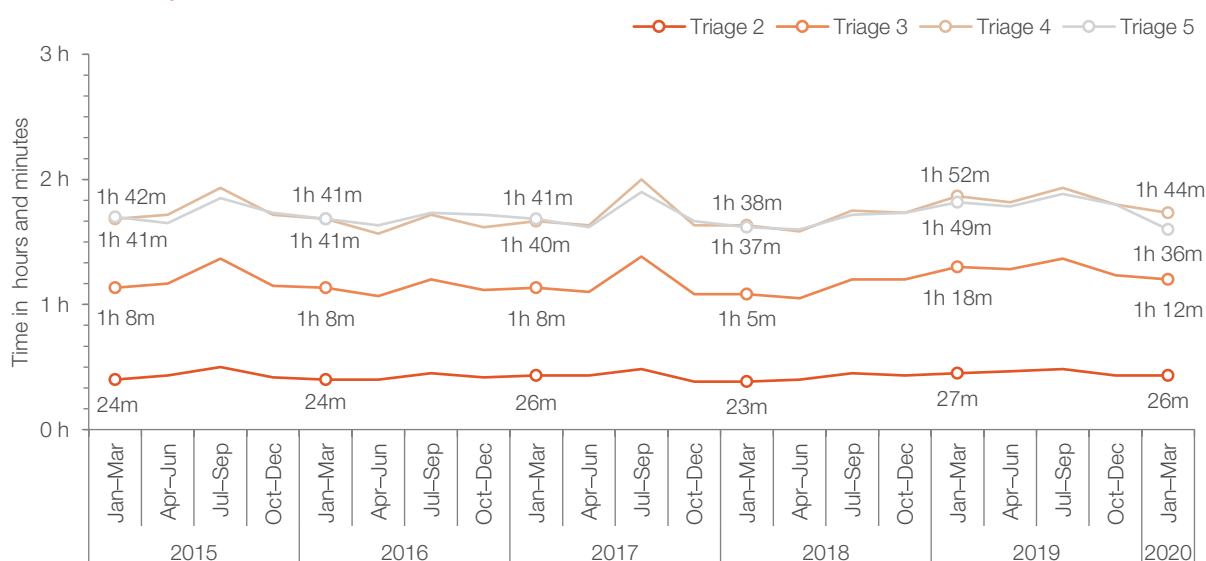
Note: Results are calculated from all EDs submitting data to EDDC in each quarter. In recent years, more than 170 EDs are included in *Healthcare Quarterly*.  
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Figure 6 Median time from presentation to starting treatment, by triage category\*, January 2015 to March 2020



\* 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.  
 Note: Results are calculated from all EDs submitting data to EDDC in each quarter. In recent years, more than 170 EDs are included in *Healthcare Quarterly*.  
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Figure 7 90th percentile time from presentation to starting treatment, by triage category\*, January 2015 to March 2020



\* 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.  
 Note: Results are calculated from all EDs submitting data to EDDC in each quarter. In recent years, more than 170 EDs are included in *Healthcare Quarterly*.  
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# Time spent in the emergency department

The length of time patients spent in the ED categorised by mode of separation provides information about the timeliness of transfer from ED to a hospital or ward, or how long patients stayed for treatment before discharge.

## Median time spent in the ED

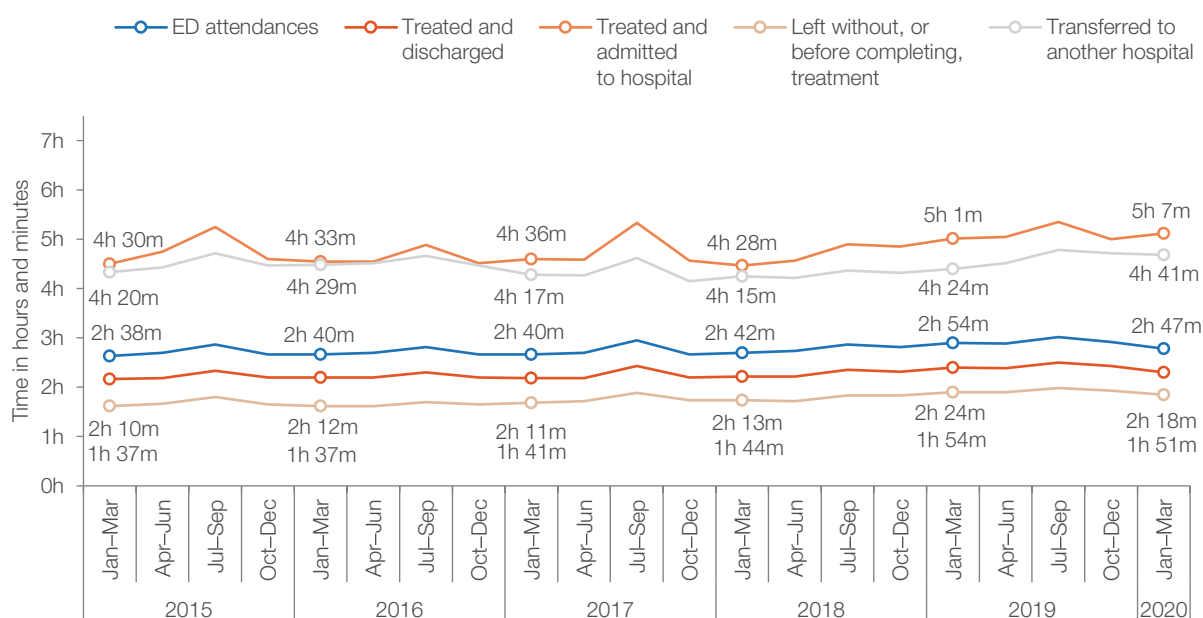
The median time patients spent in the ED refers to the time from arrival by which half of the patients had left the ED. The other half of patients spent equal to or longer than this time in the ED.

Seasonal variation was more apparent for patients treated and admitted to hospital or transferred to another hospital (Figure 8).

For patients treated and discharged or left without, or before completing, treatment, the median time spent in the ED remained relatively stable over five years.

For patients treated and admitted to hospital or transferred to another hospital, the January to March 2020 quarter had the longest median time spent in the ED in January to March quarters over five years (Figure 8).

Figure 8 Median time patients spent in the emergency department, by mode of separation, January 2015 to March 2020



Notes: Results are calculated from all EDs submitting data to EDDC in each quarter. In recent years, more than 170 EDs are included in *Healthcare Quarterly*.  
 ▮ Change in hospital cohort: in the January to March 2017 quarter, an additional 44 EDs were included in *Healthcare Quarterly*, contributing to activity and performance results. See the technical supplement to this *Healthcare Quarterly* for further information.

## 90th percentile time spent in the ED

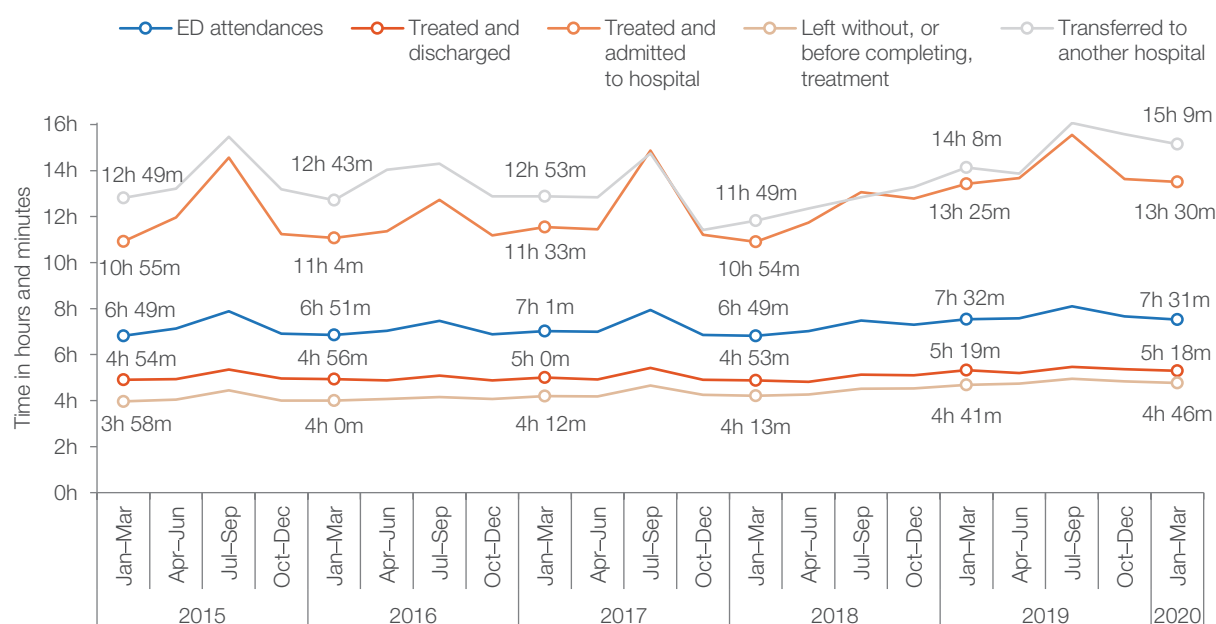
The 90th percentile time gives a sense of the longest time patients spent in the ED. It is the time from arrival by which 90% of patients had left the ED. The time spent in the ED for the remaining 10% of patients was equal to this time or longer.

Seasonal variation was more apparent for patients treated and admitted to hospital or transferred to another hospital (Figure 9).

For patients treated and discharged or left without, or before completing, treatment, the 90th percentile time spent in the ED remained relatively stable over five years.

For patients treated and admitted to hospital or transferred to another hospital, the January to March 2020 quarter had the longest 90th percentile time spent in the ED in January to March quarters over five years (Figure 9).

Figure 9 90th percentile time patients spent in the emergency department, by mode of separation, January 2015 to March 2020



Notes: Results are calculated from all EDs submitting data to EDDC in each quarter. In recent years, more than 170 EDs are included in *Healthcare Quarterly*.  
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# Percentage of patient stays of four hours or less

The percentage of patients who spent four hours or less in the ED decreased from 74.6% in the January to March 2015 quarter to 70.6% January to March 2020 (Figures 10 and 11).

Across EDs in peer groups A, B and C, the percentage of patients who spent four hours or less in the ED showed a similar seasonal variation pattern over five years (Figure 10).

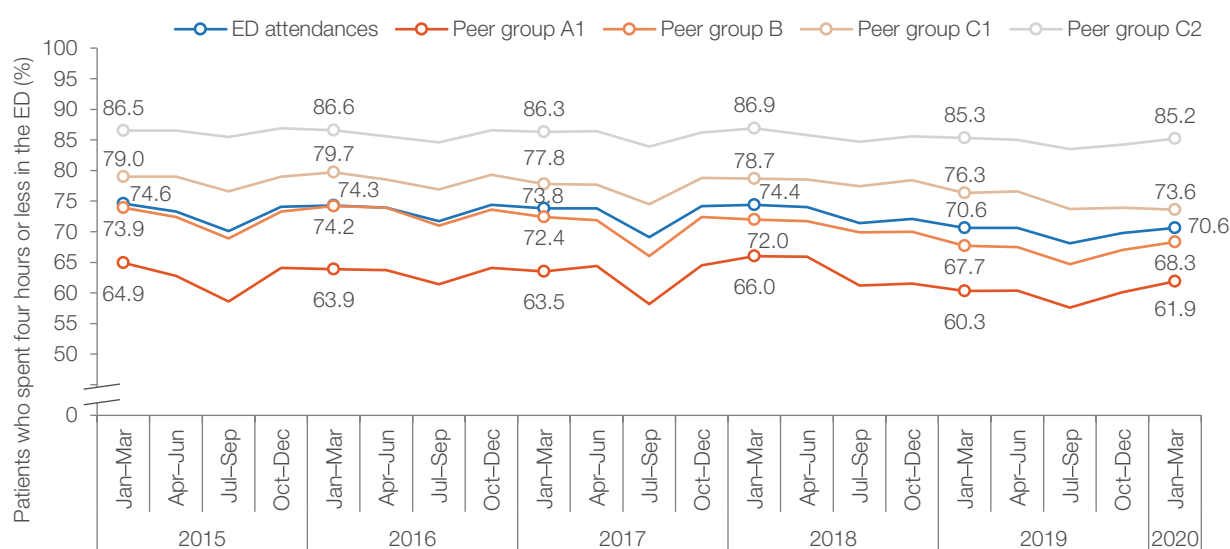
## Variation by peer group

How long patients spent in the ED is presented by hospital peer group, including: 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 (Figure 10).

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 other agencies and jurisdictions. For more information refer to the *Healthcare Quarterly* technical supplements at [bhi.nsw.gov.au](http://bhi.nsw.gov.au)

Figure 10 Percentage of patients who spent four hours or less in the emergency department, by peer group, January 2015 to March 2020



Notes: Results are calculated from all EDs submitting data to EDDC in each quarter. In recent years, more than 170 EDs are included in *Healthcare Quarterly*.  
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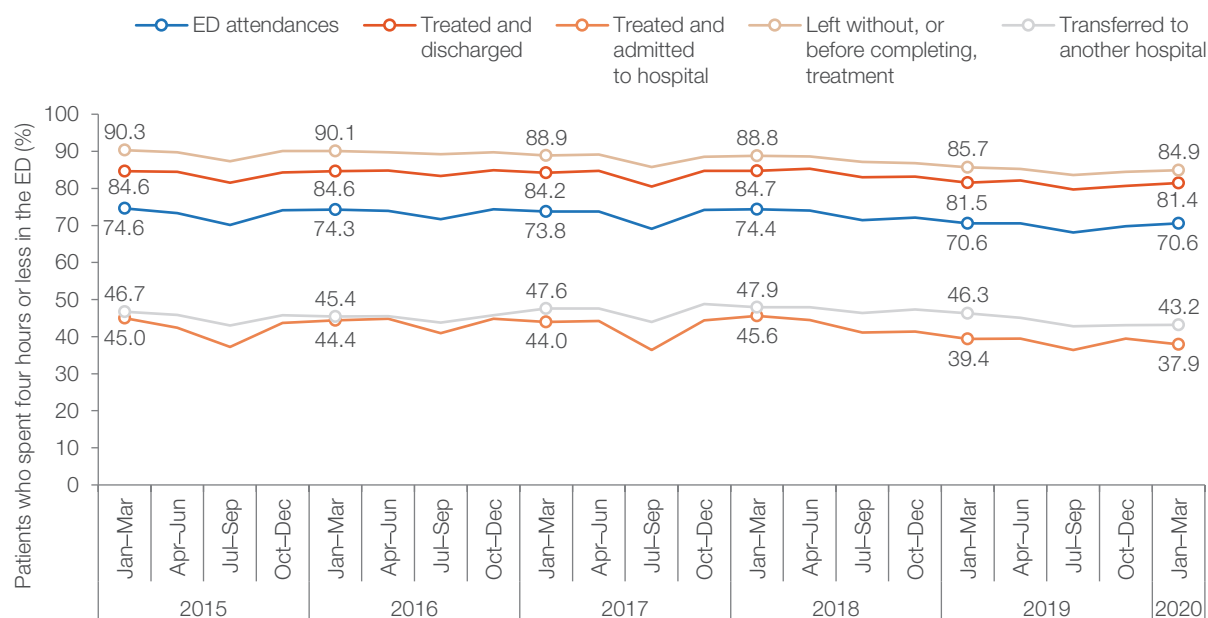


## Variation by mode of separation

How long patients spent in the ED is presented by mode of separation.

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 (Figure 11).

Figure 11 Percentage of patients who spent four hours or less in the emergency department, by mode of separation, January 2015 to March 2020



Notes: Results are calculated from all EDs submitting data to EDDC in each quarter. In recent years, more than 170 EDs are included in *Healthcare Quarterly*.  
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# Transfer of care

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 within 30 minutes for at least 90% of patients.

The percentage of ambulance arrivals with a transfer of care time within 30 minutes was 88.5% in January to March 2020 (Figure 12).

## Median transfer of care time

The median transfer of care time refers to the time by which half of patients had their care transferred from paramedics to ED staff. The transfer of care time for the other half of patients was either equal to this time or longer.

The median transfer of care time remained relatively stable over the five-year period (Figure 13).

## 90th percentile transfer of care time

The 90th percentile transfer of care time gives a sense of the longest times for a patient's care to be transferred from paramedics to ED staff. It is the time by which 90% of patients had their care transferred from paramedics to ED staff. The transfer of care time for the remaining 10% of patients was equal to this time or longer (Figure 14).

Figure 12 Percentage of ambulance arrivals with transfer of care time within 30 minutes, January 2015 to March 2020

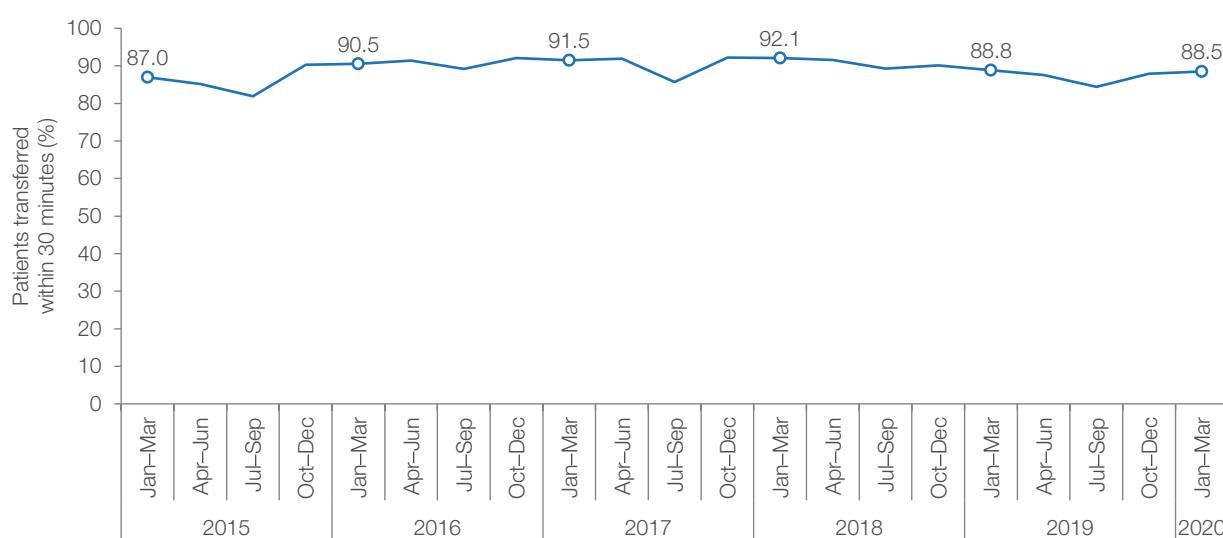


Figure 13 Median transfer of care time, January 2015 to March 2020

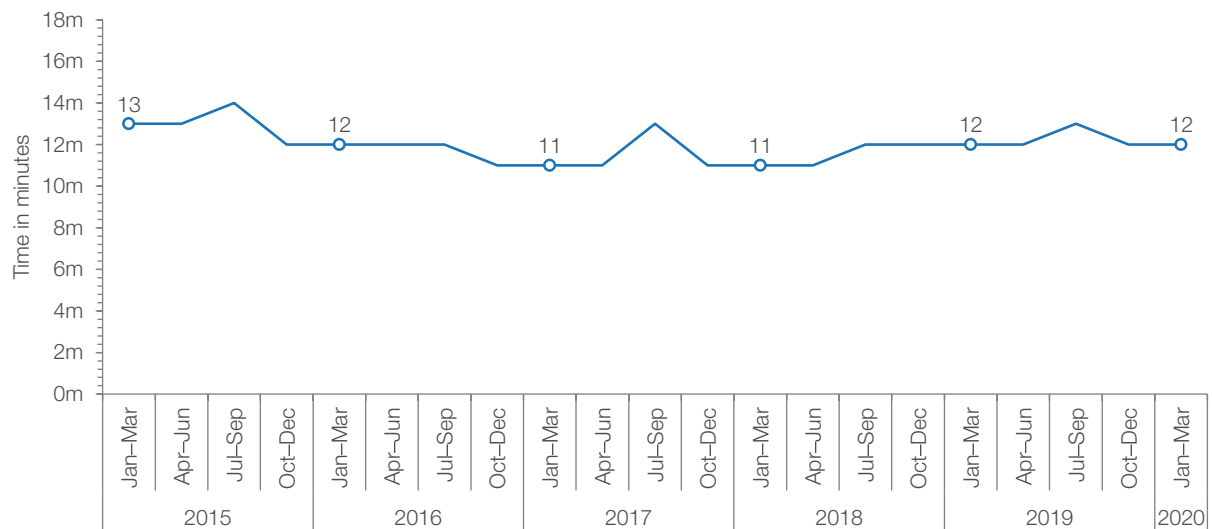
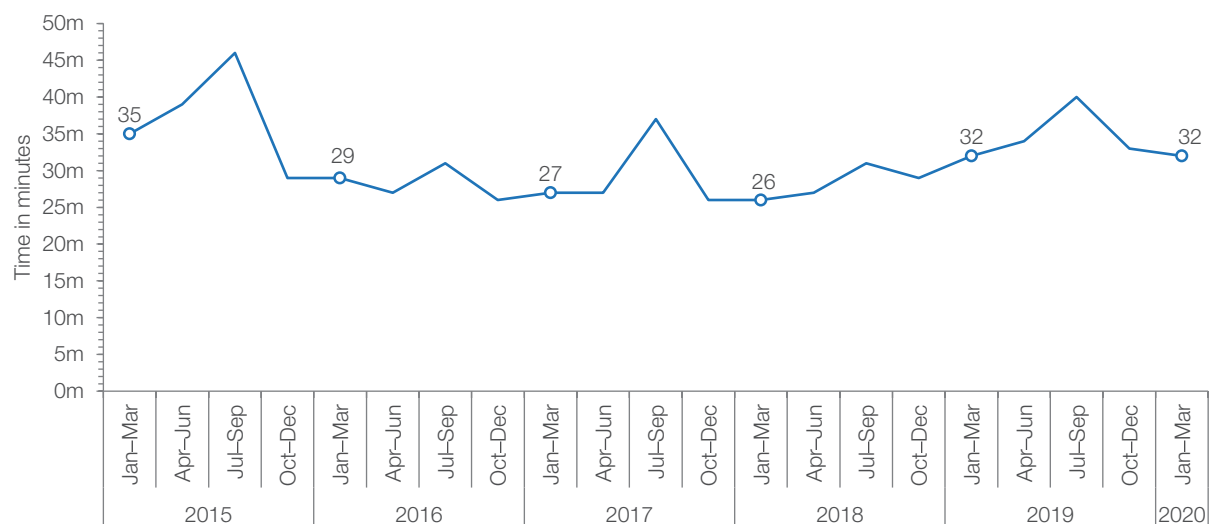


Figure 14 90th percentile transfer of care time, January 2015 to March 2020







# Ambulance activity and performance

# Ambulance activity

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

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.

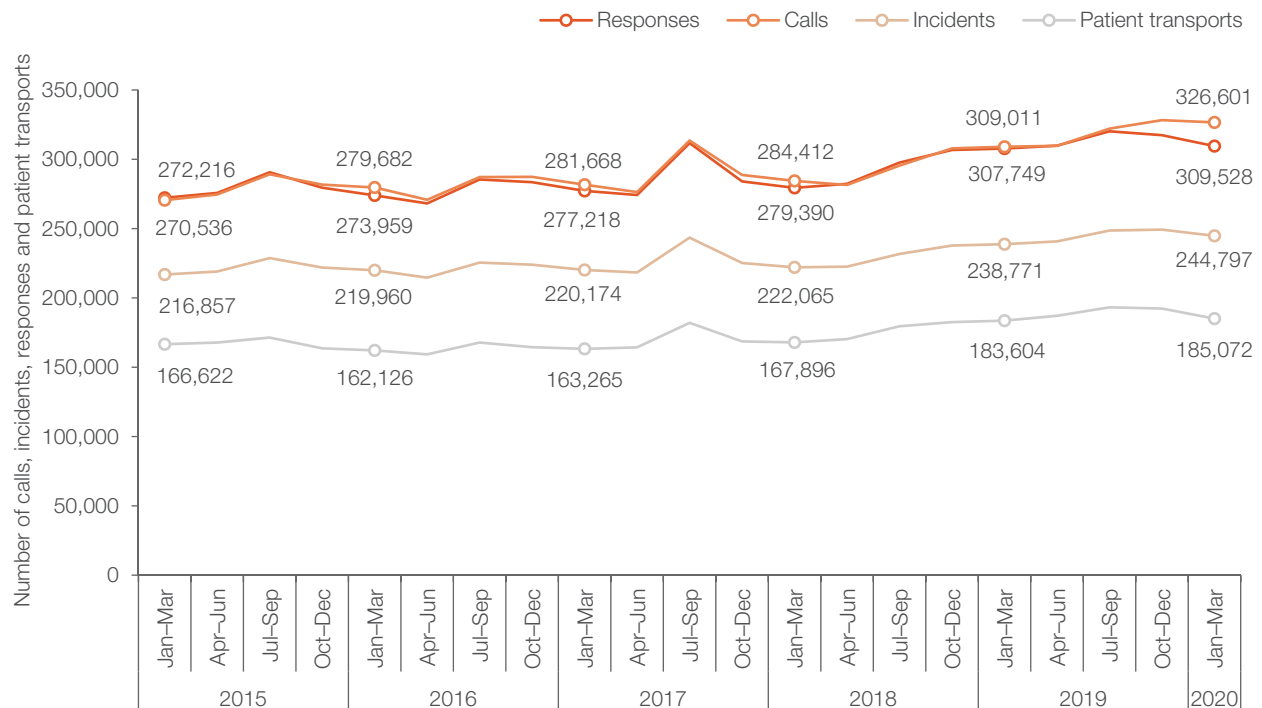
Calls to ambulance increased to 326,601 in the January to March 2020 quarter. The number of calls

was much higher than the number of responses for the second successive quarter. This suggests that these quarters have seen a greater frequency of multiple calls relating to a given incident and/or triple zero (000) calls that did not require the dispatch of an ambulance.

Ambulance responses have increased from 272,216 in the January to March 2015 quarter to 309,528 in January to March 2020, up 13.7% (37,312) over five years (Figure 15, 16).

The January to March 2020 quarter had the highest number of ambulance calls, incidents, responses and patient transports in January to March quarters over five years (Figure 15, 16).

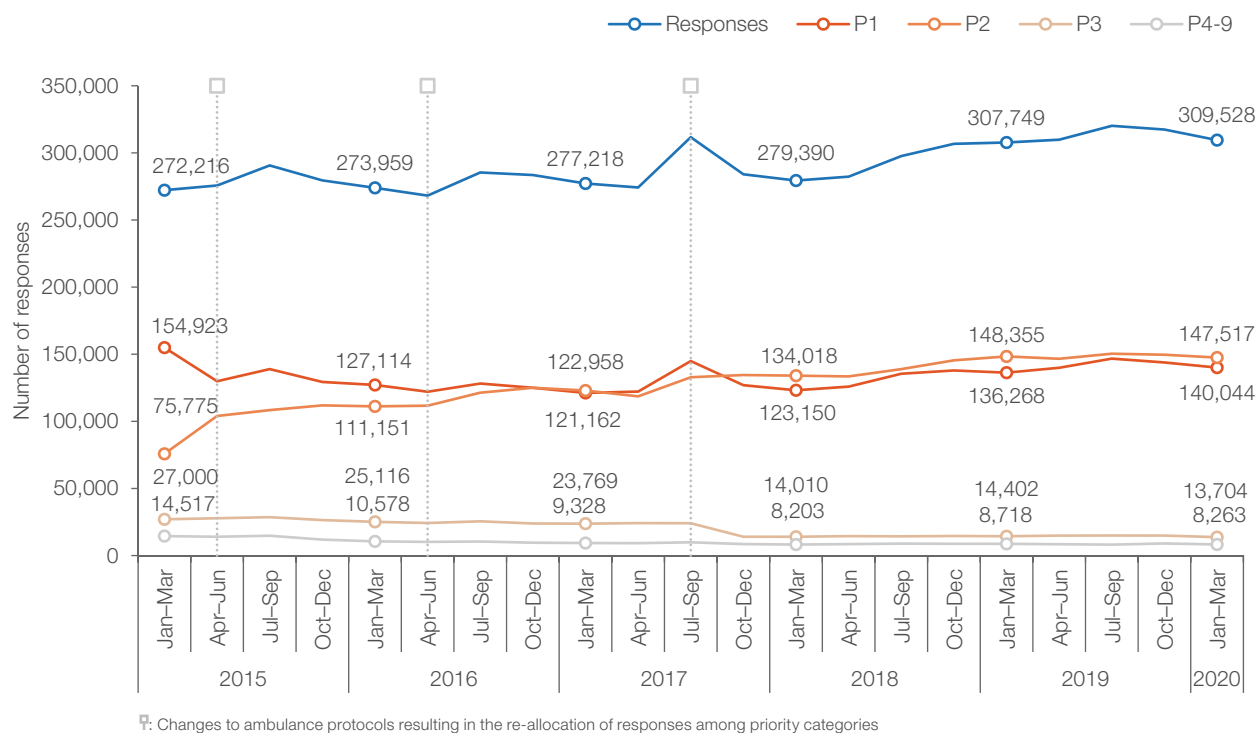
Figure 15 Ambulance calls, incidents, responses and patient transports, January 2015 to March 2020



# Ambulance responses by priority

There are nine main priority categories. Three of these – priority 1 (P1: emergency), priority 2 (P2: urgent) and priority 3 (P3: 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 (P1A) for life-threatening conditions (e.g. cardiac or respiratory arrest) (Figure 16).

Figure 16 Ambulance responses by priority category, January 2015 to March 2020



# Ambulance performance

## Call to ambulance arrival time

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 (Figure 17). Two time benchmarks are considered for priority 1 (P1: emergency) and priority 2 (P2: urgent):

- the percentage of P1 call to ambulance arrival times within 15 and 30 minutes
- the percentage of P2 call to ambulance arrival times within 30 and 60 minutes.

The January to March 2020 quarter had the lowest percentage of P1 and P2 call to ambulance arrival time within the benchmarks of any quarter in the five-year period (Figure 18).

## Response time

In NSW, ambulance response time refers to the period from the placement of a Triple Zero (000) call 'in queue' for an ambulance dispatch until the first vehicle arrives at the scene.

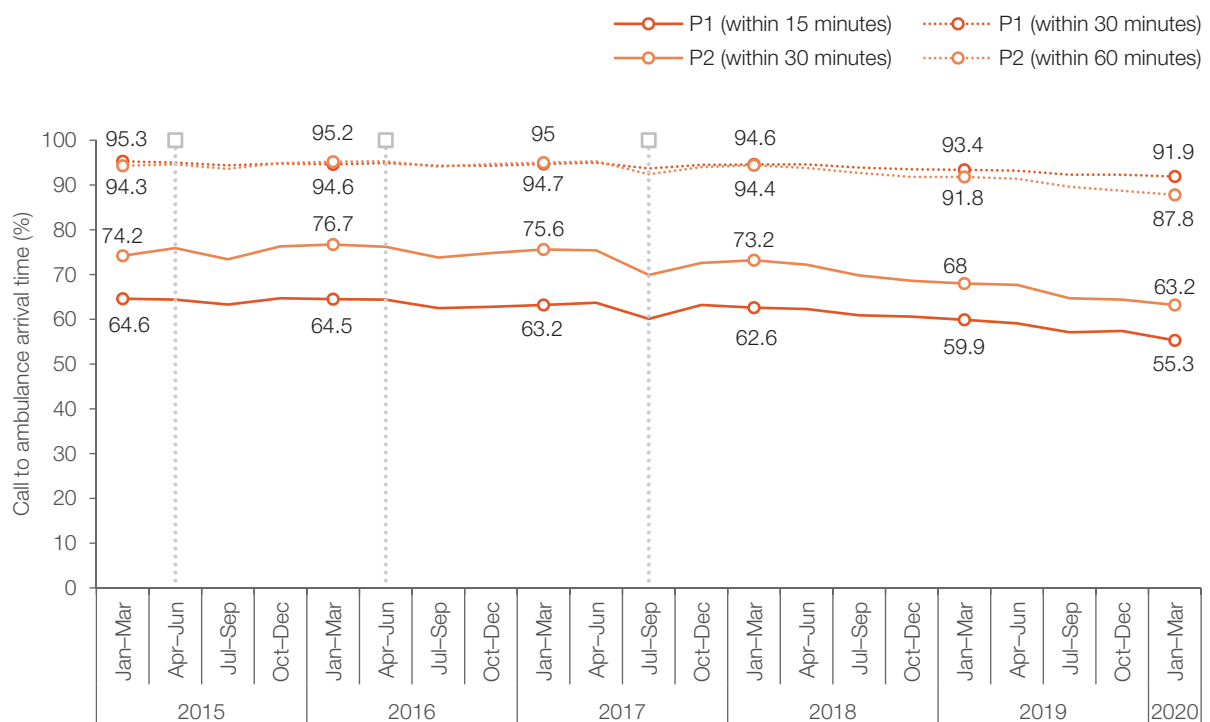
The January to March 2020 quarter had the longest median response time for P1, P1A and P2 cases of any quarter in the five-year period. The median response time for P2 cases increased from 17.6 minutes in the January to March 2015 quarter to 21.5 minutes in January to March 2020 (Figure 19).

In NSW, the benchmark for the median P1A response time is 10 minutes. The January to March 2020 quarter had the lowest percentage of P1A response time within 10 minutes of any quarter in the five-year period (Figure 20).

Figure 17 Call to ambulance arrival time intervals, NSW



Figure 18 Percentage of call to ambulance arrival time by priority category, January 2015 to March 2020



□: Changes to ambulance protocols resulting in the re-allocation of responses among priority categories



Figure 19 Median ambulance response time by priority category, January 2015 to March 2020

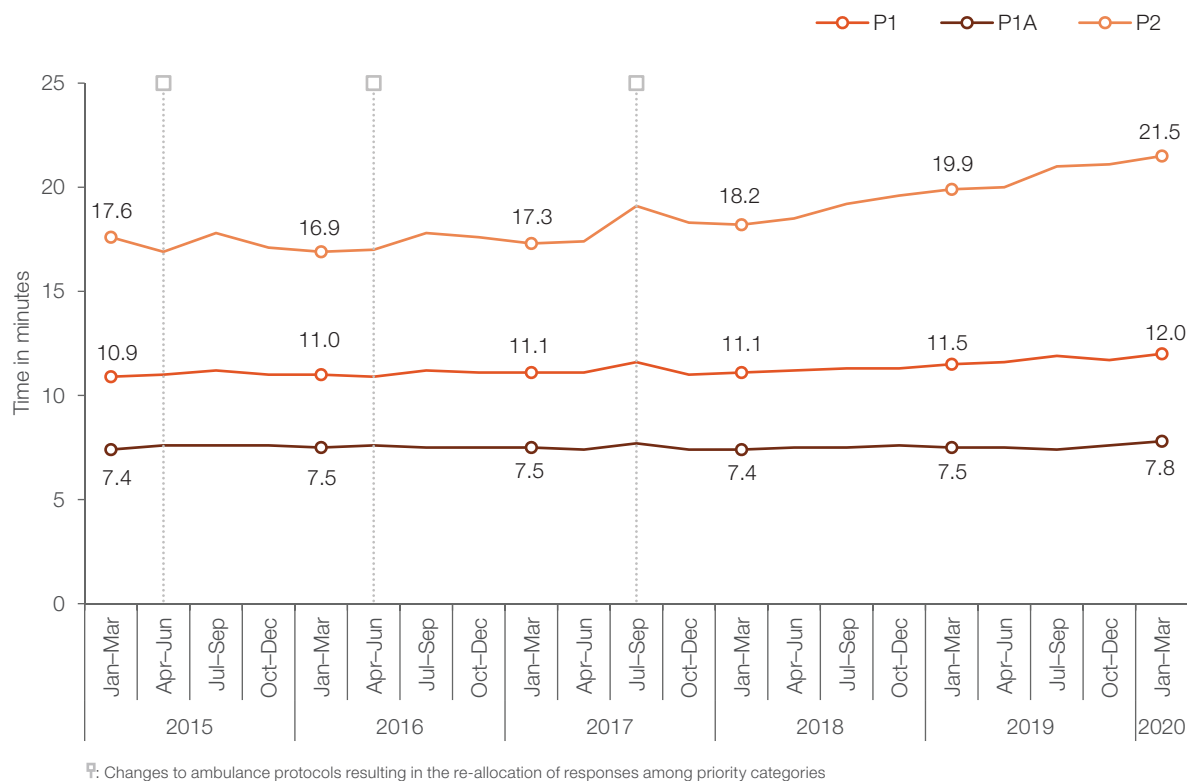
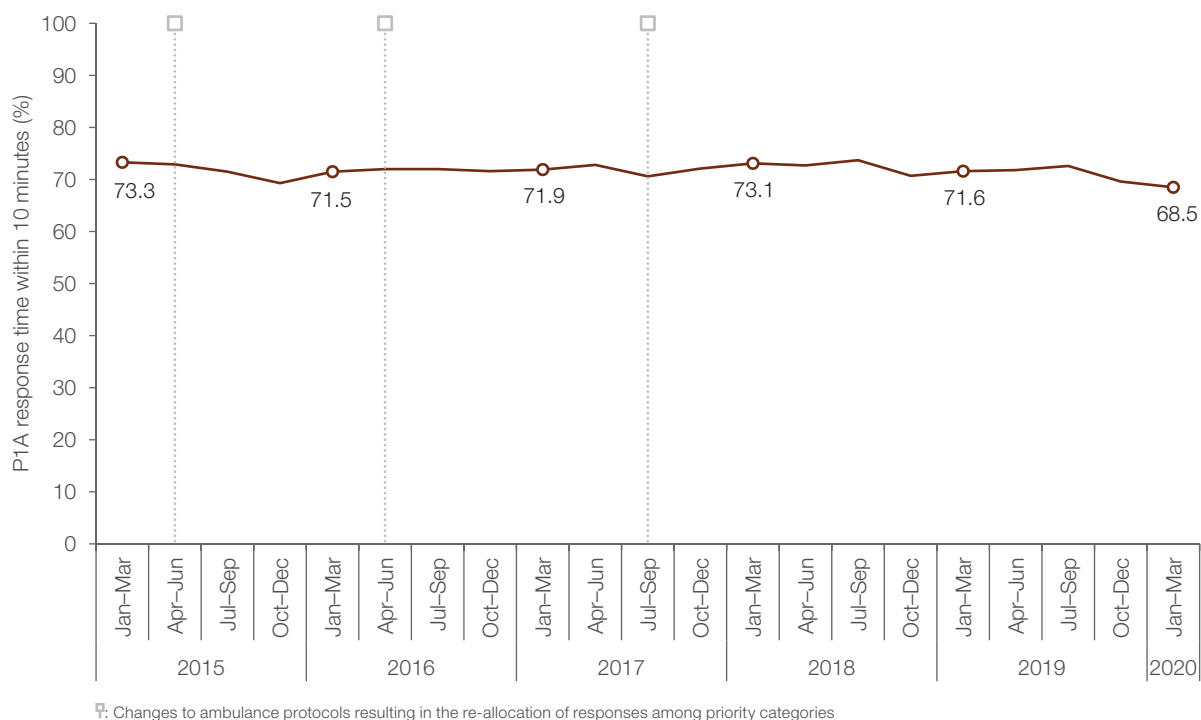


Figure 20 Percentage of Priority 1A (P1A) response time within 10 minutes, January 2015 to March 2020







## 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 five-year trend showed seasonal variation in hospital admissions, with both acute and non-acute episodes following a similar pattern (Figure 21).

The majority of admitted patient episodes were acute admissions, representing more than 90% of the total admitted patient episodes over five years.

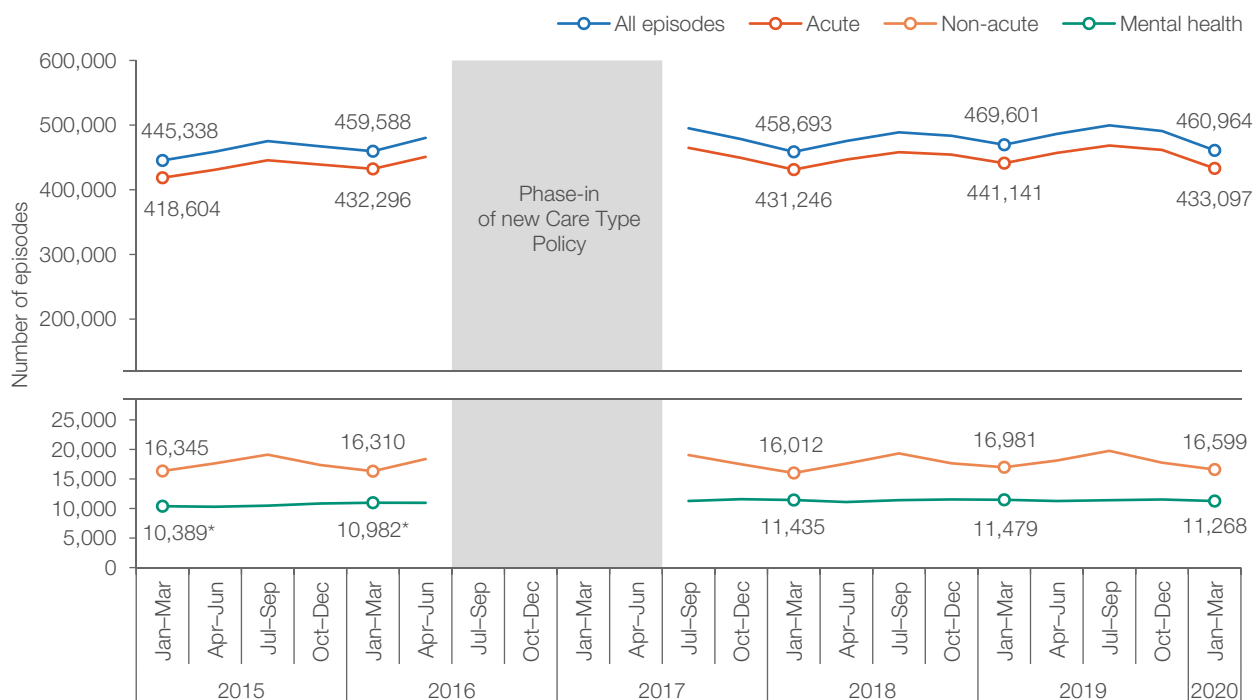
Admitted patient episodes can be for 'same-day' or 'overnight' care. The five-year trend for both shows a similar seasonal pattern. (Figure 22).

## 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.

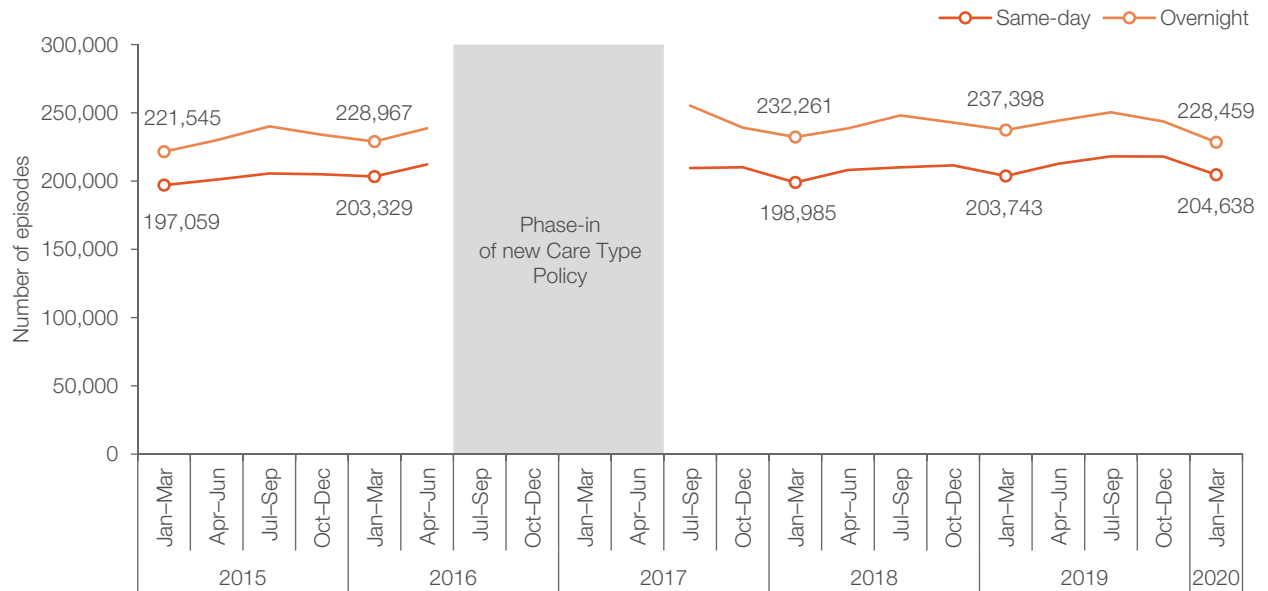
Fair comparisons cannot be made with results from the policy phase-in period due to staggered implementation across LHDs that affected activity counts in the acute, non-acute and mental health categories. Mental health activity counts presented before the introduction of the classification change are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

Figure 21 Total, acute, non-acute and mental health episodes, January 2015 to March 2020



Note: Results are calculated from more than 200 hospitals in each quarter reported in *Healthcare Quarterly*.  
\* Estimates of mental health episodes calculated using a flag for days in a psychiatric unit.

Figure 22 Overnight and same-day acute admitted patient episodes, January 2015 to March 2020



Note: Results are calculated from more than 200 hospitals in each quarter reported in *Healthcare Quarterly*. 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.

# Hospital bed days for admitted patients

Bed days are 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.

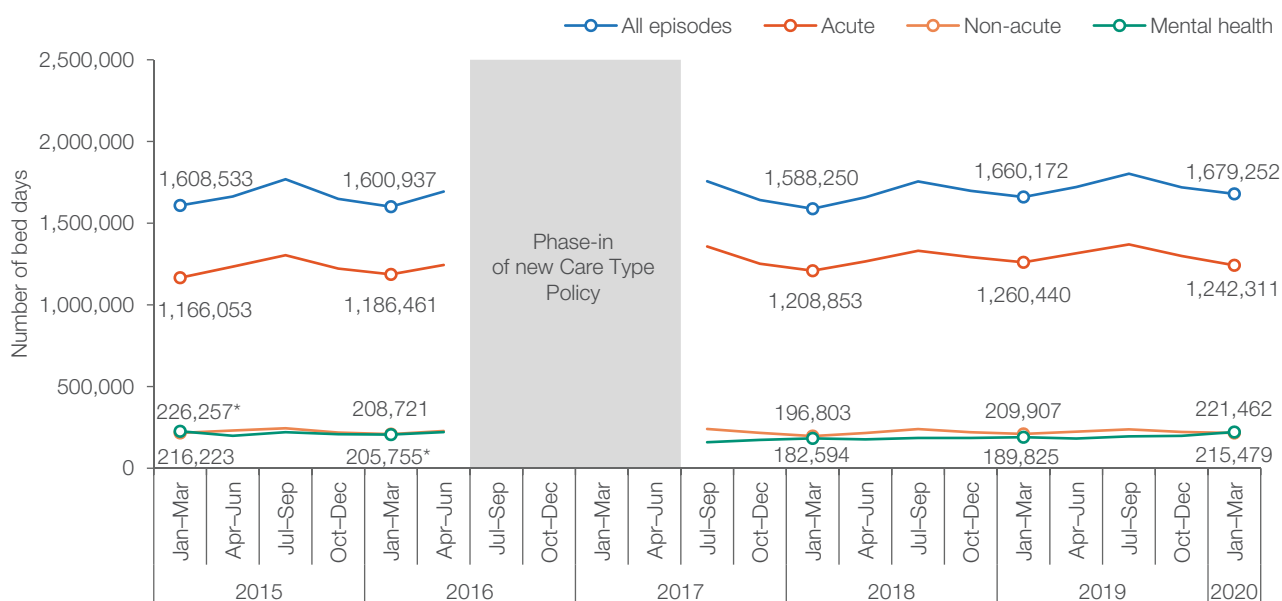
Seasonal variation for total bed days showed a similar variation pattern to that for hospital admissions (Figures 21, 23).

## 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.

Figure 23 Number of hospital bed days by type of admitted patient episode, January 2015 to March 2020



Note: Results are calculated from more than 200 hospitals in each quarter reported in *Healthcare Quarterly*.

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

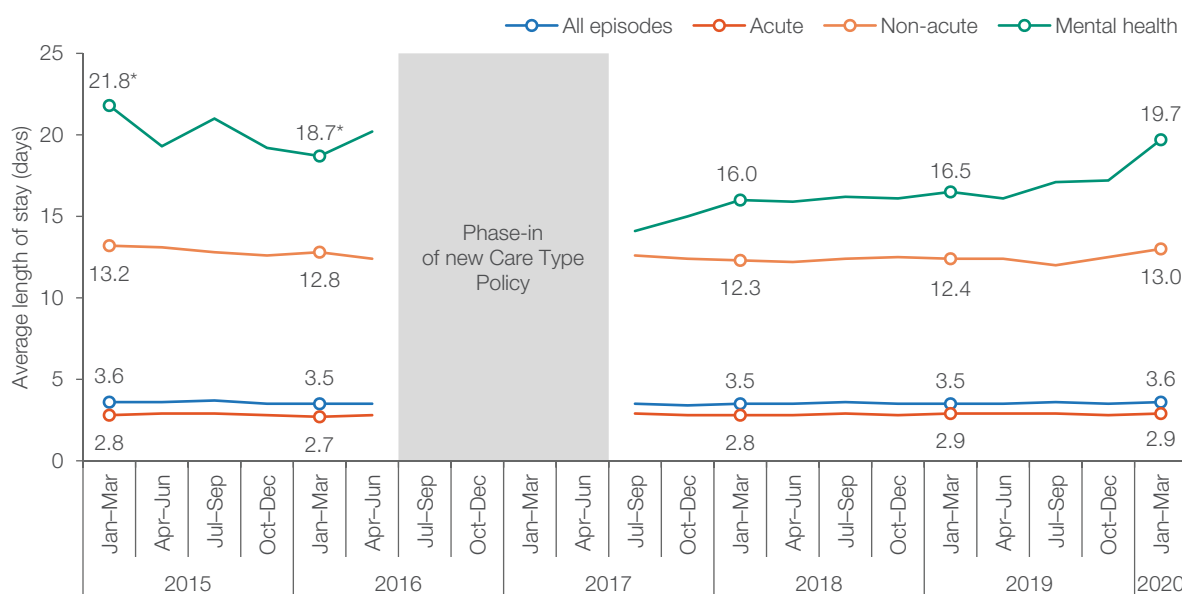
# Average length of stay in hospital

The average length of stay refers to the mean of total bed days for all acute, non-acute or mental health admitted patient episodes.

The average length of stay remained steady for all episodes, acute and non-acute episodes over five years (Figure 24).

Following the reclassification of mental health patients between 1 July 2016 and 30 July 2017, the average length of stay increased for mental health admitted patient episodes from 16.0 days in the January to March 2018 quarter to 19.7 days in January to March 2020 (Figure 24). The increase in average length of stay in this quarter was in part due to a number of long stay patients being discharged.

Figure 24 Average length of stay, by type of admitted patient episode, January 2015 to March 2020



Note: Results are calculated from more than 200 hospitals in each quarter reported in *Healthcare Quarterly*.  
 \* Estimates of mental health episodes calculated using a flag for days in a psychiatric unit.







# Elective surgery activity and performance

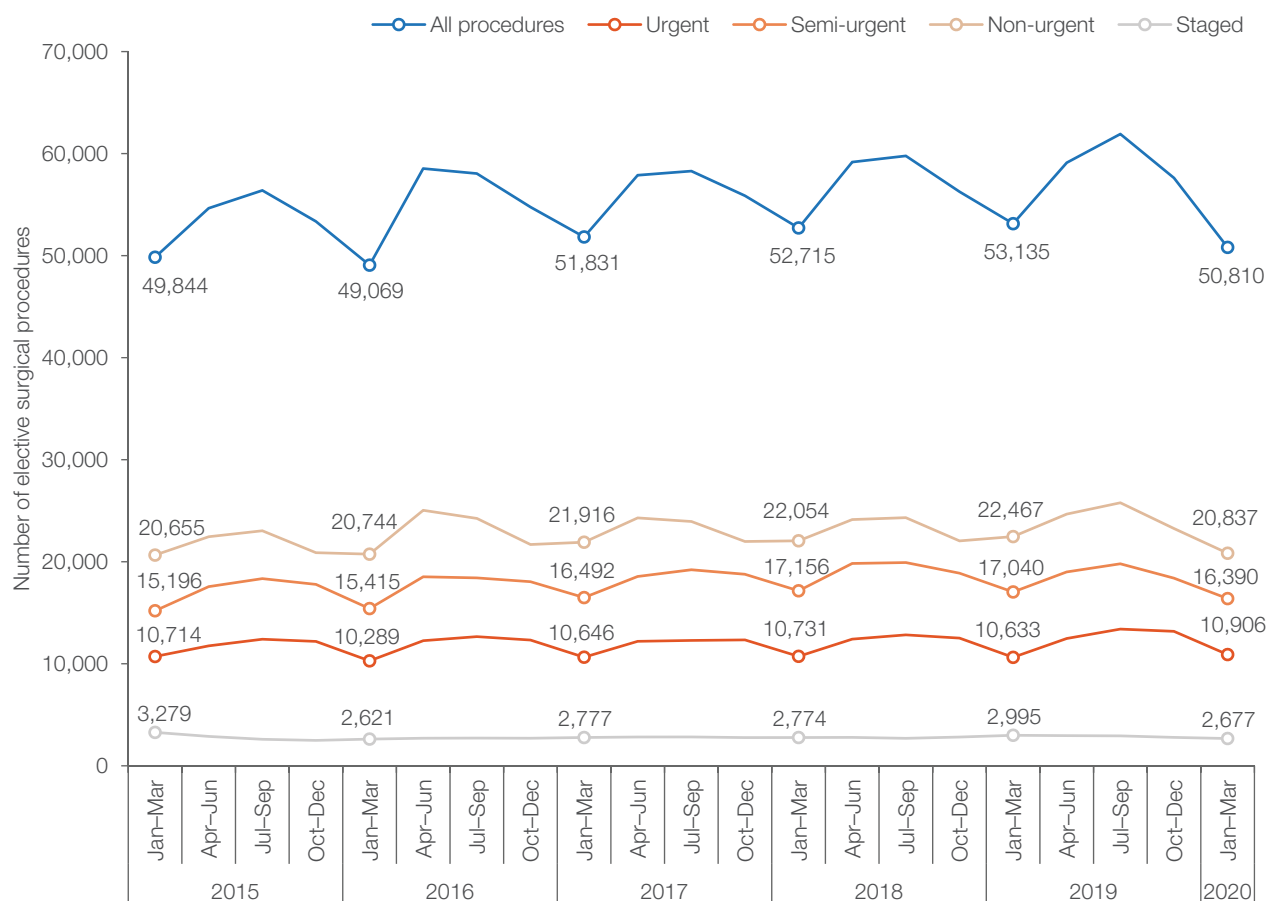
# Elective surgical procedures

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.

The five-year trends showed seasonal variation in the number of elective surgical procedures. There was a similar pattern for each of urgent, semi-urgent and non-urgent procedures. (Figure 25).

In response to the COVID-19 pandemic, a range of measures were implemented to free up capacity in hospitals and make significant changes in service delivery. The Commonwealth Government's National Cabinet suspended all non-urgent (category 3) elective surgery from 26 March, with all urgent (category 1) and some exceptional semi-urgent (category 2) surgery continuing until further notice.

Figure 25 Elective surgical procedures performed, by urgency category, January 2015 to March 2020



Note: The Commonwealth Government's National Cabinet suspended all non-urgent (category 3) elective surgery from 26 March, with all urgent (category 1) and some exceptional semi-urgent (category 2) surgery continuing until further notice.

# Percentage of elective surgery on time

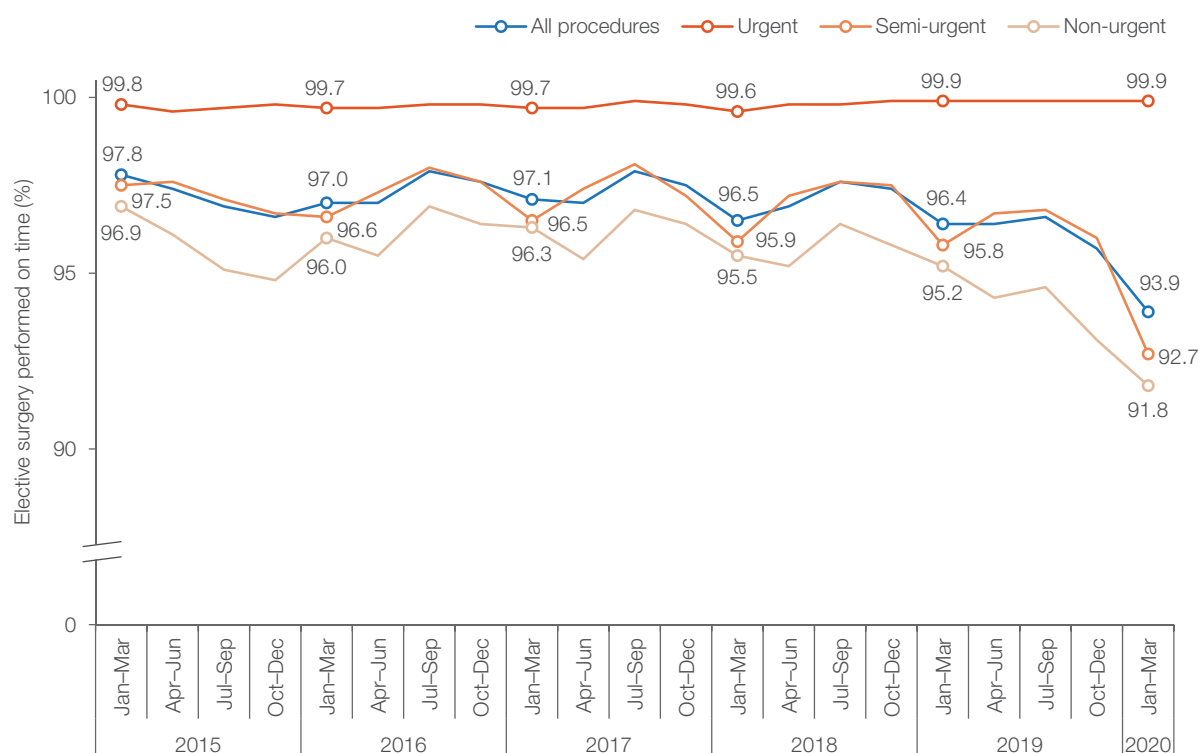
For each urgency category there are clinically recommended time frames within which elective surgical procedures should be performed: 30 days for urgent surgery, 90 days for semi-urgent surgery, and 365 days for non-urgent surgery.

Almost all urgent elective surgical procedures were performed within clinically recommended time frames over five years. The percentage of elective surgical procedures performed on time for other urgency categories was lower than that for urgent elective surgical procedures (Figure 26).

For semi-urgent and non-urgent elective surgical procedures, the January to March 2020 quarter had the lowest percentage of procedures performed on time of any quarter in the five-year period.

The percentage of elective surgical procedures performed on time for semi-urgent and non-urgent elective surgical procedures decreased from 97.5% and 96.9% in the January to March 2015 quarter to 92.7% and 91.8%, respectively, in January to March 2020 (Figure 26).

Figure 26 Percentage of elective surgical procedures performed on time, by urgency category, January 2015 to March 2020



Note: The Commonwealth Government's National Cabinet suspended all non-urgent (category 3) elective surgery from 26 March, with all urgent (category 1) and some exceptional semi-urgent (category 2) surgery continuing until further notice.

# Waiting time and waiting list for elective surgery

The 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 received surgery.

## Median waiting time

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 median waiting time remained relatively stable for urgent procedures over five years. The January to March 2020 quarter had the longest median waiting time for semi-urgent and non-urgent procedures of any quarter in the five-year period (Figure 27).

## 90th percentile waiting time

The 90th percentile gives a sense of the longest waiting times to receive 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.

The January to March 2020 quarter had the longest 90th percentile waiting time for semi-urgent and non-urgent procedures of any quarter in the five-year period (Figure 28).

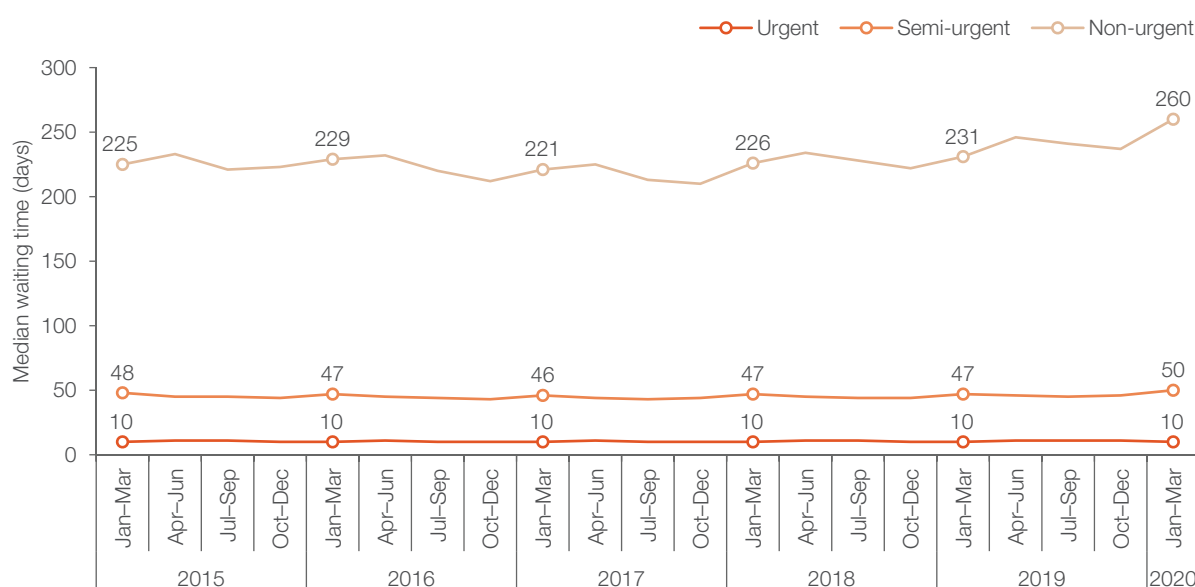
## Waiting list

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.

The number of patients on the waiting list for urgent procedures remained relatively stable over five years. The number of patients on the waiting list for semi-urgent procedures increased from 11,553 in the January to March 2015 quarter to 12,734 in January to March 2020, up 10.2% (1,181) over five years.

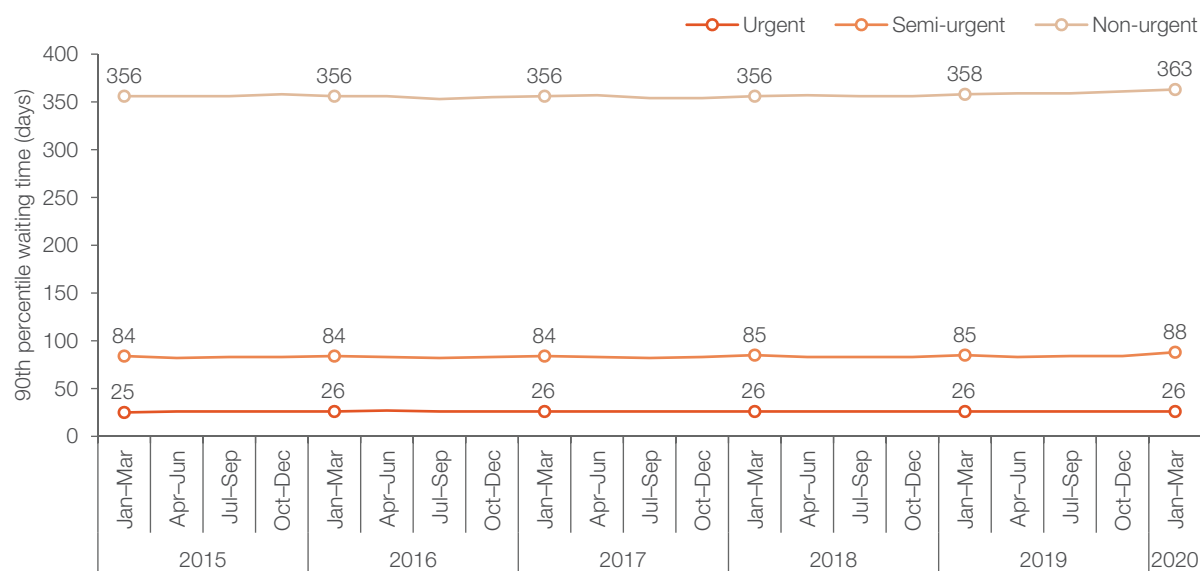
The number of patients on the waiting list for non-urgent procedures was up 27.7% (16,499) over five years, from 59,587 in the January to March 2015 quarter to 76,086 in January to March 2020, the highest number of patients on the waiting list of any quarter in the five-year period (Figure 29).

Figure 27 Median waiting time for elective surgery, by urgency category, January 2015 to March 2020



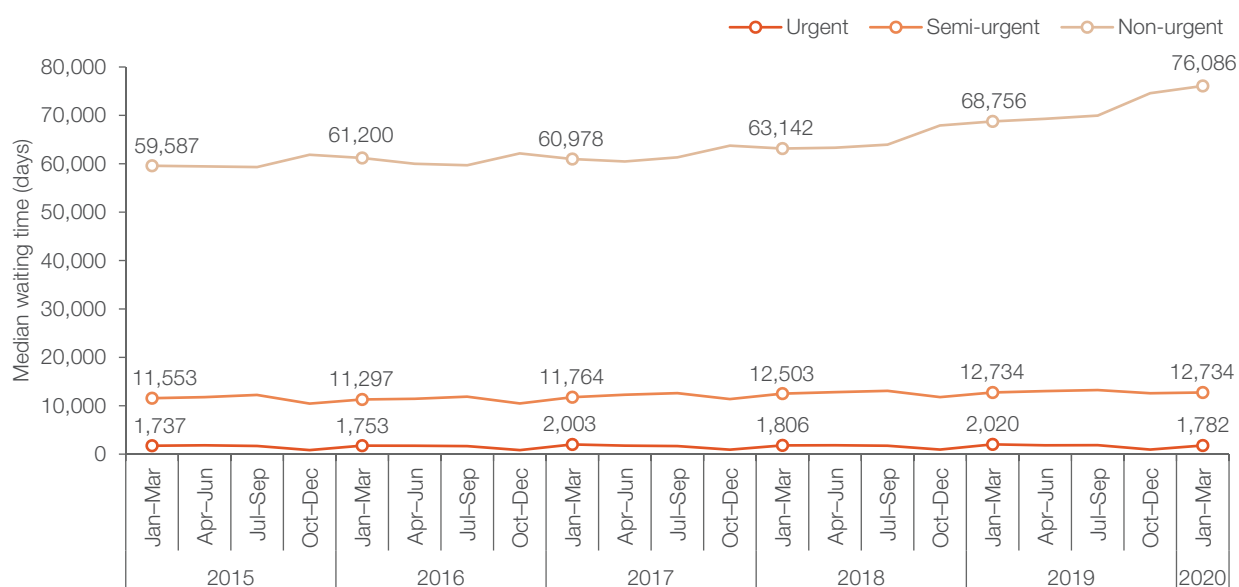
Note: The Commonwealth Government's National Cabinet suspended all non-urgent (category 3) elective surgery from 26 March, with all urgent (category 1) and some exceptional semi-urgent (category 2) surgery continuing until further notice.

Figure 28 90th percentile waiting time for elective surgery, by urgency category, January 2015 to March 2020



Note: all non-urgent elective surgeries were temporarily suspended from 26 March 2020 in NSW public hospitals due to the COVID-19 pandemic.

Figure 29 Patients on the waiting list for elective surgery at the end of the quarter, by urgency category, January 2015 to March 2020



Note: The Commonwealth Government's National Cabinet suspended all non-urgent (category 3) elective surgery from 26 March, with all urgent (category 1) and some exceptional semi-urgent (category 2) surgery continuing until further notice.

## 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](http://bhi.nsw.gov.au)**