# bureau of health information

# Healthcare Quarterly

# Ambulance

## Activity and performance

January to March 2017

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Changes in data coverage and analytic methods from quarter to quarter mean that figures published in this document are superseded by subsequent reports.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

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

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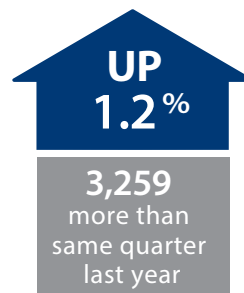
# In the January to March 2017 quarter...

## Ambulance

There were **277,218** ambulance responses

**UP 1.2%**

**3,259** more than same quarter last year

**94.7%** of priority 1 cases had a call to ambulance arrival time of 30 minutes or less

| Ambulance activity | | January to March 2017 | January to March 2016 | Difference | % change |
|---|---|---:|---:|---:|---:|
| Calls | | 281,668 | 279,682 | 1,986 | 0.7% |
| Responses | | 277,218 | 273,959 | 3,259 | 1.2% |
| Priority category | P1: Emergency | 121,162 | 127,114 | -5,952 | -4.7% |
| | P1A: Highest priority | 5,141 | 5,117 | 24 | 0.5% |
| | P2: Urgent | 122,958 | 111,151 | 11,807 | 10.6% |
| | P3: Time-critical | 23,769 | 25,116 | -1,347 | -5.4% |
| | P4–9: Non-emergency | 9,329 | 10,578 | -1,249 | -11.8% |
| Incidents | | 220,174 | 219,960 | 214 | 0.1% |
| Patient transports | | 163,265 | 162,126 | 1,139 | 0.7% |

| NSW Ambulance performance | | January to March 2017 | January to March 2016 | Difference |
|---|---|---:|---:|---:|
| Call to ambulance arrival time | | | | |
| Percentage of P1 call to arrival within 15 minutes | | 63.2% | 64.5% | -1.3 percentage points |
| Percentage of P1 call to arrival within 30 minutes | | 94.7% | 94.6% | 0.1 percentage points |
| Local response areas meeting 90% threshold (arrival within 30 minutes) | | 116 (of 153) | 113 (of 153) | |
| Percentage of P2 call to arrival within 30 minutes | | 75.6% | 76.7% | -1.1 percentage points |
| Percentage of P2 call to arrival within 60 minutes | | 95.0% | 95.2% | -0.2 percentage points |
| Local response areas meeting 90% threshold (arrival within 60 minutes) | | 153 (of 153) | 150 (of 153) | |
| Mobilisation time | | | | |
| P1: Emergency | Median | 2.4m | 2.4m | 0.0m |
| | 90th percentile | 6.2m | 5.9m | 0.3m |
| | Percentage P1 within 3 minutes | 62.5% | 63.8% | -1.3 percentage points |
| P2: Urgent | Median | 4.0m | 3.8m | 0.2m |
| | 90th percentile | 19.8m | 19.4m | 0.4m |
| Ambulance response time | | | | |
| P1: Emergency | Median | 11.1m | 11.0m | 0.1m |
| | 90th percentile | 22.8m | 22.9m | -0.1m |
| P1A: Highest priority | Median | 7.5m | 7.5m | 0.0m |
| | 90th percentile | 15.0m | 15.8m | -0.8m |
| P2: Urgent | Median | 17.3m | 16.9m | 0.4m |
| | 90th percentile | 43.8m | 43.0m | 0.8m |
| Percentage of P1A responses within 10 minutes | | 71.9% | 71.5% | 0.4 percentage points |
| Number of days median priority 1A response time > 10 minutes | | 3 days | 1 day | 2 days |
| Turnaround time | | | | |
| P1: Emergency | Median | 35.9m | 36.4m | -0.5m |
| | 90th percentile | 58.5m | 60.3m | -1.8m |
| | Percentage within 45 minutes | 71.7% | 69.9% | 1.8 percentage points |
| P2: Urgent | Median | 33.2m | 33.9m | -0.7m |
| | 90th percentile | 55.1m | 56.7m | -1.6m |
| | Percentage within 45 minutes | 77.1% | 75.2% | 1.9 percentage points |

# About this module

Data for this module are drawn from the NSW Ambulance Computer Aided Dispatch (CAD) system, which is used to manage and record ambulance activity and service time points.

Detailed data specifications and analytic methods used in this module are described in the technical supplements section of the Bureau of Health Information (BHI) website at **bhi.nsw.gov.au**

## About the measures

Activity is measured as the number of ambulance calls, incidents, responses and transports during the quarter. Timeliness is measured using four key measures: call to ambulance arrival time, mobilisation time, response time and turnaround time. These measures cover different combinations of time points captured in the electronic data system (Figure 1).

Results are reported at NSW and zone levels. Results for local response areas (or stations) have been shown to be subject to random variation and impacted by non-modifiable factors and so are not reported on a nominal (named) basis.

More detailed state and zone level information is available from the BHI interactive data portal, Healthcare Observer at **bhi.nsw.gov.au/healthcare_observer**

Percentages in this report are rounded to one decimal point and therefore may not sum to 100%.

## Terminology

A triple zero 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 an ambulance from a local response area. Not all triple zero calls result in an ambulance response. Responses are prioritised based on the urgency of the case, based on the information provided by the caller.

Depending on the seriousness of an 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.

Incidents involve one or multiple patients. Once an ambulance arrives at the scene, patients are either treated and transported, or treated at the scene only. About six in 10 responses result in patient transport.

Descriptions of ambulance indicator development, validation and sensitivity testing, are provided in the supplementary report, *Spotlight on Measurement: Measuring and reporting performance of NSW ambulance services*.

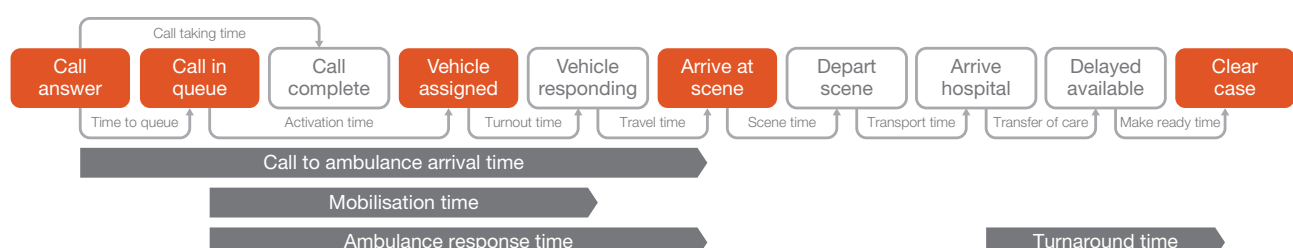Figure 1          Ambulance service time points and timeliness measures

Table 1          Incident and response priority codes

| Code | Priority | Description | Example | Response required |
|------|----------|-------------|---------|-------------------|
| 1 | 1A Emergency | Highest priority – life-threatening case | Cardiac or respiratory arrest, unconscious, ineffective breathing | Immediate response – median within 10 minutes – under 'lights and sirens' |
|  | 1B Emergency | High priority | Unconscious | Emergency response – under 'lights and sirens' |
|  | 1C Emergency | Priority | Breathing problems, chest or neck injury, serious haemorrhage | Emergency response – under 'lights and sirens' |
| 2 | Urgent | Urgent | Abdominal pain | Urgent response without 'lights and sirens' within specified timeframes |
| 3 | Time-critical | Time-critical | Medical responses requested by medical practitioners often pre-booked | Undelayed response within specified timeframes |
| 4-9 | Non-emergency | Non-emergency | Routine transport | Routine |


Table 2          Ambulance local response area typology

| Service type | Description |
|--------------|-------------|
| 24-hour | Primarily situated in urban areas providing mostly urban, 24-hour operation. These are higher volume response areas, the majority with multiple vehicles and ambulance staff. |
| 24-hour (with on-call) | Primarily situated in regional areas providing 24-hour operation, supplemented with on-call staff. |
| Non-24-hour | Primarily situated in regional and rural areas providing 8, 12 or 16-hour operation with remaining time covered by on-call staff. |
| Community and volunteer (volunteer ambulance officers, community first responder programs and community initiated groups) | Volunteer ambulance officers provide a first response and transport role in more remote areas. Some are attached to smaller stations, work with certified paramedics and respond in an ambulance vehicle. |
|  | Members of community first responder programs are attached to emergency services, such as Fire Rescue NSW, NSW Rural Fire Service and the NSW State Emergency Service, and respond in their agency vehicle. Community-initiated groups (not attached to a response agency) can form a community first responder unit. Members agree to be available on a regular basis and respond from within the community in a private, or community-funded, vehicle. |

# Ambulance activity and performance

# Ambulance activity

In the January to March 2017 quarter, there were 281,668 calls for an ambulance; up 0.7% compared with the same quarter last year. There were 277,218 ambulance responses, (up 1.2%) with most categorised as emergency (priority 1; 43.7%) or urgent (priority 2; 44.4%). Of priority 1 responses, 5,141 were priority 1A (4.2% of priority 1 and 1.9% of total responses) (Figure 2).

The number of calls, incidents and responses has decreased over the past five years (Figure 3).

Much of this is due to the introduction of a dedicated patient transport service for non-emergency cases in 2014. Daily activity fluctuated across the quarter but was particularly high on 1 January and around mid-February 2017 (Figure 4).

Changes in urgency categorisation or 'grid' resulted in an apparent increase in the number of priority 2 responses and a corresponding decrease in the number of priority 1 responses (Figure 5).

Figure 2    Ambulance calls, incidents and responses by priority, January to March 2017

| | | This quarter | Same quarter last year | Change since one year ago |
|---|---|---|---|---|
| Calls | | 281,668 | 279,682 | 0.7% |
| Incidents | | 220,174 | 219,960 | 0.1% |
| All responses | | 277,218 | 273,959 | 1.2% |
| P1: Emergency | 43.7% | 121,162 | 127,114 | -4.7% |
| P1A: Highest priority | 4.2% | 5,141 | 5,117 | 0.5% |
| P2: Urgent | 44.4% | 122,958 | 111,151 | 10.6% |
| P3: Time-critical | 8.6% | 23,769 | 25,116 | -5.4% |
| P4–9: Non-emergency | 3.4% | 9,329 | 10,578 | -11.8% |
| Patient transports | | 163,265 | 162,126 | 0.7% |

Figure 3    Ambulance calls, incidents, responses and patient transports, January 2012 to March 2017
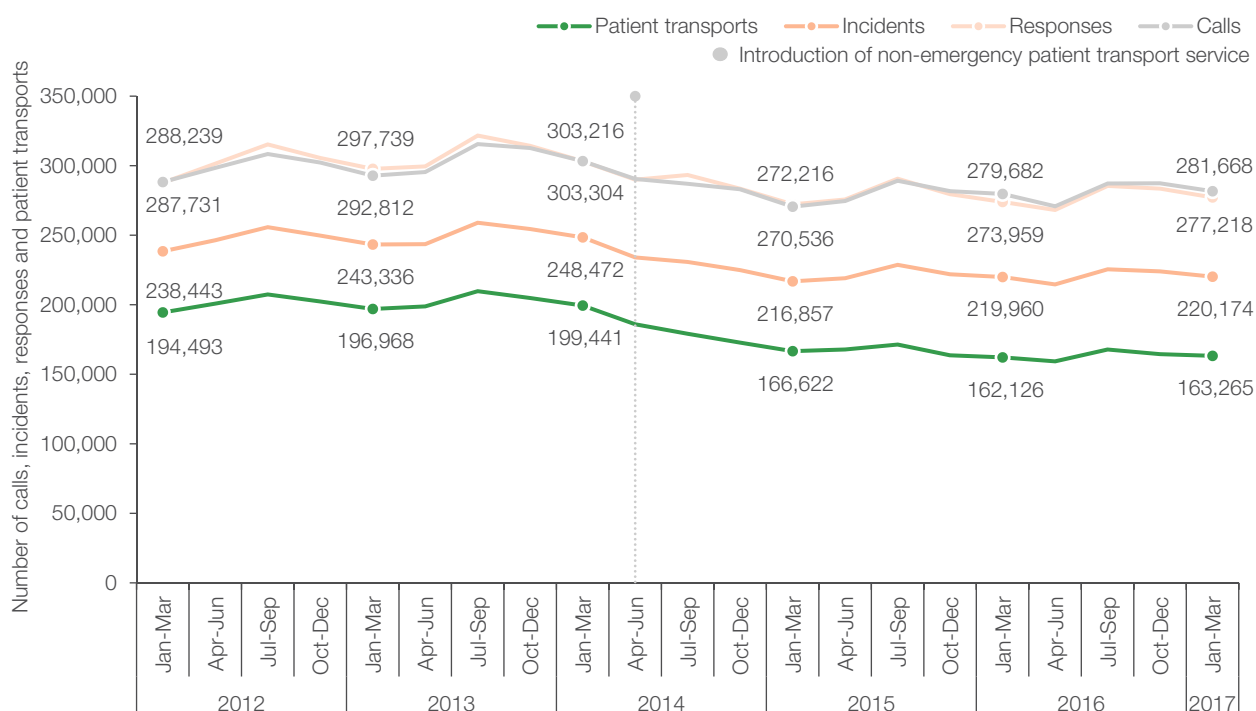
**Figure 4**   Daily number of priority 1, 2 and 3 responses, January to March 2017
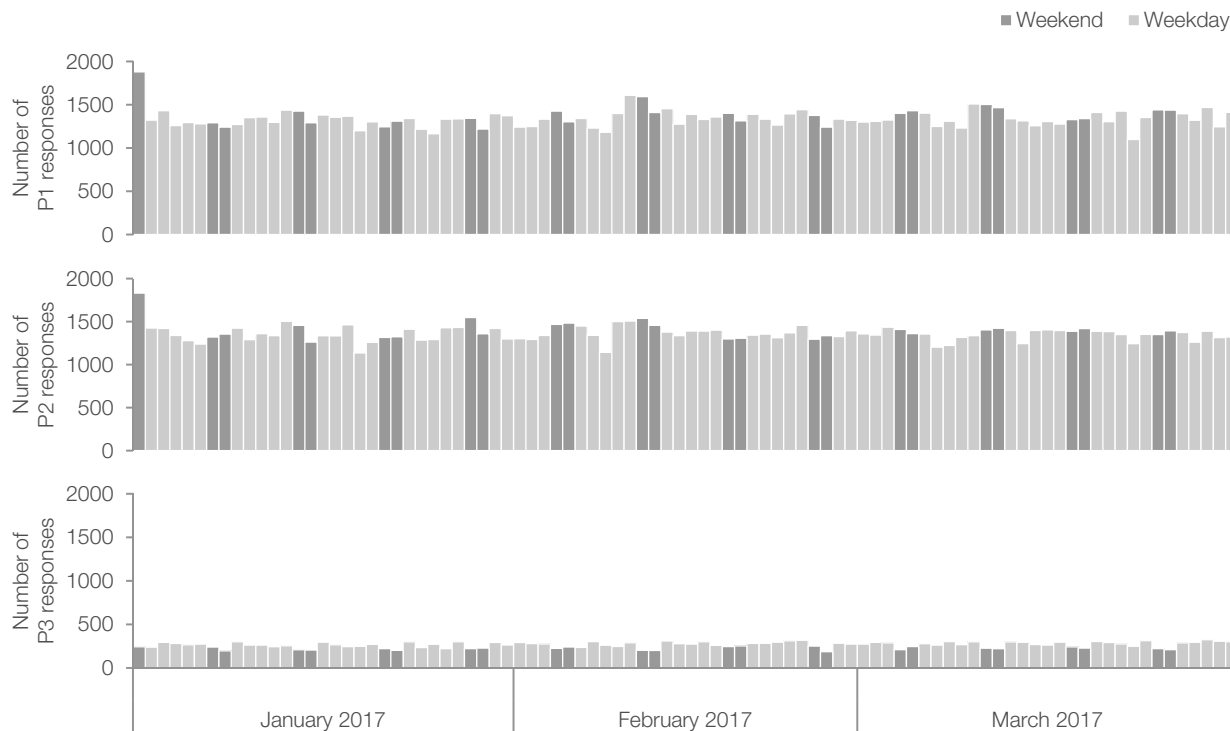


**Figure 5**   Ambulance responses by priority, January 2012 to March 2017
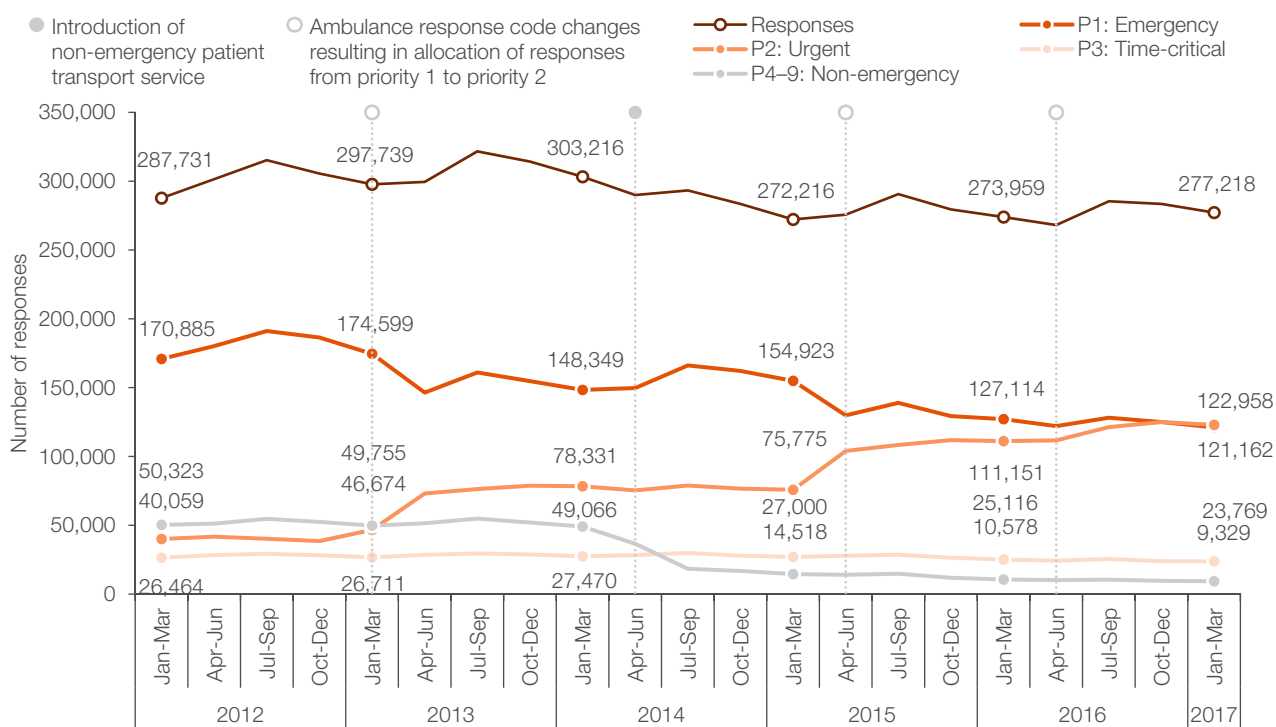
# Call to ambulance arrival time – NSW and zone performance

Call to ambulance arrival time reflects patients' experiences, spanning 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.

In the January to March 2017 quarter, 63.2% of priority category 1 responses had a call to ambulance arrival time within 15 minutes, and 94.7% within 30 minutes (compared to same quarter last year, down 1.3 and up 0.1 percentage points, respectively). For priority 2 responses, 75.6% had a call to ambulance arrival time within 30 minutes and 95.0% within 60 minutes (Figure 7).

At a state level, call to ambulance arrival times have remained fairly steady over the past three years (Figure 8).

For priority 1, the percentage of call to ambulance arrival times within 30 minutes ranged across zones from 88.1% in Southern NSW to 97.5% in Sydney.

For priority 2, the percentage of call to ambulance arrival times within 60 minutes ranged across zones from 92.1% in Western Sydney to 98.8% in New England (Figure 9).

Figure 6    Intervals covering call to ambulance arrival time, NSW



| Call answer | Call in queue | Call complete | Vehicle assigned | Vehicle responding | Arrive at scene | Depart scene | Arrive hospital | Delayed available | Clear case |

Figure 7    Call to ambulance arrival time, by priority category, January to March 2017

| Priority category | | This quarter | Same quarter last year | Change since one year ago |
| --- | --- | --- | --- | --- |
| P1 responses | 89,939 | | | |
|     Within 15 minutes | | 63.2% | 64.5% | -1.3 percentage points |
|     Within 30 minutes | | 94.7% | 94.6% | 0.1 percentage points |
| Local response areas meeting 90% threshold (arrival within 30 minutes) | | 116 (of 153) | 113 (of 153) | |
| P2 responses | 94,681 | | | |
|     Within 30 minutes | | 75.6% | 76.7% | -1.1 percentage points |
|     Within 60 minutes | | 95.0% | 95.2% | -0.2 percentage points |
| Local response areas meeting 90% threshold (arrival within 60 minutes) | | 153 (of 153) | 150 (of 153) | |

Figure 8　　Call to ambulance arrival time, by priority category, January 2012 to March 2017

● Introduction of non-emergency patient transport service

○ Ambulance response code changes resulting in allocation of responses from priority 1 to priority 2

- P1 (within 15 minutes)
- P1 (within 30 minutes)
- P2 (within 30 minutes)
- P2 (within 60 minutes)
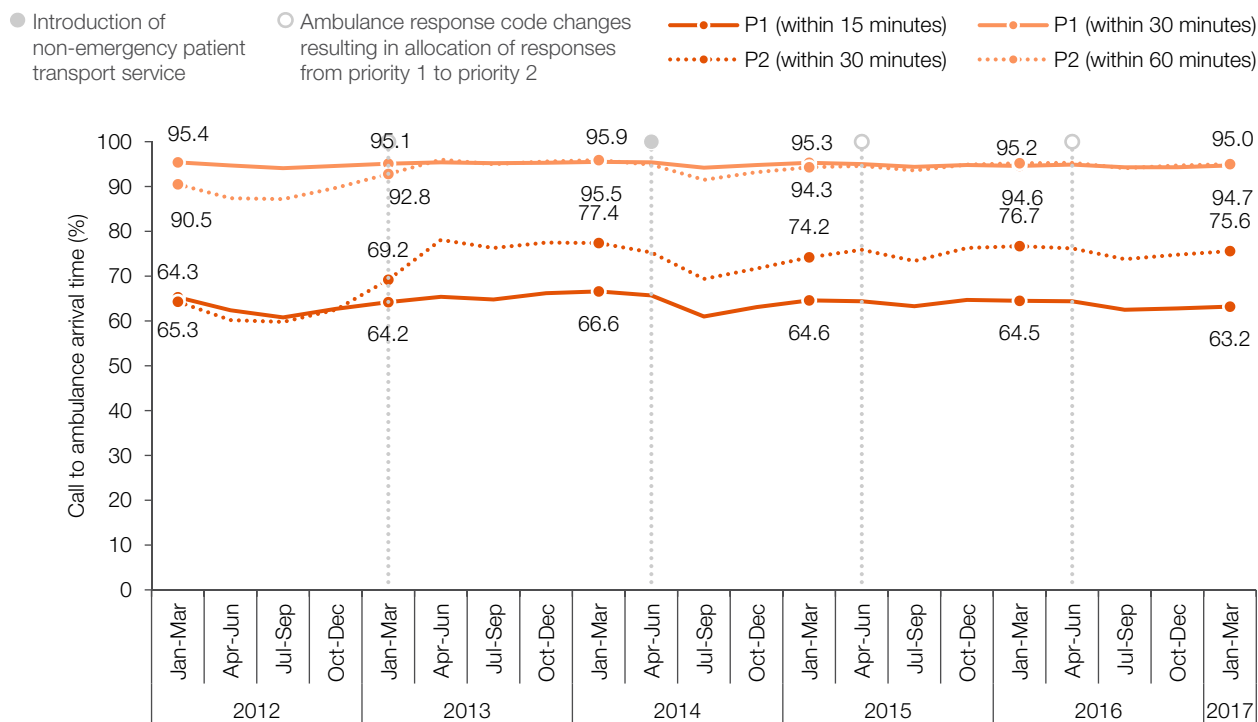


Figure 9　　Call to ambulance arrival time, by zone, relative to NSW, January to March 2017

■ Difference from NSW　■ Less than 90% within defined time
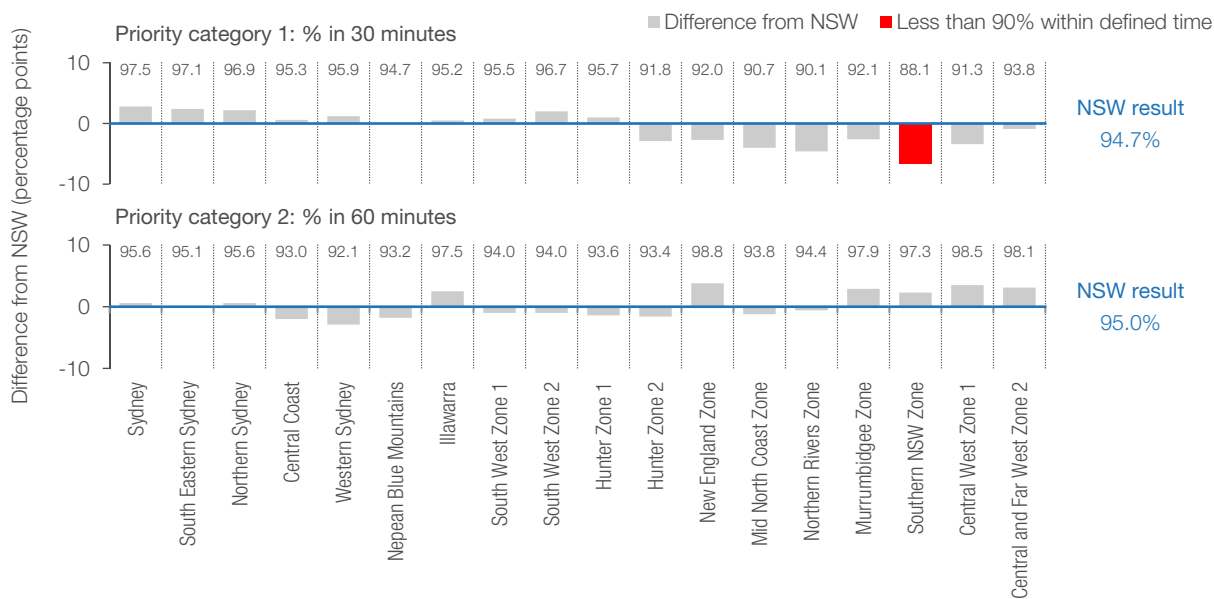
# Call to ambulance arrival time – variation

For priority 1 responses this quarter, 116 of 153 local response areas (LRAs) achieved 90% call to ambulance arrival times within 30 minutes (Figure 10). Out of the total 89,939 priority 1 call to ambulance arrival times, 4,767 were over 30 minutes. Altogether, Mid North Coast crews met 5.2% of NSW priority 1 responses in the quarter, with 9.1% of all call to ambulance arrival times over 30 minutes (Figure 11).

Figure 10    Percentage of priority 1 call to ambulance arrival times within 30 minutes, by zone and local response area type, January to March 2017



| | Number | Total LRAs | Non-24-hour · 24-hour (on call) · 24-hour ▌Zone result | LRAs achieving 90% in 30 minutes 2017 | 2016 |
|---|---|---|---|---|---|
| Sydney | 9,510 | 8 | | 8 | 8 |
| South Eastern Sydney | 6,620 | 8 | | 8 | 8 |
| Northern Sydney | 6,480 | 9 | | 9 | 9 |
| Central Coast | 5,462 | 9 | | 7 | 7 |
| Western Sydney | 8,334 | 5 | | 5 | 5 |
| Nepean Blue Mountains | 5,630 | 6 | | 6 | 5 |
| Illawarra | 5,610 | 10 | | 9 | 8 |
| South West Zone 1 | 5,246 | 5 | | 4 | 5 |
| South West Zone 2 | 6,469 | 4 | | 4 | 4 |
| Hunter Zone 1 | 5,453 | 9 | | 8 | 8 |
| Hunter Zone 2 | 3,136 | 10 | | 8 | 7 |
| New England Zone | 2,381 | 10 | | 6 | 6 |
| Mid North Coast Zone | 4,649 | 12 | | 8 | 7 |
| Northern Rivers Zone | 4,138 | 12 | | 6 | 5 |
| Murrumbidgee Zone | 3,458 | 8 | | 5 | 6 |
| Southern NSW Zone | 2,886 | 10 | | 4 | 5 |
| Central West Zone 1 | 2,535 | 12 | | 7 | 8 |
| Central and Far West Zone 2 | 1,847 | 6 | | 4 | 2 |
| **Total** | | **153** | | **116** | **113** |

% within 30 minutes

Figure 11    Proportion of priority 1 responses and call to ambulance arrival times outside 30 minutes, by zone, January to March 2017



■ % of NSW responses    ■ % of NSW responses over 30 minutes

%

For priority 2 responses this quarter, all 153 LRAs achieved 90% call to ambulance arrival times within 60 minutes (Figure 12). Out of a total of 94,681 priority 2 call to ambulance arrival times, 4,734 were over 60 minutes. Across zones, the distribution of priority 2 responses was similar to the distribution of call to ambulance arrival times over 60 minutes (Figure 13).

Percentage of priority 2 call to ambulance arrival times within 60 minutes, by zone and local response area type, January to March 2017

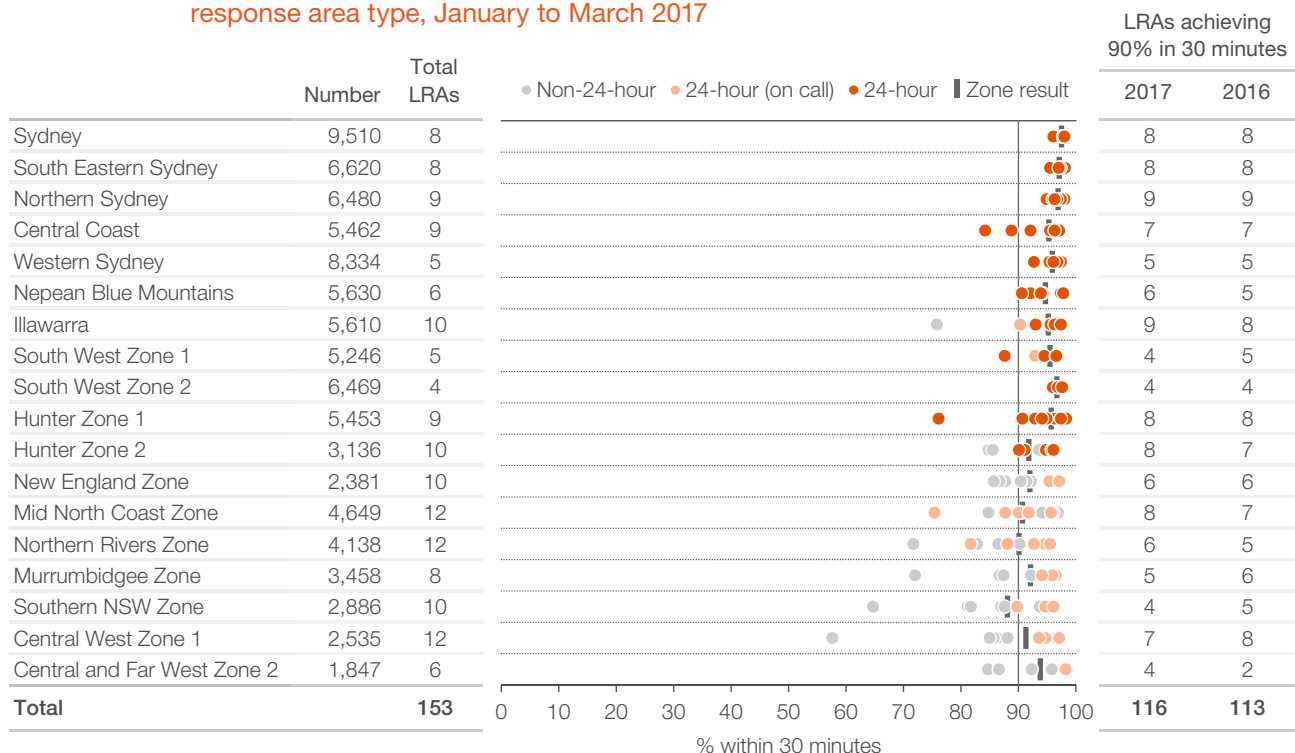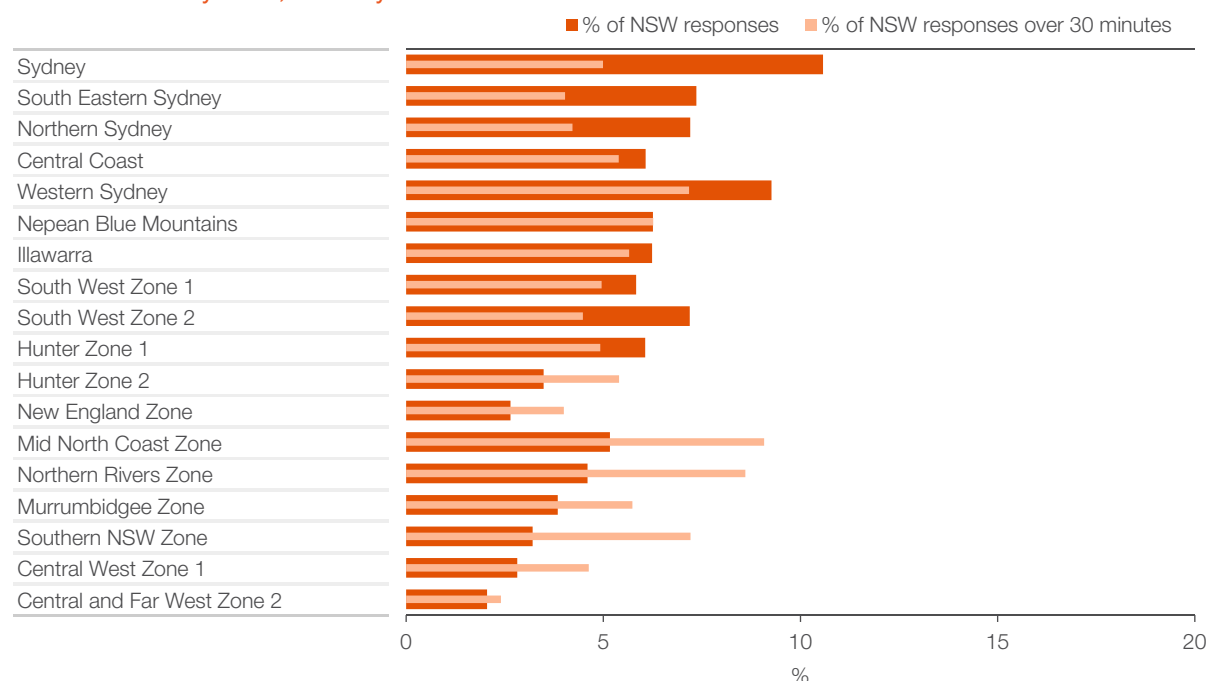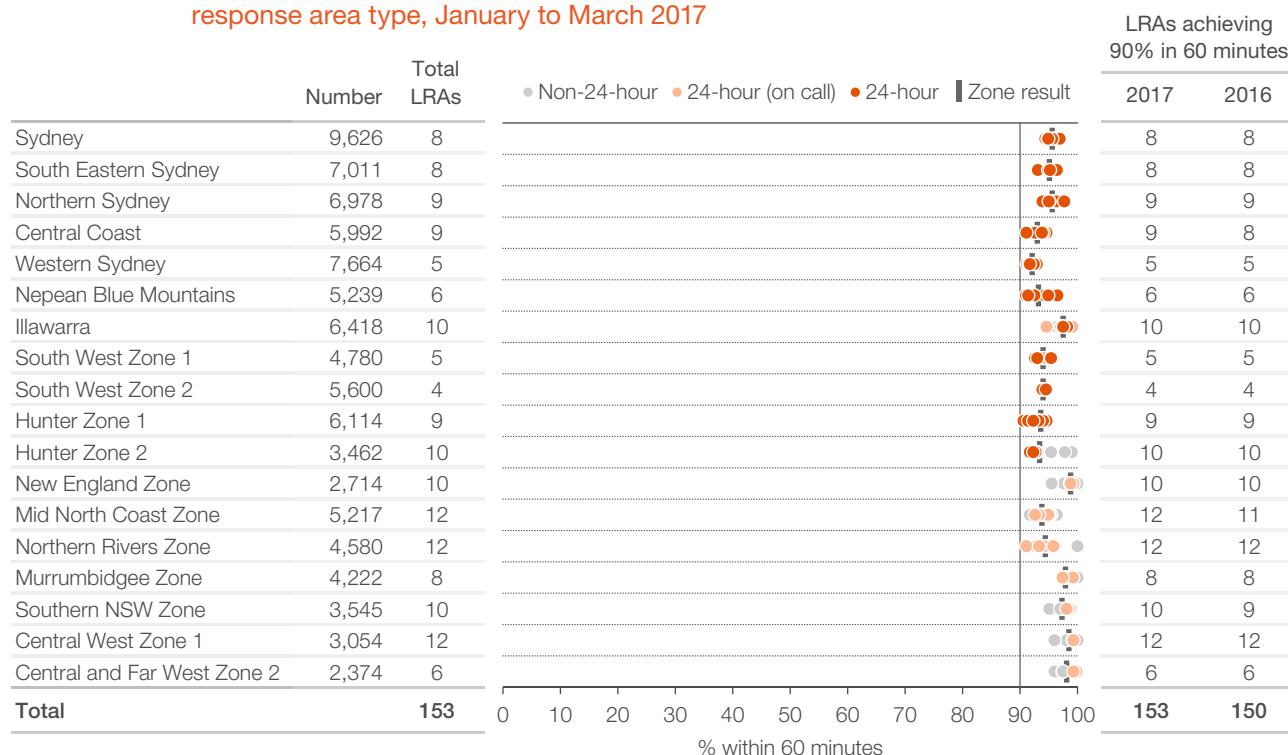| | Number | Total LRAs | % within 60 minutes | LRAs achieving 90% in 60 minutes 2017 | LRAs achieving 90% in 60 minutes 2016 |
|---|---|---|---|---|---|
| Sydney | 9,626 | 8 | | 8 | 8 |
| South Eastern Sydney | 7,011 | 8 | | 8 | 8 |
| Northern Sydney | 6,978 | 9 | | 9 | 9 |
| Central Coast | 5,992 | 9 | | 9 | 8 |
| Western Sydney | 7,664 | 5 | | 5 | 5 |
| Nepean Blue Mountains | 5,239 | 6 | | 6 | 6 |
| Illawarra | 6,418 | 10 | | 10 | 10 |
| South West Zone 1 | 4,780 | 5 | | 5 | 5 |
| South West Zone 2 | 5,600 | 4 | | 4 | 4 |
| Hunter Zone 1 | 6,114 | 9 | | 9 | 9 |
| Hunter Zone 2 | 3,462 | 10 | | 10 | 10 |
| New England Zone | 2,714 | 10 | | 10 | 10 |
| Mid North Coast Zone | 5,217 | 12 | | 12 | 11 |
| Northern Rivers Zone | 4,580 | 12 | | 12 | 12 |
| Murrumbidgee Zone | 4,222 | 8 | | 8 | 8 |
| Southern NSW Zone | 3,545 | 10 | | 10 | 9 |
| Central West Zone 1 | 3,054 | 12 | | 12 | 12 |
| Central and Far West Zone 2 | 2,374 | 6 | | 6 | 6 |
| Total | | 153 | | 153 | 150 |

Legend: ● Non-24-hour ● 24-hour (on call) ● 24-hour ▮ Zone result

Proportion of priority 2 responses and call to ambulance arrival times outside 60 minutes, by zone, January to March 2017

Legend: ■ % of P2 responses ■ % of P2 responses over 60 minutes

Ambulance activity and performance
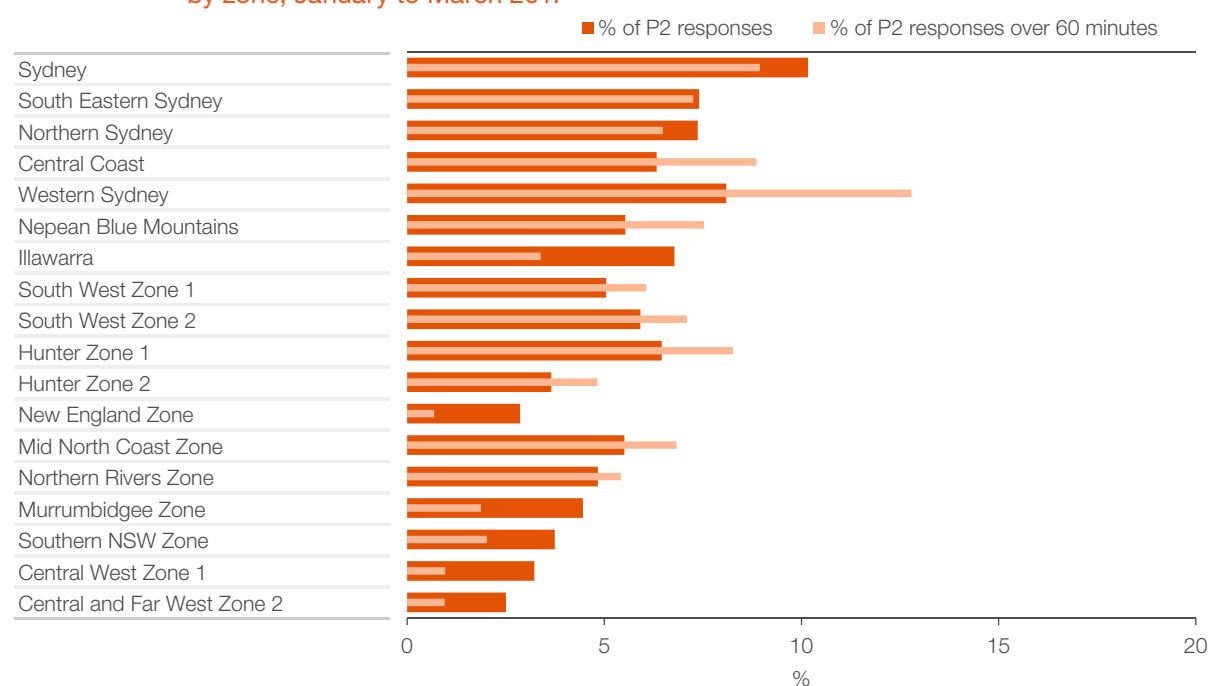
# Mobilisation time – NSW performance

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

In January to March 2017, the NSW median mobilisation time was 2.4 minutes for priority 1 and 4.0 minutes for priority 2 responses. For priority 1 responses, 62.5% were within three minutes (Figure 15).

In January to March quarters between 2012 and 2017, priority 1 median mobilisation time has been relatively unchanged (Figure 16).

There has however been a decrease in priority 2 median mobilisation times – with a 2.4 minute drop between the January to March quarters in 2012 and 2017. The five year time series shows there is very little seasonal variation in mobilisation times (Figure 17).

Figure 14    Intervals covering mobilisation time, NSW

| Call answer | Call in queue | Call complete | Vehicle assigned | Vehicle responding | Arrive at scene | Depart scene | Arrive hospital | Delayed available | Clear case |
|---|---|---|---|---|---|---|---|---|---|

Figure 15          Mobilisation time, by priority category, January to March 2017

| | Volume | | This quarter | Same quarter last year | Change since one year ago |
|---|---|---|---|---|---|
| P1 | 89,925 | | | | |
| Median | | | 2.4m | 2.4m | unchanged |
| 90th percentile | | | 6.2m | 5.9m | 0.3m |
| Percentage P1 within 3 minutes | | | 62.5% | 63.8% | -1.3 percentage points |
| P2 | 94,675 | | | | |
| Median | | | 4.0m | 3.8m | 0.2m |
| 90th percentile | | | 19.8m | 19.4m | 0.4m |

Figure 16    Median priority category 1 mobilisation time, January to March quarters, 2012 to 2017



← Better performance

| | |
|---|---|
| Jan-Mar 2017 | This quarter, the median P1 mobilisation time was 2.4 minutes. This result was: |
| Jan-Mar 2016 | Unchanged compared to 1 year ago |
| Jan-Mar 2015 | 0.1 minutes longer than 2 years ago |
| Jan-Mar 2014 | 0.1 minutes longer than 3 years ago |
| Jan-Mar 2013 | 0.3 minutes longer than 4 years ago |
| Jan-Mar 2012 | 0.2 minutes longer than 5 years ago |
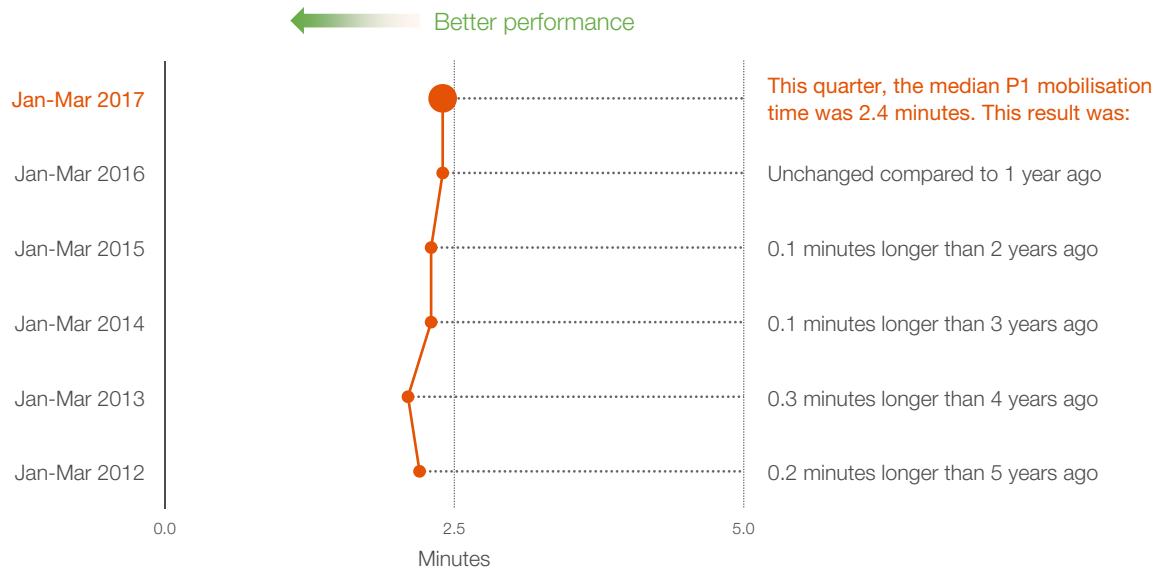
Minutes

Figure 17    Median mobilisation time, by priority category, January 2012 to March 2017



● Introduction of non-emergency patient transport service    ○ Ambulance response code changes resulting in allocation of responses from priority 1 to priority 2    P1  P2

Median time in minutes

P2 values: 6.4, 4.8, 3.6, 4.0, 3.8, 4.0

P1 values: 2.2, 2.1, 2.3, 2.3, 2.4, 2.4
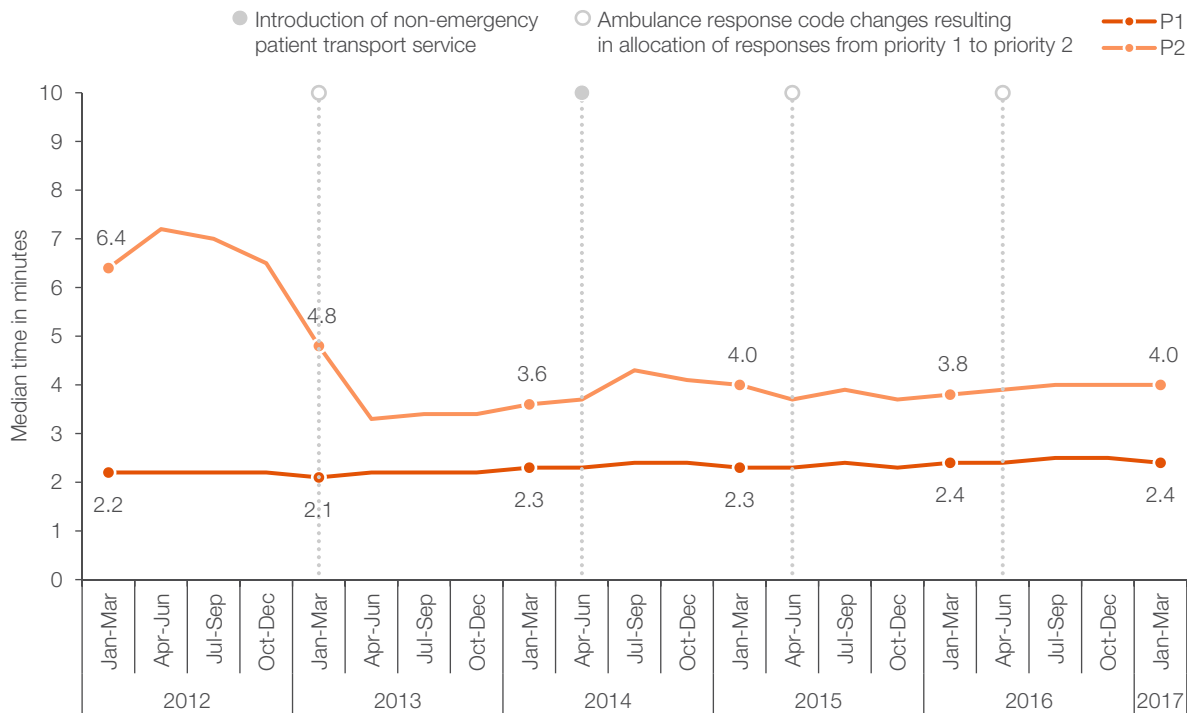
# Mobilisation time – variation

The NSW priority 1 median mobilisation time for January to March 2017 was 2.4 minutes. Across zones, median times ranged from 2.1 minutes in Sydney and South West Zone 2 to 3.5 minutes in Southern NSW Zone (a 1.4 minute range (Figure 18).

The NSW priority 2 median mobilisation time was 4.0 minutes this quarter, and ranged across zones from 3.5 minutes in Sydney to 4.8 minutes in Northern Rivers (a 1.3 minute range). In general, zones in non-metropolitan areas had longer mobilisation times for both priority 1 and priority 2 responses (Figure 18).

Within zones, median mobilisation times for individual LRAs were more variable in non-metropolitan zones (Figures 19 and 20).

This may reflect differences in the distribution of LRA types across zones. Metropolitan zones primarily have 24 hour LRAs while non-metropolitan zones have a preponderance of non-24 hour and 24 hour (on-call) LRAs, which rely on staff that are not always based at the ambulance station, ready to respond immediately to calls.

The level of variation seen within zones is similar for priority 1 and priority 2 responses (Figures 19 and 20).

Figure 18　Median mobilisation time, by zone, relative to NSW, January to March 2017
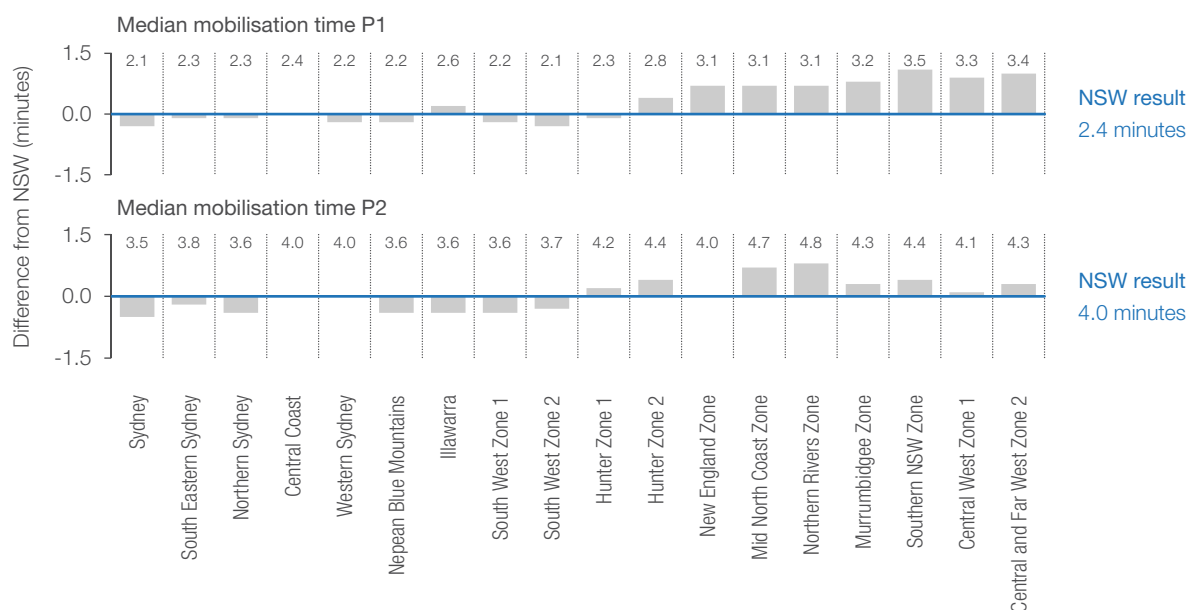
Figure 19      Median priority 1 mobilisation time, by zone and local response area type,
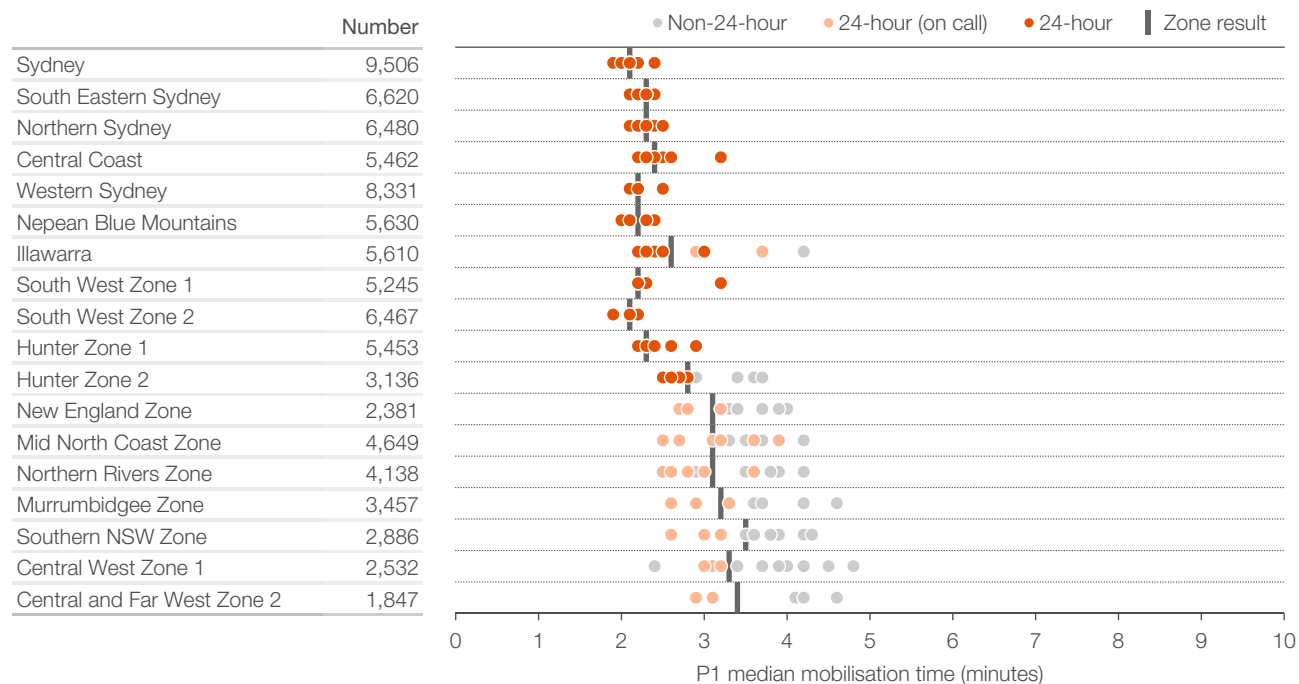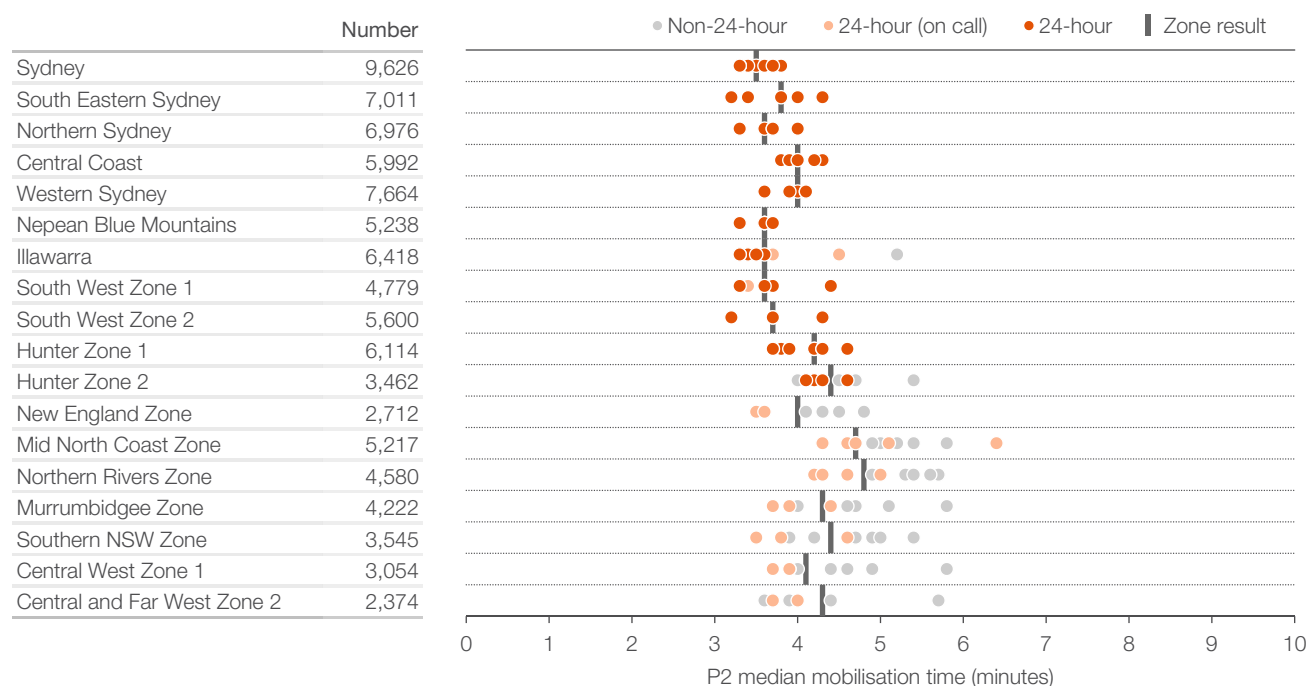               January to March 2017

|                             | Number |
|-----------------------------|--------|
| Sydney                      | 9,506  |
| South Eastern Sydney        | 6,620  |
| Northern Sydney             | 6,480  |
| Central Coast               | 5,462  |
| Western Sydney              | 8,331  |
| Nepean Blue Mountains       | 5,630  |
| Illawarra                   | 5,610  |
| South West Zone 1           | 5,245  |
| South West Zone 2           | 6,467  |
| Hunter Zone 1               | 5,453  |
| Hunter Zone 2               | 3,136  |
| New England Zone            | 2,381  |
| Mid North Coast Zone        | 4,649  |
| Northern Rivers Zone        | 4,138  |
| Murrumbidgee Zone           | 3,457  |
| Southern NSW Zone           | 2,886  |
| Central West Zone 1         | 2,532  |
| Central and Far West Zone 2 | 1,847  |

● Non-24-hour    ● 24-hour (on call)    ● 24-hour    ▍ Zone result

P1 median mobilisation time (minutes)

Figure 20      Median priority 2 mobilisation time, by zone and local response area type,
               January to March 2017

|                             | Number |
|-----------------------------|--------|
| Sydney                      | 9,626  |
| South Eastern Sydney        | 7,011  |
| Northern Sydney             | 6,976  |
| Central Coast               | 5,992  |
| Western Sydney              | 7,664  |
| Nepean Blue Mountains       | 5,238  |
| Illawarra                   | 6,418  |
| South West Zone 1           | 4,779  |
| South West Zone 2           | 5,600  |
| Hunter Zone 1               | 6,114  |
| Hunter Zone 2               | 3,462  |
| New England Zone            | 2,712  |
| Mid North Coast Zone        | 5,217  |
| Northern Rivers Zone        | 4,580  |
| Murrumbidgee Zone           | 4,222  |
| Southern NSW Zone           | 3,545  |
| Central West Zone 1         | 3,054  |
| Central and Far West Zone 2 | 2,374  |

● Non-24-hour    ● 24-hour (on call)    ● 24-hour    ▍ Zone result

P2 median mobilisation time (minutes)

# Response time – NSW performance

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.

In the January to March 2017 quarter, median response times were 11.1 minutes for priority 1 responses, 7.5 minutes for priority 1A and 17.3 minutes for priority 2 responses (Figure 22).

This quarter, 71.9% of priority 1A response times were within 10 minutes; almost unchanged since the same quarter last year.

There were three days in the quarter when the median response time for priority 1A responses exceeded 10 minutes, compared with one day in the same quarter last year.

Although seasonal fluctuations are apparent, in the January to March quarter there has been little change in median priority 1 response times since 2012. There has however been a 3.8 minute decrease in priority 2 response times (Figure 24).

Figure 21    Intervals covering response time, NSW

| Call answer | Call in queue | Call complete | Vehicle assigned | Vehicle responding | Arrive at scene | Depart scene | Arrive hospital | Delayed available | Clear case |
|---|---|---|---|---|---|---|---|---|---|

Figure 22      Ambulance response time, by priority category, January to March 2017

|  | This quarter | Same quarter last year | Change since one year ago |
|---|---|---|---|
| P1: Emergency (89,939 responses) |  |  |  |
| Median response time | 11.1m | 11.0m | 0.1m |
| 90th percentile response time | 22.8m | 22.9m | -0.1m |
| P1A: Highest priority (1,982 responses) |  |  |  |
| Median response time | 7.5m | 7.5m | unchanged |
| 90th percentile response time | 15.0m | 15.8m | -0.8m |
| P2: Urgent  (94,681 responses) |  |  |  |
| Median response time | 17.3m | 16.9m | 0.4m |
| 90th percentile response time | 43.8m | 43.0m | 0.8m |
| Percentage P1A responses within 10 minutes | 71.9% | 71.5% | 0.4 percentage points |
| Number of days P1A median response time exceeded 10 minutes | 3 days | 1 day | 2 days |

Figure 23

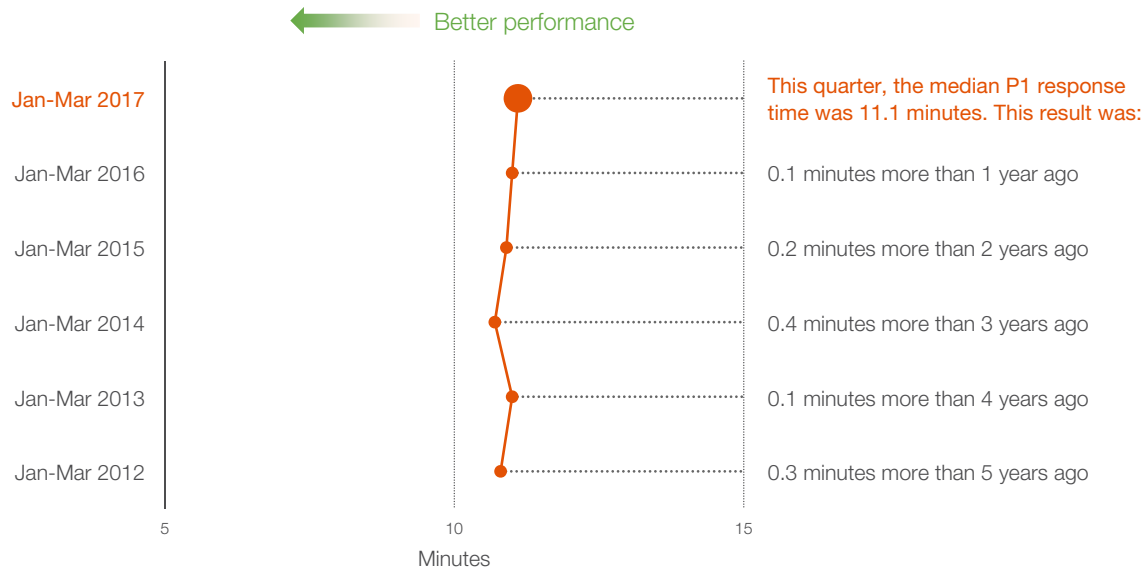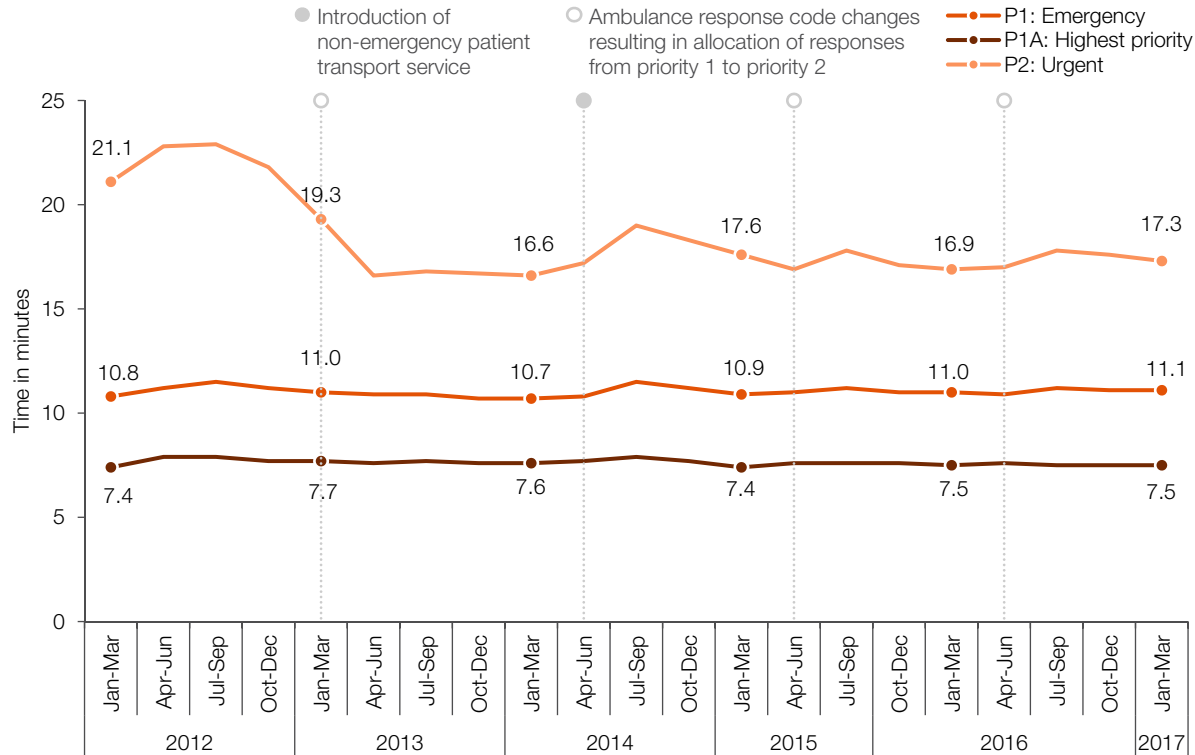## Median priority category 1 response time, January to March quarters, 2012 to 2017

Better performance →

| | |
|---|---|
| Jan-Mar 2017 | This quarter, the median P1 response time was 11.1 minutes. This result was: |
| Jan-Mar 2016 | 0.1 minutes more than 1 year ago |
| Jan-Mar 2015 | 0.2 minutes more than 2 years ago |
| Jan-Mar 2014 | 0.4 minutes more than 3 years ago |
| Jan-Mar 2013 | 0.1 minutes more than 4 years ago |
| Jan-Mar 2012 | 0.3 minutes more than 5 years ago |

Minutes

Figure 24

## Median ambulance response time, by priority category, January 2012 to March 2017

● Introduction of non-emergency patient transport service

○ Ambulance response code changes resulting in allocation of responses from priority 1 to priority 2

━●━ P1: Emergency
━●━ P1A: Highest priority
━●━ P2: Urgent

Time in minutes

P2: Urgent — 21.1, 19.3, 16.6, 17.6, 16.9, 17.3

P1: Emergency — 10.8, 11.0, 10.7, 10.9, 11.0, 11.1

P1A: Highest priority — 7.4, 7.7, 7.6, 7.4, 7.5, 7.5

2012  2013  2014  2015  2016  2017

# Response time – variation

The NSW priority 1A median response time was 7.5 minutes in the January to March 2017 quarter. Across zones, priority 1A median response times ranged from 6.3 minutes in Sydney and New England to 9.2 minutes in Central Coast (a 2.9 minute range) (Figure 25).

The priority 1 median response time was 11.1 minutes in the January to March 2017 quarter. Across zones, median response times ranged from 8.8 minutes in Central and Far West Zone 2 to 12.6 minutes in Hunter Zone 2 and Mid North Coast Zone (a 3.8 minute range) (Figure 25).

The median priority 2 response time was 17.3 minutes this quarter. Across zones, median response times ranged from 11.0 minutes in Central and Far West Zone 2 to 22.1 minutes in Western Sydney (a 11.1 minute range) (Figure 25 and 27).

Within zones, the median response times of constituent LRAs varied more widely in non-metropolitan settings. Within-zone variation was more marked for priority 2 responses than for priority 1 responses (Figures 26 and 27).

Figure 25    Median ambulance response time, by zone, relative to NSW, January to March 2017
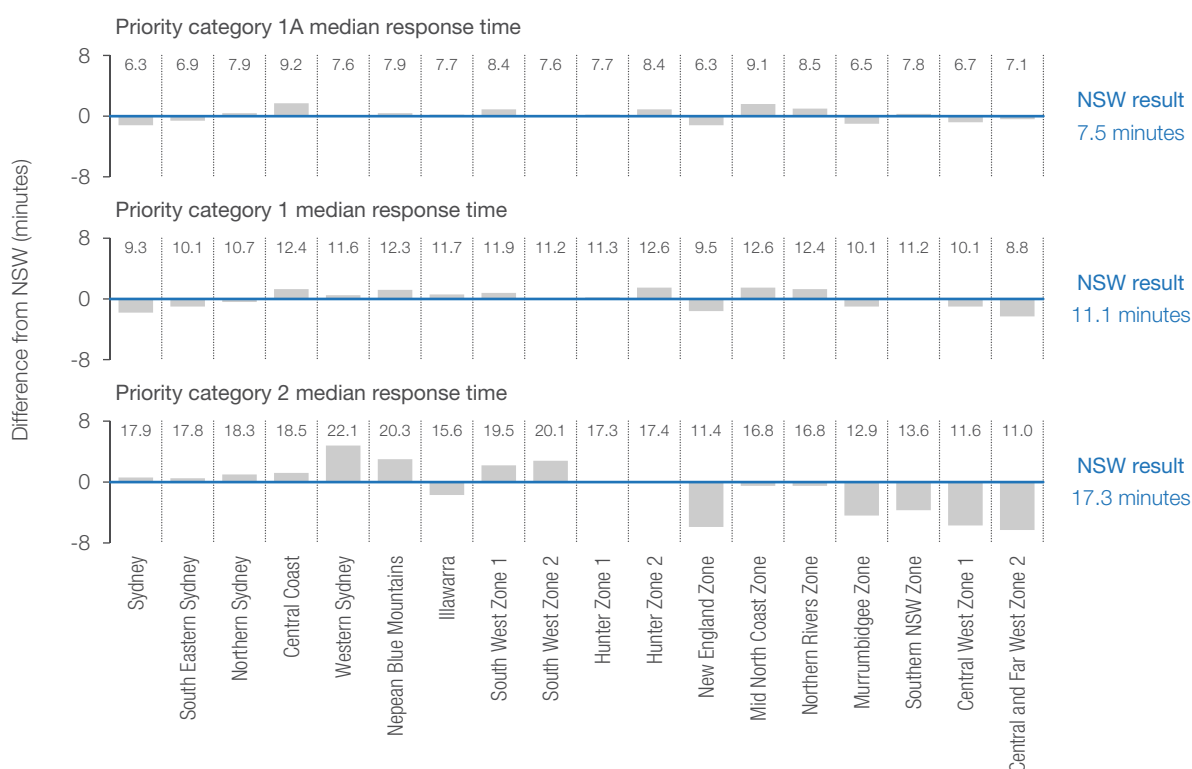


Priority category 1A median response time

| 6.3 | 6.9 | 7.9 | 9.2 | 7.6 | 7.9 | 7.7 | 8.4 | 7.6 | 7.7 | 8.4 | 6.3 | 9.1 | 8.5 | 6.5 | 7.8 | 6.7 | 7.1 |

NSW result 7.5 minutes

Priority category 1 median response time

| 9.3 | 10.1 | 10.7 | 12.4 | 11.6 | 12.3 | 11.7 | 11.9 | 11.2 | 11.3 | 12.6 | 9.5 | 12.6 | 12.4 | 10.1 | 11.2 | 10.1 | 8.8 |

NSW result 11.1 minutes

Priority category 2 median response time

| 17.9 | 17.8 | 18.3 | 18.5 | 22.1 | 20.3 | 15.6 | 19.5 | 20.1 | 17.3 | 17.4 | 11.4 | 16.8 | 16.8 | 12.9 | 13.6 | 11.6 | 11.0 |

NSW result 17.3 minutes

Difference from NSW (minutes)

Sydney, South Eastern Sydney, Northern Sydney, Central Coast, Western Sydney, Nepean Blue Mountains, Illawarra, South West Zone 1, South West Zone 2, Hunter Zone 1, Hunter Zone 2, New England Zone, Mid North Coast Zone, Northern Rivers Zone, Murrumbidgee Zone, Southern NSW Zone, Central West Zone 1, Central and Far West Zone 2

Figure 26     Median priority category 1 ambulance response time, by zone and local response area type, January to March 2017

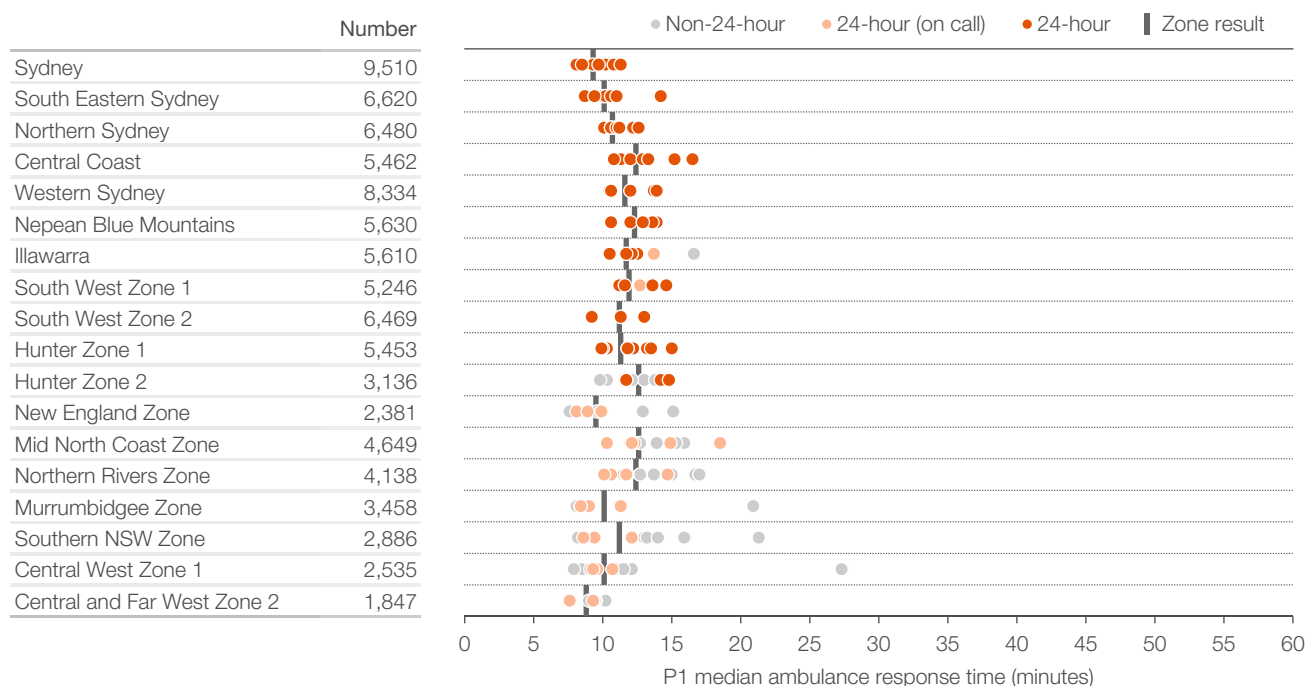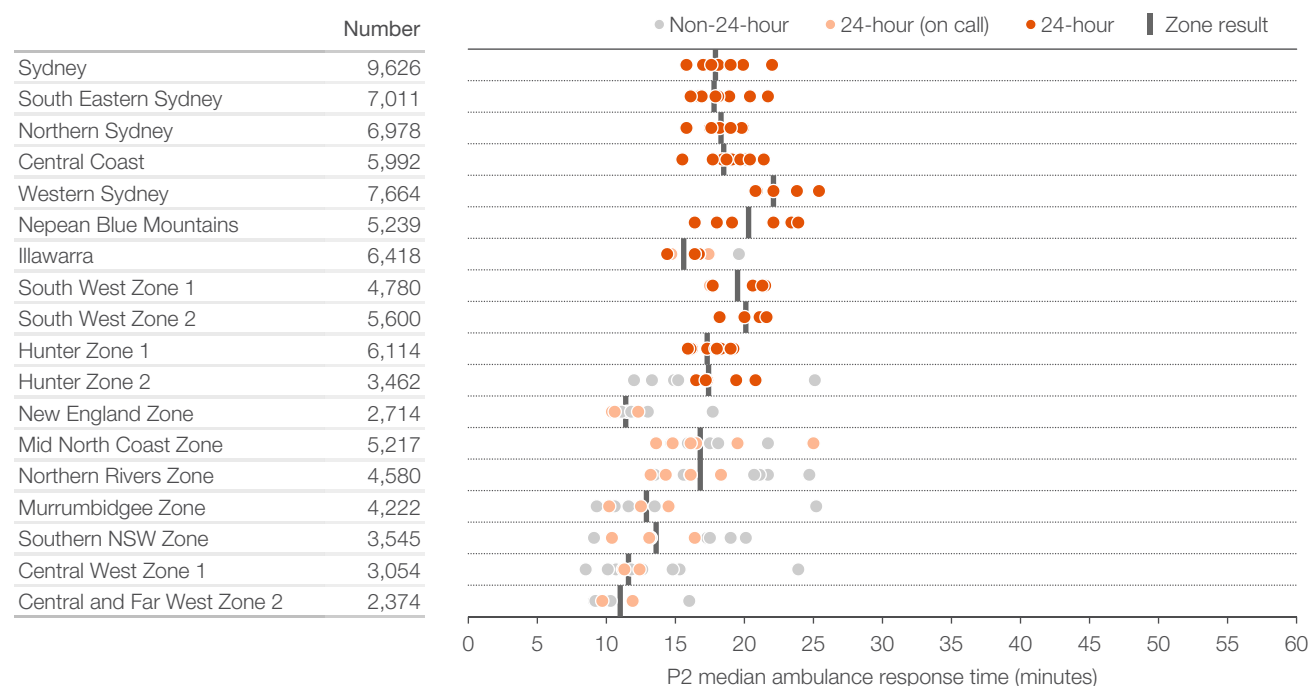| | Number |
|---|---|
| Sydney | 9,510 |
| South Eastern Sydney | 6,620 |
| Northern Sydney | 6,480 |
| Central Coast | 5,462 |
| Western Sydney | 8,334 |
| Nepean Blue Mountains | 5,630 |
| Illawarra | 5,610 |
| South West Zone 1 | 5,246 |
| South West Zone 2 | 6,469 |
| Hunter Zone 1 | 5,453 |
| Hunter Zone 2 | 3,136 |
| New England Zone | 2,381 |
| Mid North Coast Zone | 4,649 |
| Northern Rivers Zone | 4,138 |
| Murrumbidgee Zone | 3,458 |
| Southern NSW Zone | 2,886 |
| Central West Zone 1 | 2,535 |
| Central and Far West Zone 2 | 1,847 |



● Non-24-hour   ● 24-hour (on call)   ● 24-hour   ▌ Zone result

P1 median ambulance response time (minutes)

Figure 27     Median priority category 2 ambulance response time, by zone and local response area type, January to March 2017

| | Number |
|---|---|
| Sydney | 9,626 |
| South Eastern Sydney | 7,011 |
| Northern Sydney | 6,978 |
| Central Coast | 5,992 |
| Western Sydney | 7,664 |
| Nepean Blue Mountains | 5,239 |
| Illawarra | 6,418 |
| South West Zone 1 | 4,780 |
| South West Zone 2 | 5,600 |
| Hunter Zone 1 | 6,114 |
| Hunter Zone 2 | 3,462 |
| New England Zone | 2,714 |
| Mid North Coast Zone | 5,217 |
| Northern Rivers Zone | 4,580 |
| Murrumbidgee Zone | 4,222 |
| Southern NSW Zone | 3,545 |
| Central West Zone 1 | 3,054 |
| Central and Far West Zone 2 | 2,374 |



● Non-24-hour   ● 24-hour (on call)   ● 24-hour   ▌ Zone result

P2 median ambulance response time (minutes)

# Turnaround time – NSW and zone performance

Turnaround time refers to the period 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 'clear' and available to respond to another incident.

Turnaround time encapsulates transfer of care, off stretcher time and make ready time. In the January to March 2017 quarter, 71.7% of priority 1 and 77.1% of priority 2 turnaround times were within 45 minutes (Figure 29).

Since 2013, median turnaround times have decreased. There is a notable seasonal effect, with longer priority 1 and 2 median turnaround times in the July to September quarters (Figure 30).

Across zones, priority category 1 and 2 combined median turnaround times ranged from 21.9 minutes in Southern NSW to 42.1 minutes in Western Sydney (a 20.2 minute range) (Figure 31).

Non-metropolitan zones in general performed better than the NSW result for turnaround time (Figure 31).

Figure 28    Intervals covering turnaround time, NSW

| Call answer | Call in queue | Call complete | Vehicle assigned | Vehicle responding | Arrive at scene | Depart scene | Arrive hospital | Delayed available | Clear case |
|---|---|---|---|---|---|---|---|---|---|

Figure 29    Turnaround time, by priority category, January to March 2017

|  |  | This quarter | Same quarter last year | Change since one year ago |
|---|---|---|---|---|
| Patients transported to hospital |  | 133,246 | 130,882 | 1.8% |
| P1: Emergency |  |  |  |  |
| Median |  | 35.9m | 36.4m | -0.5m |
| 90th percentile |  | 58.5m | 60.3m | -1.8m |
| Percentage P1 within 45 minutes |  | 71.7% | 69.9% | 1.8 percentage points |
| P2: Urgent |  |  |  |  |
| Median |  | 33.2m | 33.9m | -0.7m |
| 90th percentile |  | 55.1m | 56.7m | -1.6m |
| Percentage P2 within 45 minutes |  | 77.1% | 75.2% | 1.9 percentage points |

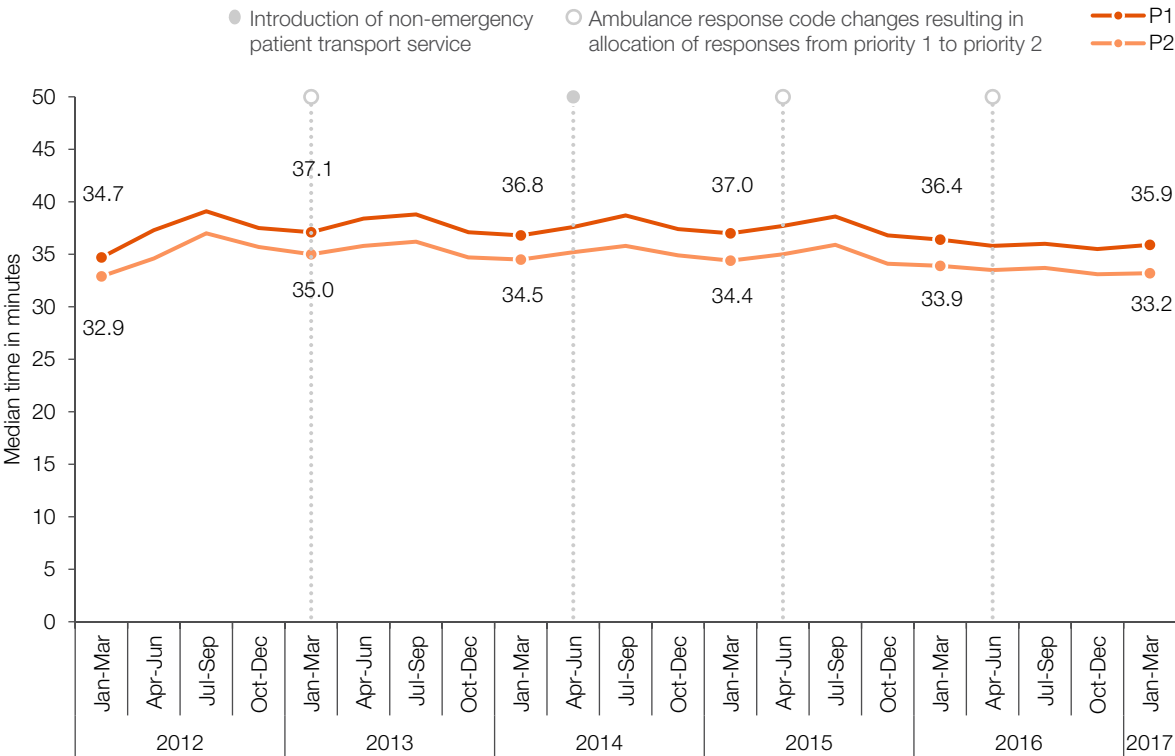Figure 30    Median turnaround time, by priority category, January to March 2017



● Introduction of non-emergency
   patient transport service

○ Ambulance response code changes resulting in
   allocation of responses from priority 1 to priority 2

●━● P1
●━● P2

Figure 31    Median turnaround time, by zone, priority category 1 and 2, relative to NSW,
             January to March 2017



NSW result
34.6 minutes
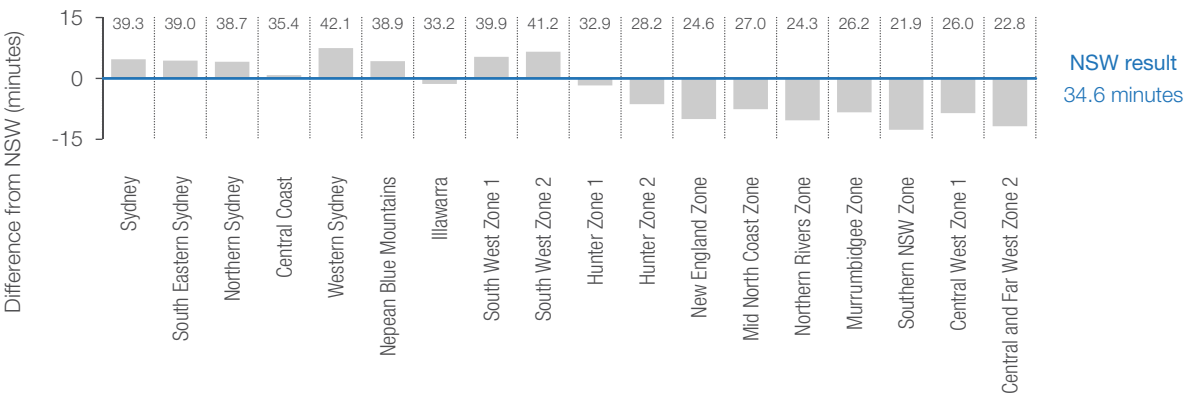
# Activity and performance

The daily demand for ambulance services varies and can be affected by a range of factors such as local events and adverse weather conditions. 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, and the week and month of the year (Figure 32).

Looking at patterns of activity, identifying surge and lull days and presenting this information alongside performance results can reflect on the system's resilience and preparedness.

In the January to March 2017 quarter, there were eight surge days (gold bars) and nine days when the level of activity as assessed by number of responses, was particulary high (black bars) (Figure 33).

Six of the nine high activity (high response) days in the quarter were also surge days – that is, levels of activity were higher than might have been expected given historical patterns of demand. Two of these high activity/surge days (10 February and 29 March) had longer median times for at least one measure – suggesting that performance may have been affected by the surge in activity on these days.

For six of the surge days, no timeliness measures indicated poorer performance – suggesting resilience.

Figure 34 describes performance on surge days, performance on busy days, and levels of activity on the days with the lowest performance levels.

Figure 32    **Daily ambulance responses, observed and expected, January to March 2017**
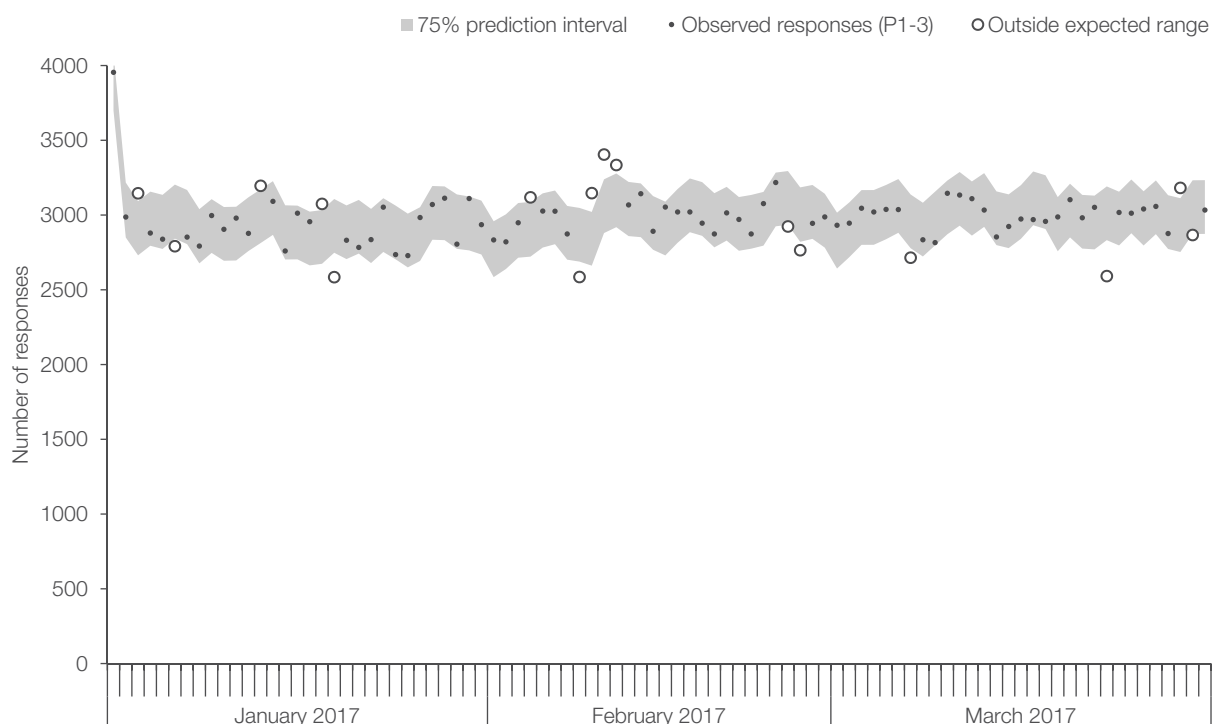
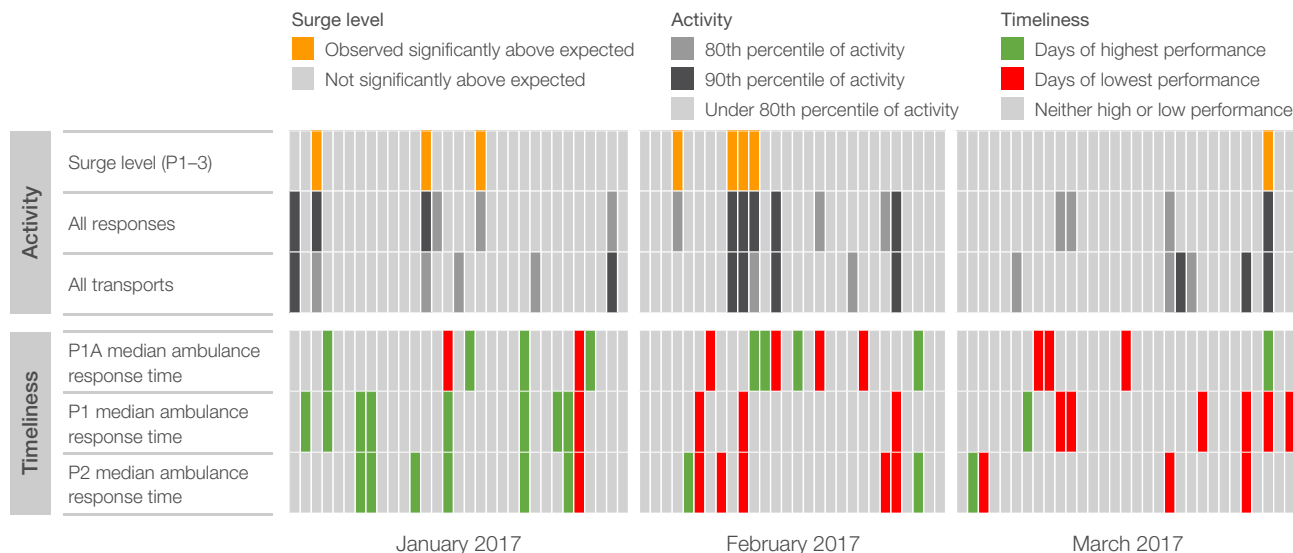Figure 33    Daily activity and timeliness measures, January to March 2017

Surge level
- ■ (orange) Observed significantly above expected
- ■ (light grey) Not significantly above expected

Activity
- ■ (grey) 80th percentile of activity
- ■ (dark) 90th percentile of activity
- ■ (light grey) Under 80th percentile of activity

Timeliness
- ■ (green) Days of highest performance
- ■ (red) Days of lowest performance
- ■ (light grey) Neither high or low performance



**Activity**
- Surge level (P1–3)
- All responses
- All transports

**Timeliness**
- P1A median ambulance response time
- P1 median ambulance response time
- P2 median ambulance response time

January 2017          February 2017          March 2017

Figure 34    Summary of daily activity and timeliness measures, January to March 2017

| | Of the eight surge days this quarter, performance was: | | Of the nine 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 | 6 | ■ 2 | 1 ■ 6 | ■ 2 | ▬ 8 | ■ 1 | |
| P1 median ambulance response time | 2 ■ 6 | | 3 ■ 6 | | ▬ 7 | ■ 3 | ■ 2 |
| P2 median ambulance response time | 1 ■ 7 | | 2 ■ 7 | | ▬ 7 | ■ 2 | ■ 1 |

# Healthcare Quarterly

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

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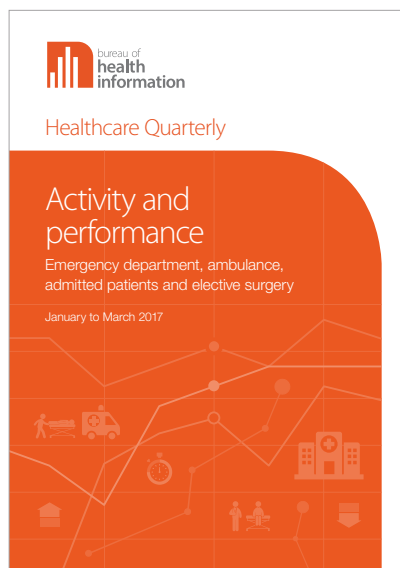


**Every day around 25,000 people receive care in the NSW public hospital system and around 1,800 are transported to hospital by ambulance.**

*Healthcare Quarterly* is published alongside three standalone modules that provide more detailed information about emergency department care, admitted patients and elective surgery, and ambulance services.
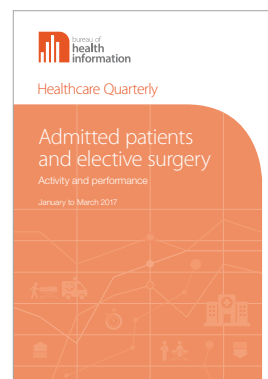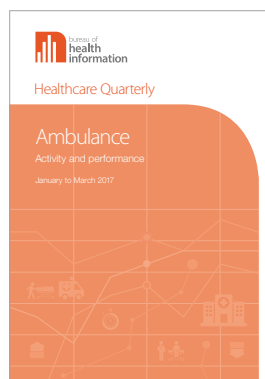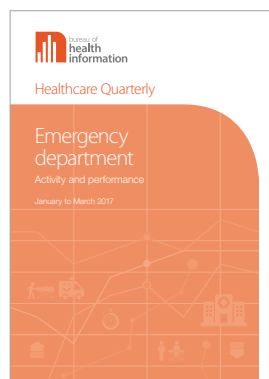


Additional information on local performance is available in our hospital profiles or from BHI's interactive portal Healthcare Observer, at **bhi.nsw.gov.au/healthcare_observer**
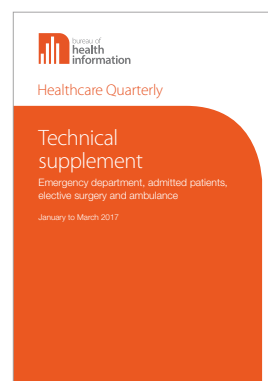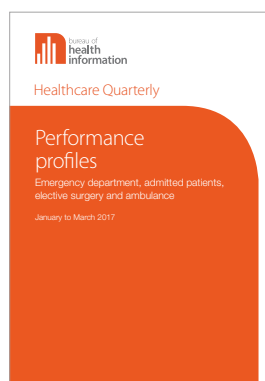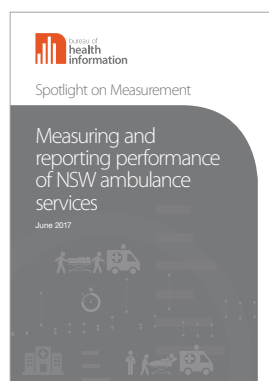


All reports and profiles are available at **bhi.nsw.gov.au**

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

# About the Bureau of Health Information

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

BHI was established in 2009 to provide system-wide support through transparent reporting.

BHI supports the accountability of the healthcare system by providing regular and detailed information to the community, government and healthcare professionals. This in turn supports quality improvement by highlighting how well the healthcare system is functioning and where there are opportunities to improve.

BHI manages the NSW Patient Survey Program, gathering information from patients about their experiences in public hospitals and other healthcare facilities.

BHI publishes a range of reports and tools that provide relevant, accurate and impartial information about how the health system is measuring up in terms of:

- Accessibility – healthcare when and where needed

- Appropriateness – the right healthcare, the right way

- Effectiveness – making a difference for patients

- Efficiency – value for money

- Equity – health for all, healthcare that's fair

- Sustainability – caring for the future

BHI's work relies on the efforts of a wide range of healthcare, data and policy experts. All of our assessment efforts leverage the work of hospital coders, analysts, technicians and healthcare providers who gather, codify and report data. Our public reporting of performance information is enabled and enhanced by the infrastructure, expertise and stewardship provided by colleagues from NSW Health and its pillar organisations.

**bhi.nsw.gov.au**