

Emergency Departments

Hospital Quarterly: Performance of NSW public hospitals

April to June 2013

There were more than half a million patient visits to NSW public hospital emergency departments (EDs) during April to June 2013, 2% less than the same quarter in 2012.

The median times to start treatment are unchanged or slightly shorter compared to the same quarter one year ago and the 95th percentile times to start treatment have decreased by four minutes (triage 2), 18 minutes (triage 3), 25 minutes (triage 4), and 24 minutes (triage 5).

In this quarter, 65% of all patients left the ED within four hours, this remains unchanged from last quarter and compares to 59% in the

same quarter in 2012. The NSW 2013 National Emergency Access Target (NEAT) requires that 71% of all patients who present to an ED leave the ED within four hours.

On [page 6](#) of this edition of *Hospital Quarterly* the Bureau presents a new measure called transfer of care which is a measurement of the time taken for patient's care to be transferred from the Ambulance paramedics to ED clinicians. Transfer of care is still a new measure and reflects an important part of a patient's journey and of a Hospital's performance. Transfer of Care is reported along with off stretcher time in this edition.

Also in this edition, the Bureau presents new analysis of the differences between hospitals across NSW and important factors that can influence a patient's experience in the ED. This new analysis has important implications for a hospitals NEAT performance.

This is one of three *Hospital Quarterly* modules. For the Elective Surgery and Admitted Patients modules visit www.bhi.nsw.gov.au

During the quarter	Apr-Jun 2012	Apr-Jun 2013	The difference
Visits to NSW emergency departments (EDs)	550,915 visits	542,651 visits	-8264 (-2%)
All arrivals at NSW hospitals by ambulance	134,145	133,886	unchanged
Emergency attendances that were categorised as triage 2	56,194 attendances	61,414 attendances	+5,220 (+9%)
Median time to start treatment for triage 4 patients	32 minutes	28 minutes	-4 minutes
People leaving the ED within four hours of presentation (NEAT)	59% in four hours	65% in four hours	+6 percentage points
Admissions to hospital from NSW EDs	153,086 admissions	158,087 admissions	+5,001 (+3%)

What drives performance of Emergency Departments in New South Wales?

This report provides a detailed assessment of Emergency Departments, including time from arrival to the start of treatment, and time from arrival to departure.

In this edition of *Hospital Quarterly*, the Bureau presents the results of a new analysis of the differences between hospitals across NSW and relates their performance to important factors that can influence a patient's experience in the ED.

Factors considered in this section include:

- the number of ED patient attendances
- the percentage of patients who are discharged, admitted or transferred to another hospital (mode of separation)
- urgency or triage category of the patients attending the ED
- the peer group of the hospital.

Triage categories: emergency department guidelines

The classification of a patient is assigned according to the urgency of their need for medical and / or nursing care. Emergency departments use a five-point scale where '1' is the most urgent category and '5' is the least urgent category.

Triage category	Australasian Triage Scale	Common examples
1	Resuscitation	Critical injury, cardiac arrest
2	Emergency	Chest pain, severe burns
3	Urgent	Moderate blood loss, dehydration
4	Semi-urgent	Sprained ankle, earache
5	Non-urgent	Small cuts or abrasions

Emergency department journeys

Most patients attend a NSW ED to receive treatment for an injury or acute illness.

Upon arrival emergency patients are *'triaged'* by specialist clinical staff after they arrive in ED and are allocated to one of five categories, depending on how urgently they require care. Each triage category has a recommended maximum time that the patient should wait to be seen by a healthcare professional.

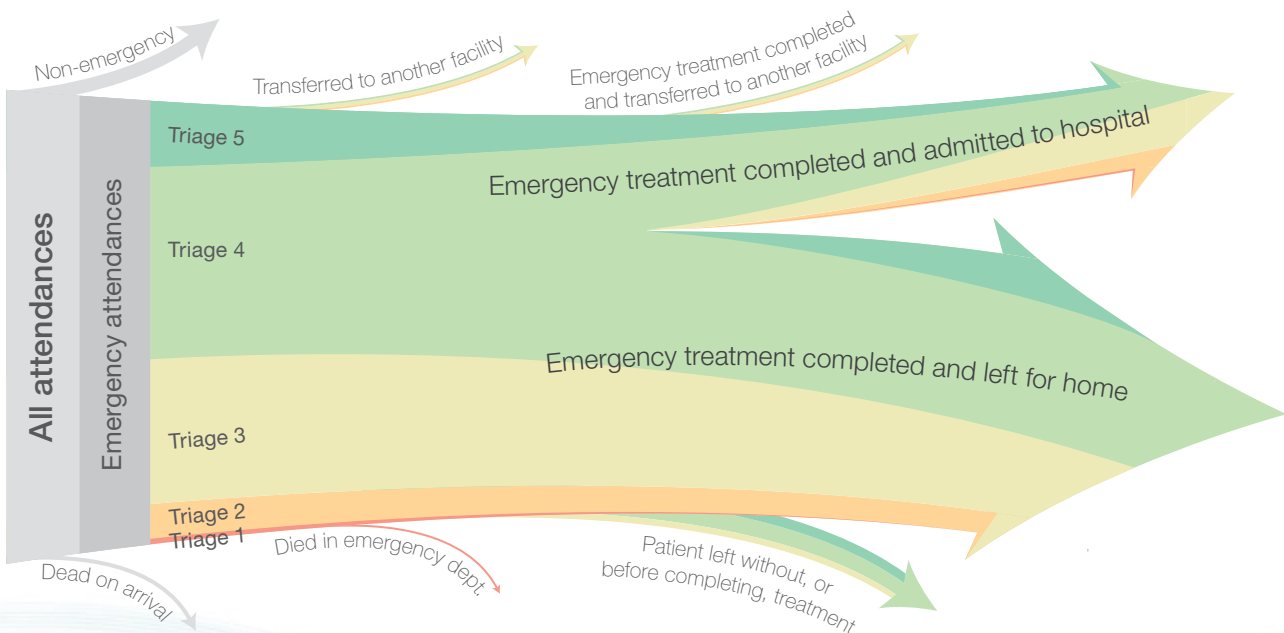
What happens next depends on the clinical needs of the patients. Patients from the most urgent triage categories (triage categories 1 and 2) are given priority and care typically begins immediately upon arrival. Patients from the less urgent triage categories (3 to 5) typically complete triage and administrative processes before treatment begins.

The majority of patients leave the ED after their treatment is complete or when they are admitted to hospital. Some patients are transferred to other hospitals or choose not to wait to begin or complete treatment. The journeys of all these patients during the April to June 2013 quarter are presented in this report and are summarised in [Figure 1](#).

Figure 1: Summary of patients' journeys through NSW emergency departments

The thickness of each arrow is approximately proportional to the number of NSW emergency department patients in each category. The arrows are coloured by triage level.

- Triage 1 Resuscitation
- Triage 2 Emergency
- Triage 3 Urgent
- Triage 4 Semi-urgent
- Triage 5 Non-urgent



Emergency attendances and admissions over time

In the April to June 2013 quarter there were 542,651 emergency attendances. This is a 2% decrease on the same quarter one year ago (550,915) (Figure 2).

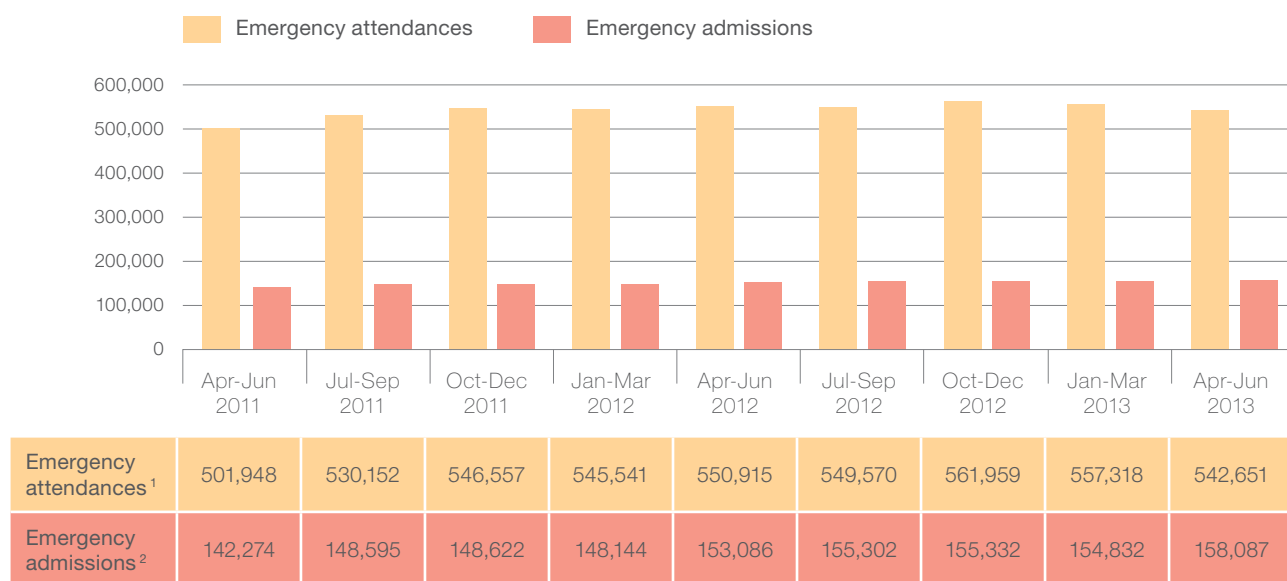
Over the same time, the number of emergency admissions from the ED has been increasing. This quarter there were 158,087 admissions. This is 3% higher than the same quarter one year ago (153,086).

Over time, additional EDs have been included in *Hospital Quarterly* as electronic data become available. Comparisons of attendances and

admissions with the same quarter two years ago may include the effect of the additional EDs being reported. Further detail can be found in the *Hospital Quarterly Technical Supplement: Emergency department measures, October to December 2012* available on the Bureau's website at www.bhi.nsw.gov.au

There has been a general upward trend in ED attendances and ED admissions in NSW over the past two years.

Figure 2: Emergency attendances at, and admissions from, NSW emergency departments, April 2011 to June 2013



1. Emergency attendances are ED visits for emergencies, unplanned return visits or disaster.

2. Admissions refers to emergency attendances that were admitted through the emergency department.

Note: Attendance and admission counts in this table are based on increasing numbers of EDs over time, so changes in trend in this table over time should be interpreted with caution. For more information, see the Bureau of Health Information's *Technical Supplement: Emergency department measures, October to December 2012*.

Note: Emergency department activity includes 96 facilities for which electronic data are reported. This covers approximately 87% of NSW emergency department activity.

Note: Numbers may differ from those previously reported due to differences in when data were extracted from the emergency department information system and in definitions of patient cohorts.

Source: NSW Health, *Health Information Exchange*. Data extracted on 19 July 2013.

Arriving at the emergency department

Emergency attendances this quarter

There were more than half a million attendances at NSW EDs during April to June 2013 (Figure 3).

While almost all (97%) of these visits were considered 'emergency attendances', 18,521 (3%) patients attended for non-emergency reasons, such as planned return visits, attending some types of outpatient clinics or prearranged admissions to hospital. The percentage of patients attending NSW EDs for non-emergency reasons is similar to the same quarter last year.

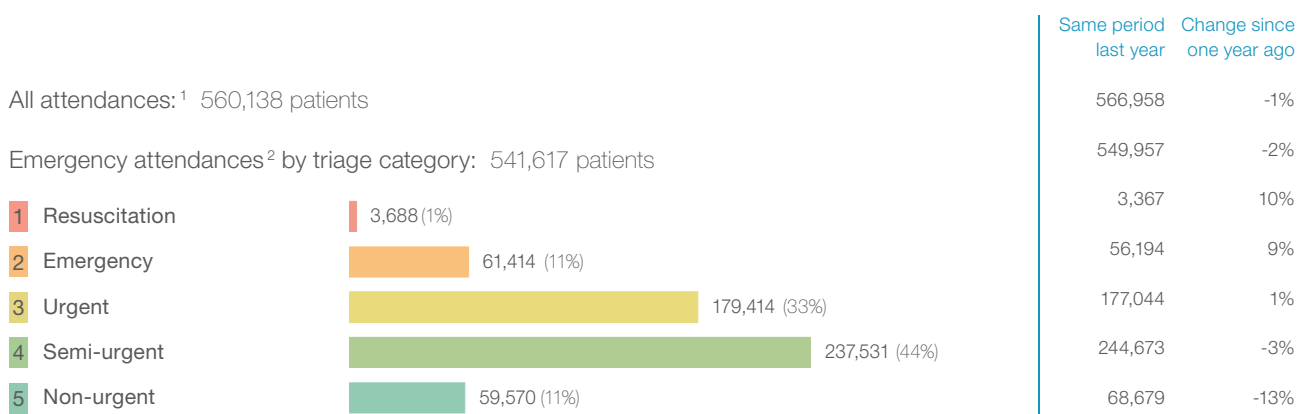
A breakdown of emergency attendance figures shows that patients in the resuscitation category (triage 1) accounted for 1% of all people triaged in NSW EDs, 11% were triaged in the emergency

category (triage 2), 33% were categorised as urgent (triage 3) 44% were semi-urgent (triage 4) and 11% were non-urgent (triage 5).

The greatest increase from last year in percentage terms was in the resuscitation (triage 1) category with a 10% increase. However in terms of actual attendances the emergency category (triage 2) reported an extra 5,220 attendances and Non-urgent (triage 5) recorded a drop of 9,109 (13%) attendances compared to the same quarter last year.

There was an increase in Triage 1 and 2 attendances and decrease in Triage 5.

Figure 3: Attendances at NSW emergency departments, April to June 2013



- All emergency and non-emergency attendances at the emergency department (ED).
 - All attendances that have a triage category and are coded as emergency presentations or unplanned return visits or disaster.
- Note: All percentages rounded to whole numbers and therefore percentages may not add to 100%.
- Note: Emergency department activity include 96 facilities for which electronic data are reported. This covers approximately 87% of NSW emergency department activity.
- Source: NSW Health, *Health Information Exchange*. Data extracted on 19 July 2013.

Transfer of care from ambulance to emergency department

For patients who arrive at the ED by ambulance, the time it takes for responsibility for their care to be transferred from ambulance paramedics to ED clinicians is measured and called transfer of care time.

Transfer of care can only be determined when the Ambulance Service records the patient's time of arrival at the ED and this record can be matched to records held by the ED that show the time at which the patient's care was transferred to the ED staff.

Unmatched records occur when ambulance records cannot be matched to EDs records and therefore transfer of care time cannot be calculated. We are reporting Transfer of Care for matched records only.

Results for hospitals that have more than 30% of records unmatched should be interpreted with caution and are identified in appendix tables 1a and 1b. Hospitals with less than 50 ambulance arrivals have had their results suppressed but are included in the state totals.

Along with this edition of *Hospital Quarterly* the Bureau has published a report titled *Spotlight on Measurement: measuring transfer of care from the ambulance to the emergency department* which provides more information and analysis on measurement of transfer of care. The report is available at www.bhi.nsw.gov.au

In NSW there is a target of 30 minutes within which 90 per cent of ambulance arrivals should have their care transferred to ED clinicians. In this quarter 82% of patients arriving at NSW EDs had a transfer of care time within 30 minutes.

The median transfer of care time has improved by 3 minutes (from 16 minutes in April to June 2012 to 13 minutes in the same quarter 2013).

In this quarter 82% of patients arriving at the NSW EDs had a transfer of care time within 30 mins.

Figure 4: Arrivals by ambulance, April 2011 to July 2013

	Apr-Jun 2012	Jul-Sep 2012	Oct-Dec 2012	Jan-Mar 2013	Apr-Jun 2013
Ambulance Arrivals with transfer of care time ¹	111,574	118,167	116,912	114,259	115,857
Percent of arrivals with transfer of care within 30 mins ¹	74%	72%	83%	84%	83%
Median transfer of care ¹ (minutes)	16	16	13	13	13
Median off stretcher time ¹ (minutes)	26	28	26	26	27

1. Matched records only.

Source: Data provided by Ministry of Health on 19 July 2013.

Time to treatment performance

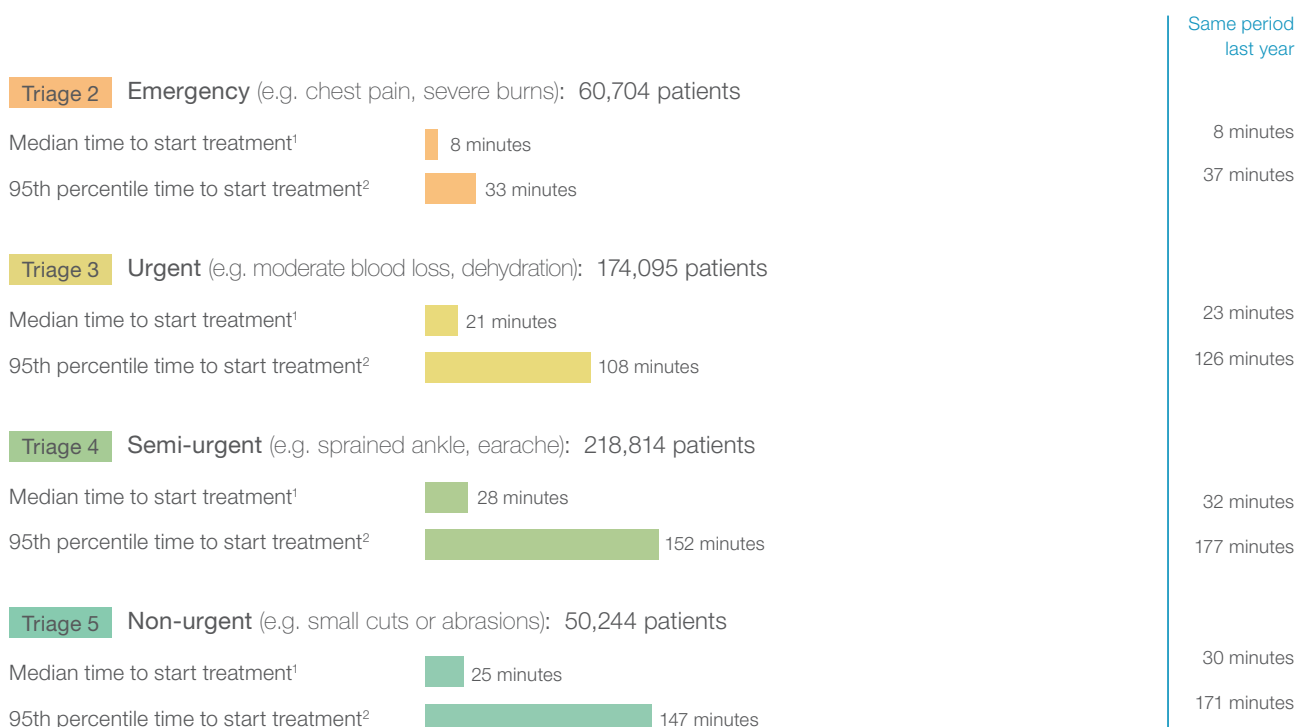
Time to treatment this quarter

In April to June 2013, the median times to start treatment were unchanged or slightly shorter compared to the same quarter in 2012 (Figure 5). The median time to start treatment for the emergency category (triage 2) remains unchanged at 8 minutes, the urgent category (triage 3) two minutes less at 21 minutes, the semi-urgent category (triage 4) four minutes less at 28 minutes and the non-urgent category (triage 5) five minutes less at 25 minutes.

The 95th percentile times to start treatment were lower in each triage category. This quarter, 95% of patients began treatment within:

- 33 minutes, four minutes shorter than one year ago (triage 2)
- 108 minutes, 18 minutes shorter than one year ago (triage 3)
- 152 minutes, 25 minutes shorter than one year ago (triage 4)
- 147 minutes, 24 minutes shorter than one year ago (triage 5).

Figure 5: Waiting times for treatment in NSW emergency departments, April to June 2013



1. The median is the time by which half of patients started treatment. The other half of patients took equal to or longer than this time.
2. The 95th percentile is the time by which 95% of patients started treatment. The final 5% of patients took equal to or longer than this time.

Note: Treatment time is the earliest time recorded when a healthcare professional gives medical care for the patient's presenting problems.

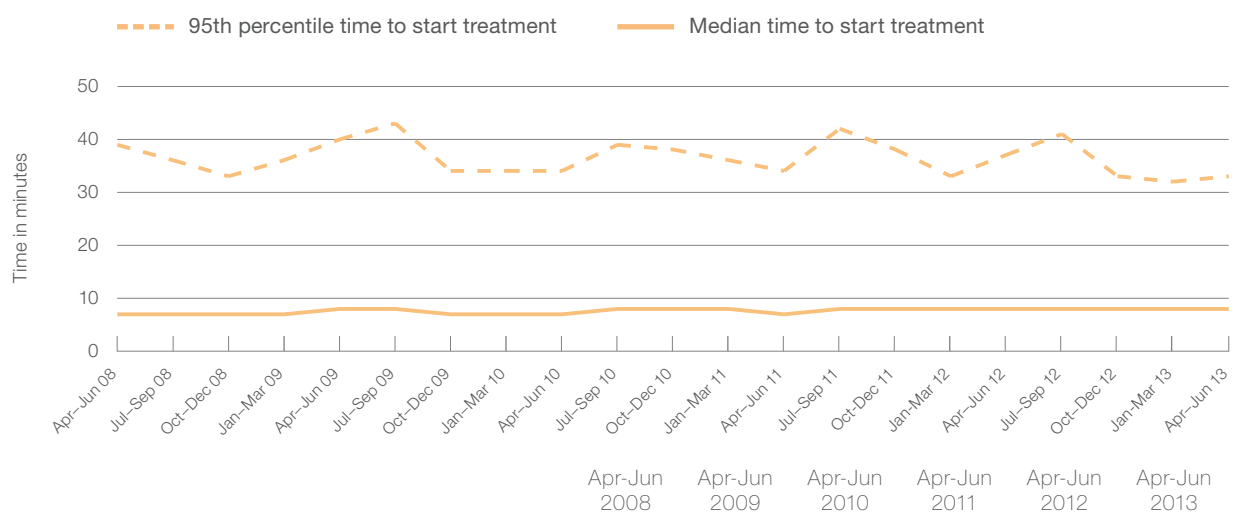
Source: NSW Health, *Health Information Exchange*. Data extracted on 19 July 2013.

Time to treatment: patterns over time

The time from presentation until treatment fluctuates throughout the year. Figures 6a–d show for triage categories 2 - 5, the median and 95th percentile times to start treatment. The Bureau does not report time to treatment for patients with conditions triaged as resuscitation (triage 1).

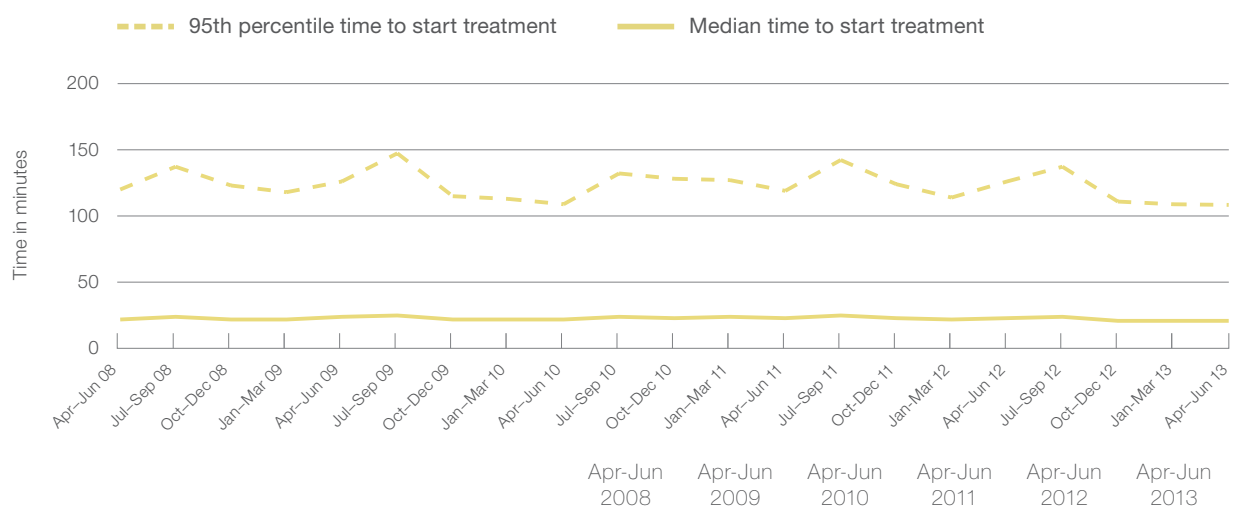
Times to start treatment for almost all patients (95 out of every 100) are the lowest they have ever been over the past five years been across all Triage categories.

Figure 6a: Triage 2 - Median and 95th percentile times to start treatment (minutes) in NSW emergency departments, April 2008 to June 2013



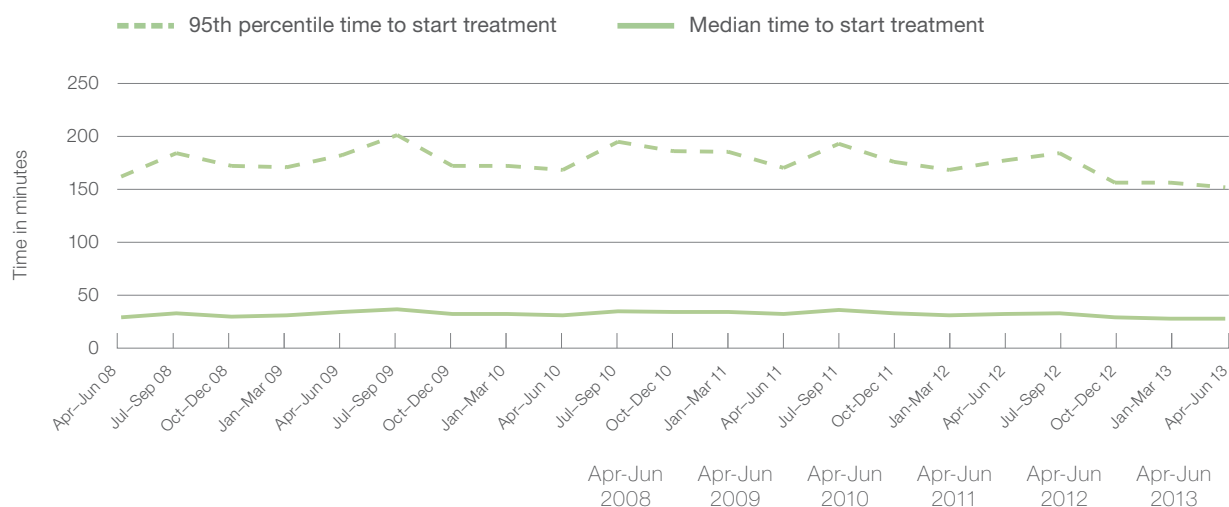
Median time to start treatment ¹ (minutes)	7	8	7	7	8	8
95th percentile time to start treatment ² (minutes)	39	40	34	34	37	33

Figure 6b: Triage 3 - Median and 95th percentile times to start treatment (minutes) in NSW emergency departments, April 2008 to June 2013



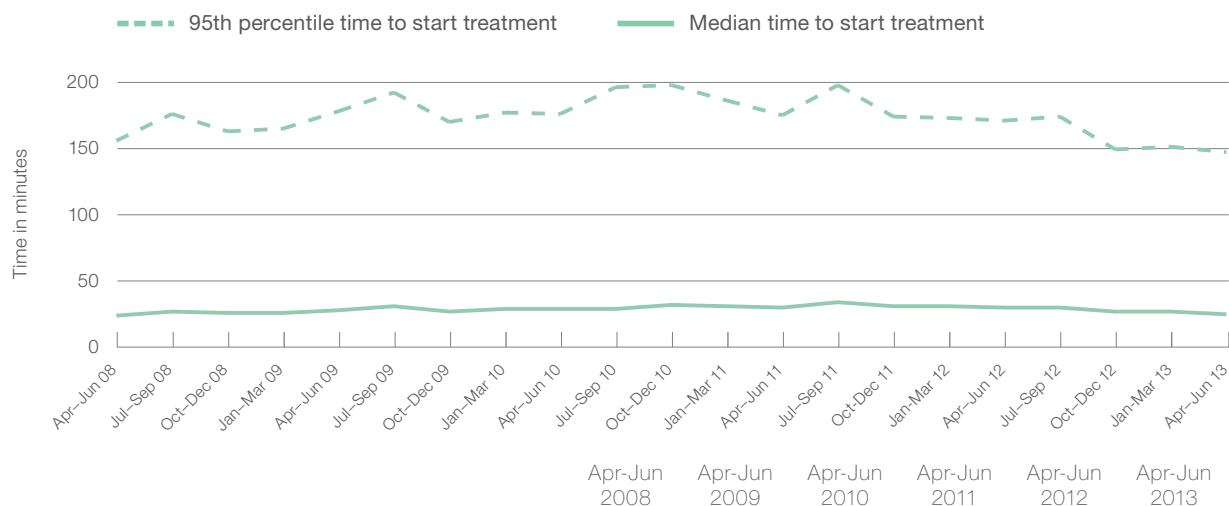
Median time to start treatment ¹ (minutes)	22	24	22	23	23	21
95th percentile time to start treatment ² (minutes)	120	126	109	119	126	108

Figure 6c: **Triage 4** - Median and 95th percentile times to start treatment (minutes) in NSW emergency departments, April 2008 to June 2013



Median time to start treatment ¹ (minutes)	29	34	31	32	32	28
95th percentile time to start treatment ² (minutes)	162	182	168	170	177	152

Figure 6d: **Triage 5** - Median and 95th percentile times to start treatment (minutes) in NSW emergency departments, April 2008 to June 2013



Median time to start treatment ¹ (minutes)	24	28	29	30	30	25
95th percentile time to start treatment ² (minutes)	156	178	176	175	171	147

1. The median is the time by which half of patients started treatment. The other half of patients took equal to or longer than this time.
2. The 95th percentile is the time by which 95% of patients started treatment. The final 5% of patients took equal to or longer than this time.

Note: Hospitals transitioning to one of the major information systems are excluded from this data during the quarter(s) of implementation (For more information see *Hospital Quarterly Background Paper: Approaches to reporting time measures of emergency department performance, Addendum June 2012*).

Source: NSW Health, *Health Information Exchange*. Data extracted on 19 July 2013.

Leaving the emergency department

Time from presentation until leaving the ED this quarter

In the April to June 2013 quarter, the median time to leaving the ED was three hours and five minutes after presentation. The 95th percentile time to leaving the ED was 11 hours and 27 minutes after presentation (Figure 7). Both are improvements from the same quarter last year.

There are different ways that a patient can leave the ED. The majority of patients leave the ED

after their treatment is complete or when they are admitted to hospital. Some patients choose not to wait to begin or complete treatment or are transferred to other hospitals. The way a patient leaves the ED is referred to as the mode of separation.

Compared to the same quarter last year, the time it took patients to leave the ED has decreased.

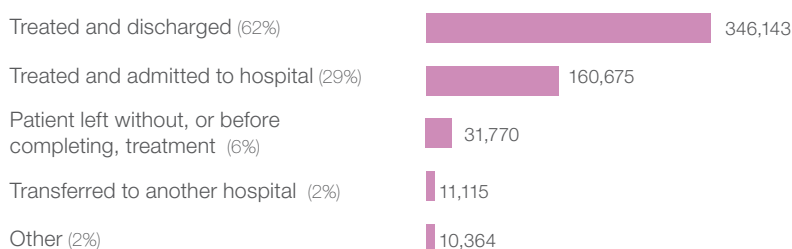
Figure 7: Time from presentation until leaving the emergency department, April to June 2013



1. All emergency and non-emergency attendances at the emergency department (ED).
 2. All attendances that have a departure time.
 3. The median is the time by which half of patients left the ED. The other half of patients took equal to or longer than this time.
 4. The 95th percentile is the time by which 95% of patients left the ED. The final 5% of patients took equal to or longer than this time.
- Source: NSW Health, *Health Information Exchange*. Data extracted on 19 July 2013.

Figure 8: Leaving the emergency department by mode of separation, April to June 2013

Attendances used to calculate time to leaving the ED:¹ 560,067 patients



1. All attendances that have a departure time.
- Note: All percentages rounded to whole numbers and therefore percentages may not add to 100%.
- Source: NSW Health, *Health Information Exchange*. Data extracted on 19 July 2013.

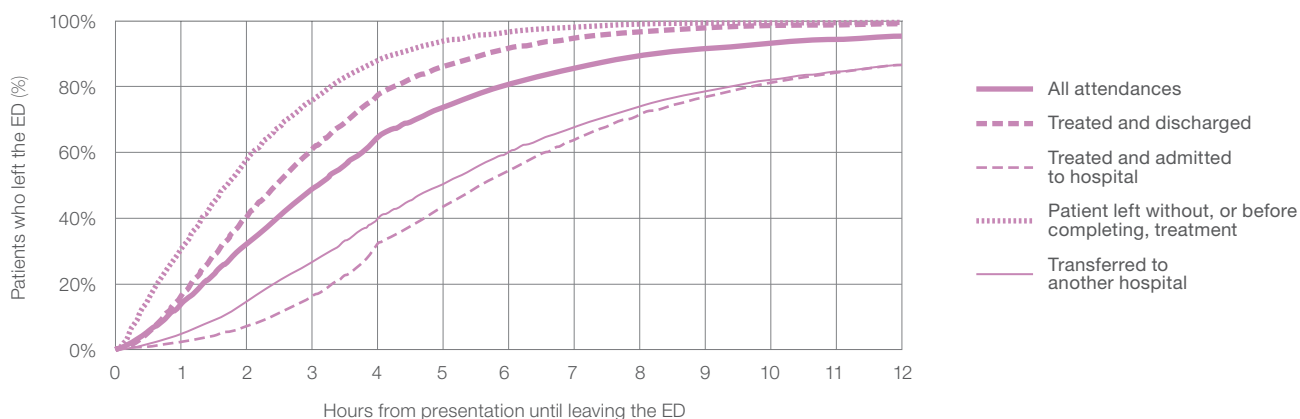
In the April to June 2013 quarter:

- 62% of patients received treatment in the ED and were discharged home (Figure 8). On average, these patients spent less time in the ED than patients who were admitted or transferred.
- 29% of patients received treatment in the ED and were subsequently admitted to a ward, a critical care unit or via an operating suite in the hospital (Figure 8). On average, these patients spent the most time in the ED (Figure 9).

- A small group of patients (2%) received treatment in the ED and were transferred to another hospital (Figure 8). On average, these patients spent longer in the ED than patients who were discharged (Figure 9).
- Some patients (6%) left the ED without, or before completing, treatment (Figure 8). On average, these patients spent the shortest time in the ED (Figure 9).

Patients who are admitted or transferred spend longer times in the ED than all other patients.

Figure 9: Percentage of patients who left the emergency department, by time and mode of separation, April to June 2013



	1 hour	2 hours	3 hours	4 hours (NEAT)	6 hours	8 hours	10 hours	12 hours
Treated and discharged	16%	41%	61%	78%	92%	97%	99%	99%
Treated and admitted to hospital	2%	7%	16%	32%	55%	72%	81%	87%
Patient left without, or before completing treatment	31%	58%	76%	88%	97%	99%	100%	100%
Transferred to another hospital	5%	15%	27%	40%	60%	74%	82%	87%
All attendances	14%	32%	49%	65%	81%	89%	93%	95%

Note: Time from presentation to the emergency department (ED) until recorded as leaving the ED.

Source: NSW Health, Health Information Exchange. Data extracted on 19 July 2013.

Time from presentation until leaving the ED: trends over time

Figure 10 shows the median and 95th percentile time from presentation until leaving the ED by quarter over five years. During April to June 2013, the median time to leaving the ED was three hours and five minutes from presentation.

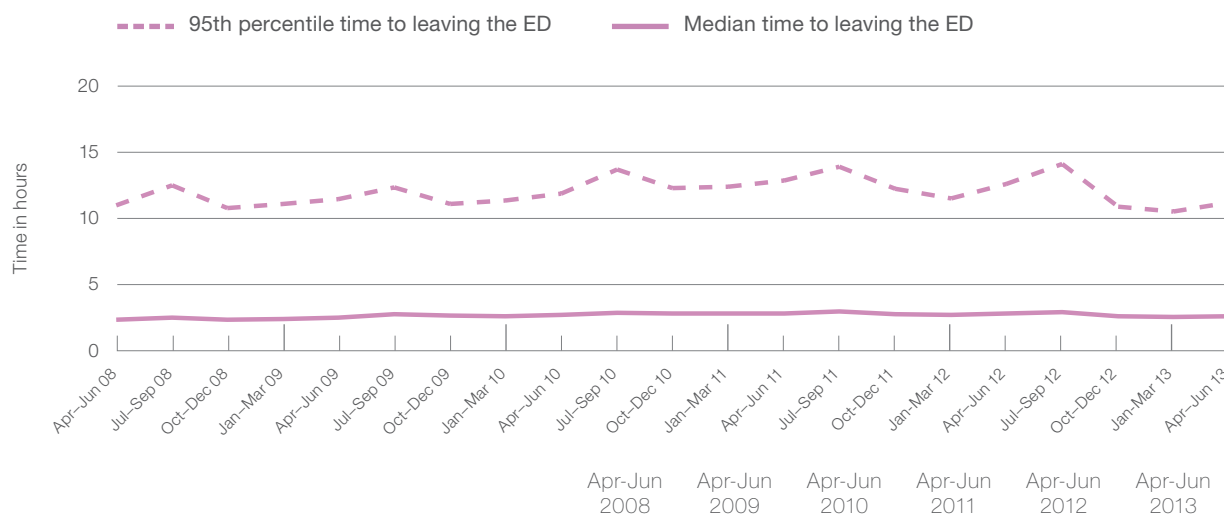
This is shorter than the same quarter in 2012 when the median time to leaving the ED was three hours and 20 minutes (Figure 10).

During the April to June 2013 quarter, the 95th percentile time to leaving the ED was 11 hours and 27 minutes after arriving in the ED.

This is shorter than the same quarter in 2012 when the 95th percentile time to leaving the ED was 12 hours and 48 minutes.

Median time for patients to leave the ED following their arrival is amongst the lowest recorded over the last five years.

Figure 10: Time from presentation until leaving the emergency department by quarter, April 2008 to June 2013



	Apr-Jun 2008	Apr-Jun 2009	Apr-Jun 2010	Apr-Jun 2011	Apr-Jun 2012	Apr-Jun 2013
Median time to leaving the ED ¹ (hours, minutes)	2h 50m	3h 0m	3h 13m	3h 18m	3h 20m	3h 5m
95th percentile time to leaving the ED ² (hours, minutes)	11h 16m	11h 41m	12h 6m	13h 5m	12h 48m	11h 27m

1. The median is the time by which half of patients left the emergency department (ED). The other half of patients took equal to or longer than this time.
2. The 95th percentile is the time by which 95% of patients left the ED. The final 5% of patients took equal to or longer than this time.

Note: Time from presentation to the ED until recorded as leaving the ED.

Note: Hospitals transitioning to one of the major information systems are excluded from this data during the quarter(s) of implementation.

Source: NSW Health, Health Information Exchange. Data extracted on 19 July 2013.

The National Emergency Access Target (NEAT)

The NEAT is a set target which aims to have a certain percentage of patients leaving the ED within four hours, whether for admission to hospital, referral to another hospital for treatment, or discharge.

Commencing from 2012, this target is being phased in over four years with annual interim targets set with the aim of achieving a 90% target by 2015.

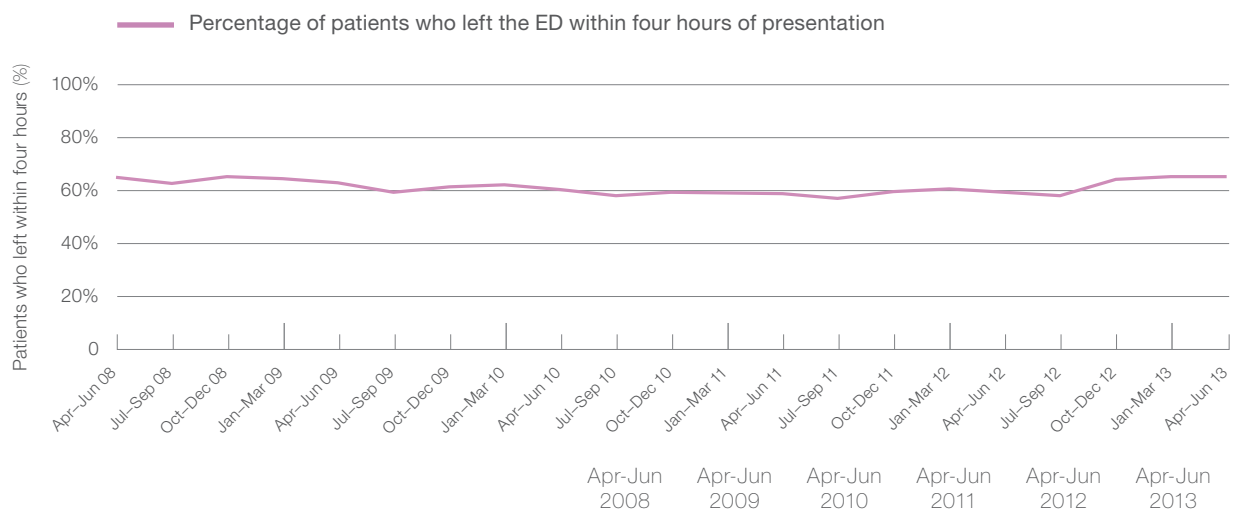
The NSW 2013 target requires that 71% of all patients within the year who present to an ED leave the ED within four hours.

Performance against the NEAT

In the April to June 2013 quarter, 65% of patients left the ED within four hours of presentation (Figure 11). This is unchanged from last quarter but is higher than the same quarter one year ago (59%) and back to the same percentage of 5 years ago. (Figure 11)

For the April to June 2013 quarter NSW improved on its NEAT performance but did not achieve the 71% annual target.

Figure 11: Percentage of patients who left the emergency department within four hours of presentation, by quarter, April 2008 to June 2013



Note: Time from presentation to the ED until recorded as leaving the ED.

Note: Hospitals transitioning to one of the major information systems are excluded from this data during the quarter(s) of implementation.

Source: NSW Health, Health Information Exchange. Data extracted on 19 July 2013.

A higher proportion of urgent cases is a challenge for Emergency Departments

Performance against the National Emergency Access Target (NEAT) is measured by the percentage of patients who leave the ED within four hours of presentation. A NSW NEAT has been set at 71% for 2013.

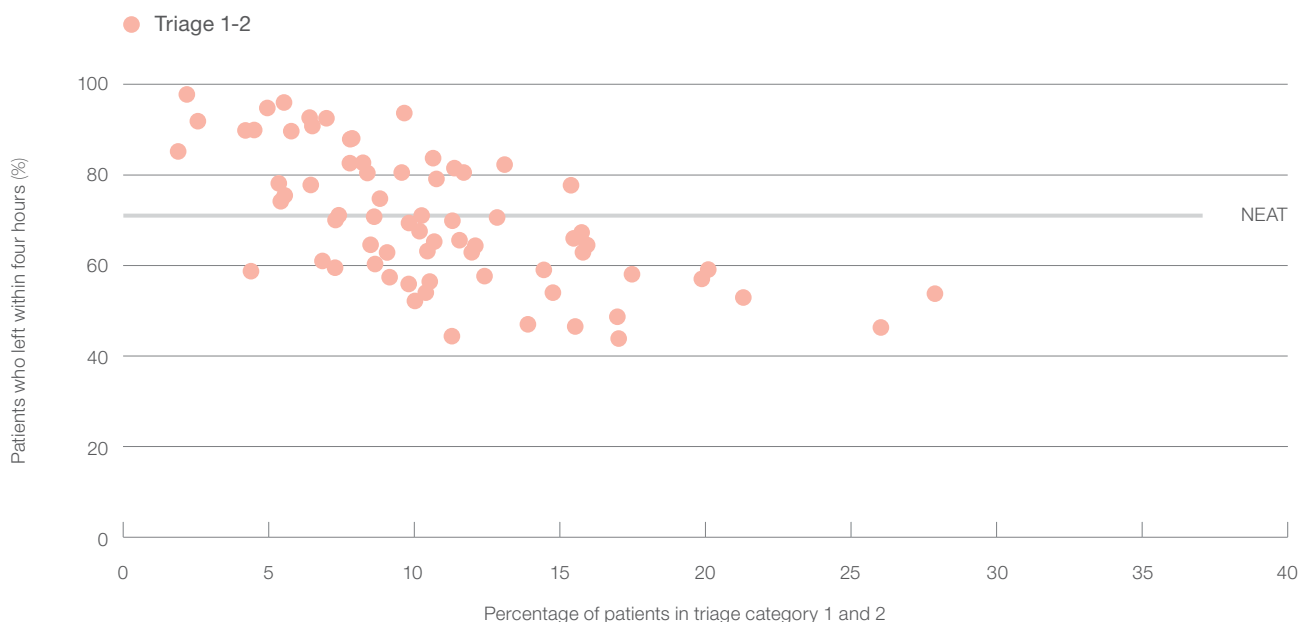
Not all EDs are the same, some will receive a particularly high proportion of urgent cases that require quick assessment and stabilisation in the ED, others will receive higher proportions of non-urgent cases. Figure 12 presents the correlation between NEAT achievement and the proportion of patient urgency.

In Figure 12 the percentage of urgent cases in a hospital (Triage 1 and 2) are represented by a red dot.

Hospitals with a higher proportion of non-urgent cases are more likely to meet the NEAT target.

Hospitals that have a lower proportion of urgent cases are more likely to have a higher percentage of patients leave the ED within four hours.

Figure 12: Percentage of patients who left the emergency department within 4 hours, by percentage of patients in triage 1 and 2, April to June 2013.



Higher attendances and more patients admitted or transferred to a hospital influences NEAT

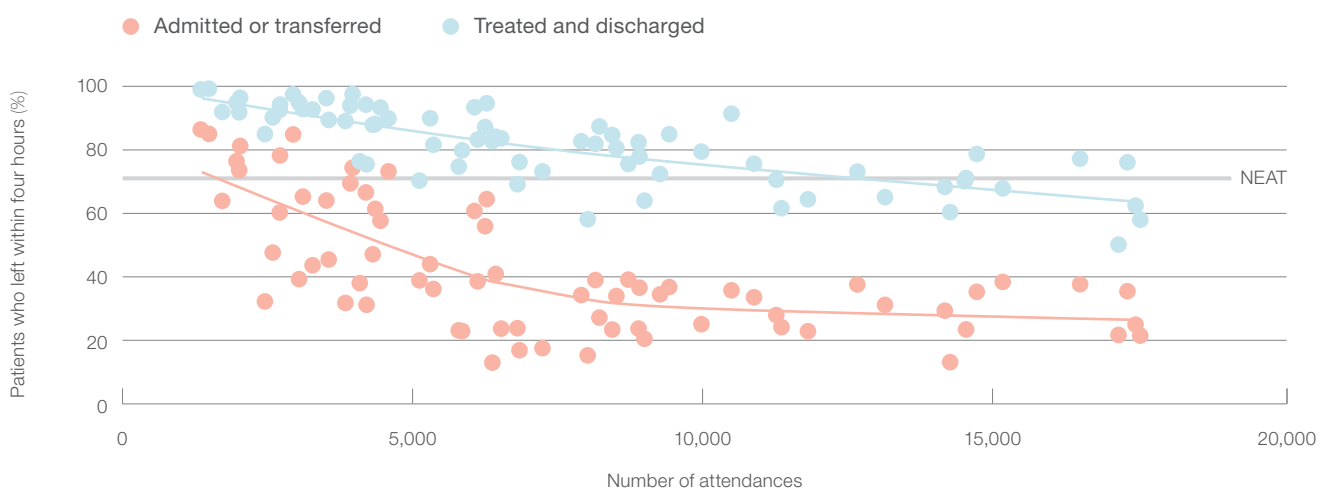
Figure 13 presents the correlation between achievement of the NEAT and the number of patients presenting at the ED by mode of separation. Mode of separation refers to the patient journey after presentation at the ED, patients can either leave without or before completing treatment, be transferred to another hospital, treated and admitted to hospital or treated and discharged.

Each hospital in Figure 13 is represented by a blue and a red dot. The red dot represents the percentage of patients who were admitted or transferred within four hours and the blue dot represents the percentage of patients who were treated and discharged within four hours

for the same hospital. Figure 13 highlights that the percent of patients leaving within 4 hours decreases with increasing numbers of patients in EDs and is lower for admitted or transferred patients than for treated and discharged patients across all hospitals.

Most hospitals are above the NEAT target for their treated and discharged patients but are unable to meet this target for their admitted or transferred patients.

Figure 13: Percentage of patients who left the emergency department within 4 hours by total attendances, by grouped mode of separation April to June 2013



Note: Time from presentation to the ED until recorded as leaving the ED.
 Source: NSW Health, Health Information Exchange. Data extracted on 19 July 2013.

More urgent cases are more likely to be admitted or transferred

Figure 14 shows the percentage of patients in each mode of separation by triage category. Patients who are in triage categories 1 and 2 (more urgent) are more likely to be admitted or transferred than patients whose treatment is less urgent. Over 70% patients in the less urgent triage categories 4 and 5 are treated and discharged.

Hospitals with more urgent cases have a higher percentage of patients who are admitted or transferred.

EDs in peer group A1 treat a higher proportion of patients in Triage categories 1 and 2 than in EDs peer groups C1 and C2 (Figure 15).

Figure 14: Percentage of ED patients in mode of separation group by triage category, April-June 2013

	Triage 1	Triage 2	Triage 3	Triage 4	Triage 5	Total
Treated and discharged	6.9%	32.3%	52.0%	74.1%	83.3%	62.9%
Treated and admitted to hospital	83.0%	61.6%	41.6%	17.4%	5.7%	29.2%
Patient left without, or before completing treatment	0.6%	1.4%	3.5%	7.4%	9.6%	5.7%
Transferred to another hospital	9.1%	4.6%	2.9%	1.1%	0.4%	2.0%
Other	0.4%	0.1%	0.1%	0.1%	1.0%	0.2%
Total	0.7%	11.2%	32.7%	43.2%	12.4%	100%

Figure 15: Percentage of ED patients in triage category by peer group, April-June 2013

	Peer group A1	Peer group B	Peer group C1	Peer group C2
Triage category 1 Resuscitation	1.1%	0.6%	0.4%	0.3%
Triage category 2 Emergency	14.8%	11.4%	8.7%	7.3%
Triage category 3 Urgent	37.4%	34.1%	31.8%	25.6%
Triage category 4 Semi-urgent	39.2%	41.7%	45.9%	48.4%
Triage category 5 Non-urgent	7.4%	12.3%	13.2%	18.5%

There are differences in achievement against the NEAT across peer groups

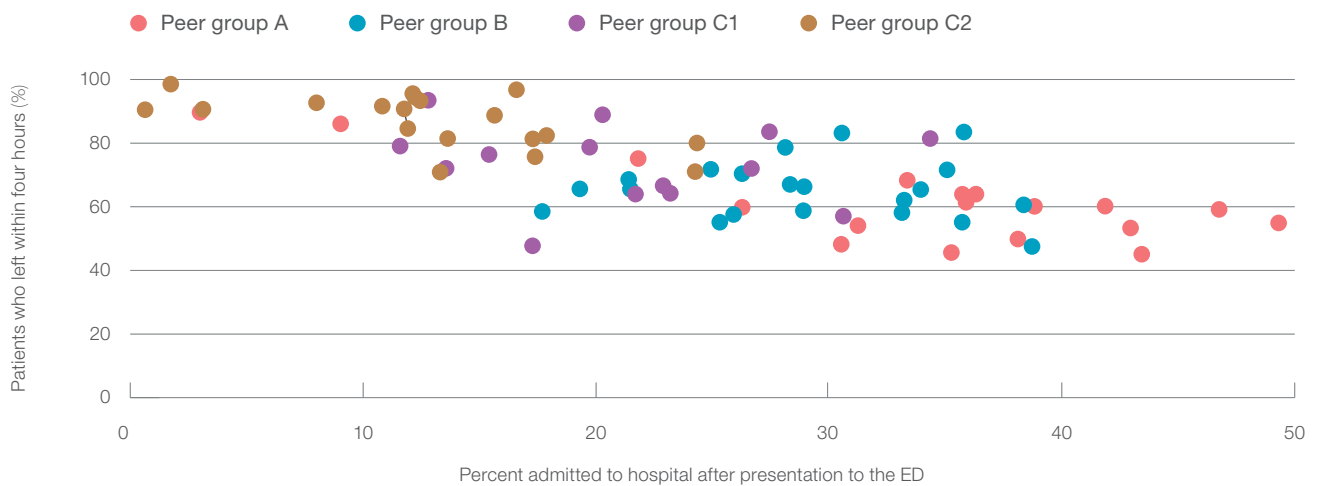
Figure 16 presents the correlation between achievement against the NEAT and the proportion of patients that are admitted to hospital, by peer groups. This figure reaffirms the Bureau's finding that as more patients are admitted, NEAT achievement gradually decreases.

It also shows that the time it takes for patients to depart the ED is related to peer group. The figure shows that hospitals from peer group A (usually large metropolitan hospitals) have higher percentages of admitted patients and lower performance against the NEAT compared to

hospitals in the C2 peer group (usually small and usually rural hospitals) which have a lower proportion of admission and better achievement against the NEAT.

Hospitals from peer group A (usually large metropolitan hospitals) have higher percentages of admitted patients and lower performance against the NEAT compared to hospitals in C2 peer group (usually small and usually rural hospitals)

Figure 16: Percentage of patients who left the emergency within four hours by percentage of ED patients admitted to hospital, April to June 2013



Note: Time from presentation to the ED until recorded as leaving the ED.
 Source: NSW Health, Health Information Exchange. Data extracted on 19 July 2013.

Neat by peer group

Figure 17 shows the percentage of patients leaving the ED within four hours of arrival at the hospital level and within peer groups.

This figure shows that the C2 peer group (usually rural and lower volume hospitals) has almost all of its hospitals meeting the NEAT. The C1 peer group (medium volume hospitals in Regional and Major city areas) shows good results as well with many hospitals meeting NEAT.

Peer group B (large volume in metropolitan and regional centres) and A1 (usually metropolitan and high volume hospitals) present however less favourable results, with many hospitals not meeting NEAT for this quarter. No A1 hospitals met the NEAT target.

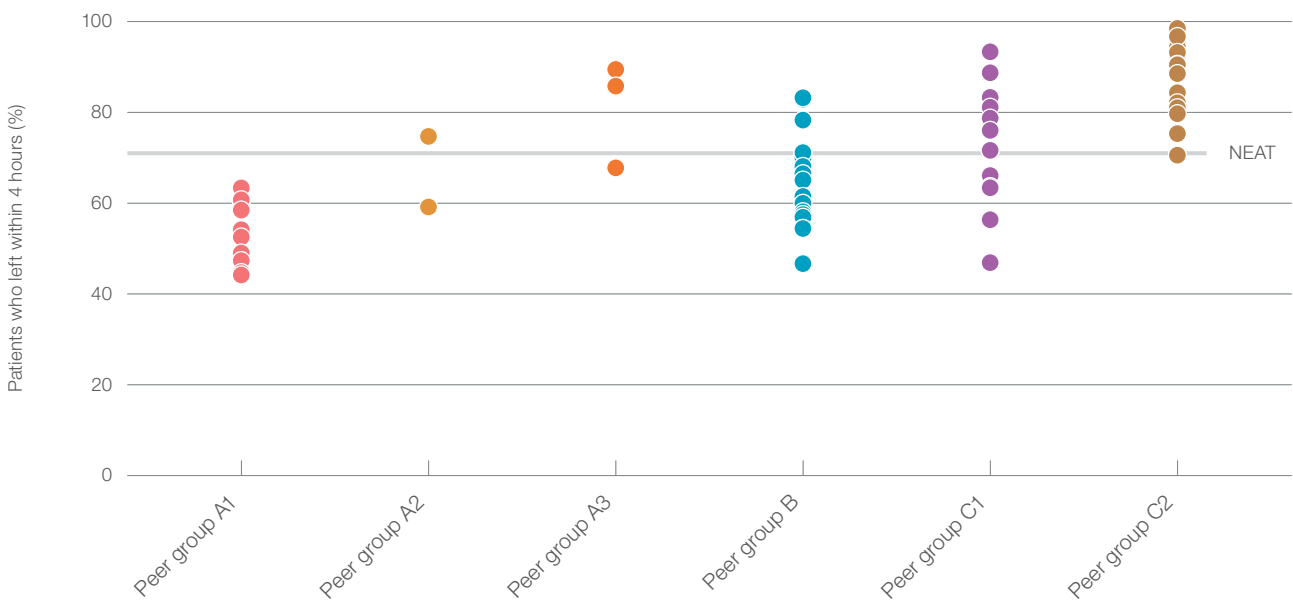
Peer groups A2 and A3 have fewer hospitals and present mixed results.

During the quarter, 35 hospitals out of the 72 reported individually in *Hospital Quarterly* met the NEAT target and 54 improved their NEAT performance compared to the same quarter last year. In the A1 peer group, 12 out of 13 hospitals had improved against the NEAT. However, 14 hospitals showed a reduction of the proportion of their patients leaving the ED within four hours of presentation.

Most hospitals that are below target have seen improvement in their NEAT results with only 6 hospitals out of the 37 hospitals not meeting the target actually seeing no improvement or a deterioration compared to the same quarter last year.

C1 and C2 show significantly more meeting the NEAT target compared to A1 and B peer groups.

Figure 17: Percentage of patients who left the ED within four hours of presentation, by peer group, April to June 2013



Note: Time from presentation to the ED until recorded as leaving the ED.
 Source: NSW Health, *Health Information Exchange*. Data extracted on 19 July 2013.

Conclusion of Analysis

Achievement against the NEAT is affected by:

- Urgency of cases
- Number of patients admitted or transferred to another hospital
- Number of patient visits

Case mix or urgency of patients

Hospitals with a high percentage of urgent cases and a low percentage of Non-urgent cases achieved poorer performance against the NEAT.

As [Figure 12](#) shows, the greater the percentage of patients in the more urgent Triage categories 1 and 2 the less likely it is that this hospital will achieve the NEAT.

Number of patients admitted or transferred to another hospital

[Figure 13](#) shows that most hospitals are above the NEAT for their treated and discharged patients but were unable to meet this target for their admitted or transferred patients.

It is also important to note that more urgent cases are more likely to be admitted or transferred and therefore affect NEAT achievement. For example [Figure 14](#) shows 83% of Triage 1 patients and 61.6% of Triage 2 patients were admitted or transferred to another hospital.

Volume of patients

Our analysis shows that achievement of NEAT is also affected by volume of patients. Hospitals from peer group A (usually large metropolitan hospitals) have lower performance against the NEAT as opposed to C peer group (usually small and usually rural hospitals). ([Appendix Table 2b](#)).

High volume hospitals such as those in peer group A1 also have a higher percentage of more urgent cases than those in peer group C1 and 2 ([Figure 14](#)) and urgent cases are much more likely to be admitted or transferred to another hospital.

Peer group matters

The fairest way to compare hospital performance against the NEAT is within peer group. Hospitals in the same peer group are likely to have similar factors affecting performance and analysis by peer group, volume and case mix helps to provide a fairer comparison of performance.

Given that the National Emergency Access Targets are for the states as a whole and do not take into account these factors affecting the time taken for patients to leave the ED, comparisons by peer groups are important to provide a fairer comparison of hospitals.

This might also contribute to understanding how to set more realistic targets for different hospitals given their peer group, so that each hospital can more fairly contribute to achieving the statewide target. Given that variation remains within peer groups with regards to achievement of NEAT, best performers within a peer group might prove to be meaningful benchmarks to gauge improvements in future quarters.

Differences in performance between hospitals

Time to treatment in NSW EDs

Appendix tables 1a and 2a present the median and 95th percentile times to start treatment for patients in each triage category (categories 2, 3, 4 and 5) for individual EDs by LHD (table 1a) and peer group (2a).

There is variation between hospitals when comparing time to treatment by triage category. For example, among principal referral and major hospitals (Peer groups A1 and B), the range of results for the most urgent category (Triage 2) and the category with the most amount of patients (Triage 4) in the April to June 2013 quarter are summarised below:

- The median time to start treatment for all patients with conditions triaged as **emergency** (triage 2) ranged from four minutes at St Vincent's Hospital, to 12 minutes at Royal Prince Alfred Hospital and Sutherland Hospital
- The 95th percentile time to start treatment for patients with conditions triaged as **emergency** (triage 2) ranged from 10 minutes at Hornsby and Ku-Ring-Gai Hospital to 62 minutes at Westmead Hospital
- The median time to start treatment for all patients with conditions triaged as **semi-urgent** (triage 4) ranged from 13 minutes at Manly Hospital to 46 minutes at Tamworth Base Hospital
- The 95th percentile time to start treatment for patients with conditions triaged as **semi-urgent** (triage 4) ranged from 93 minutes at Manly District Hospital to 212 minutes at John Hunter Hospital.

Time to leaving the ED

Appendix tables 1b and 2b present number of attendances, the median and 95th percentile times to leaving the ED. Tables 1b and 2b also show the percentage of patients that left the ED within four hours, or the NEAT target for individual EDs by LHD (table 1b) and by peer group (table 2b).

There is variation between hospitals when comparing the time to leaving the ED. For example, among principal referral and major hospitals (Peer groups A1 and B), the highest and lowest times in the April to June 2013 quarter are summarised below:

- The median time to leaving the ED ranged from two hours and 27 minutes at The Tweed Hospital to four hours and 32 minutes at Liverpool Hospital
- The 95th percentile time to leaving the ED ranged from six hours and 30 minutes at Manning Base Hospital to 22 hours and 22 minutes at Campbelltown Hospital
- The percentage of patients who left the ED within four hours from presentation ranged from 44% at Liverpool District Hospital to 83% at Auburn Hospital and Manly District Hospital.

For more detailed emergency department performance information about each public hospital see the **Appendices** section of this report on page 21.

Appendix: ED time performance measures

Download

ED time performance measures by
'local health district' in a PDF file

Download

ED time performance measures by
'peer group' in a PDF file

Download

ED time performance measures by
'local health district' in an Excel file

Download

ED time performance measures by
'peer group' in an Excel file

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About the Bureau

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The Bureau is an independent, board-governed statutory health corporation. The conclusions in this report are those of the Bureau 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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Admitted Patients

Hospital Quarterly:

Performance of
NSW public hospitals

April to June 2013

People can be admitted to hospital for a variety of reasons, such as surgery, illness or childbirth. When a person is admitted to hospital, they begin what is termed an *'episode of care'*. This covers a single type of care such as acute care (typically a short-term admission for immediate care), rehabilitation or palliative care. Sometimes, a change in the medical needs of a person can require that they start a second or third episode during the same period of stay in hospital.

Healthcare professionals monitor episodes to better understand local clinical needs and to allow planning for hospital beds, waiting lists and staffing.

The report shows there were 442,303 admitted patient episodes during April to June 2013, 15,855 (4%) more than the same quarter in 2012 and 28,877 (7%) more than the same quarter

two years ago. The number of admitted patient episodes in this quarter is slightly higher when compared with the January to March quarter, which is typical for this time of year.

Patients admitted for acute care (typically a short term admission for immediate care) or maternity and birth comprised 96% of all admitted episodes. More than half of these patient episodes (55%) were admitted for one night or more (overnight admissions), this percentage is largely unchanged over the past nine quarters. Patients stayed a total of 1,348,743 bed days during the quarter and on average, each episode of care was 3.2 days. There were 17,801 babies born, down 3% from the same quarter one year ago.

This is one of three *Hospital Quarterly* modules. For the Emergency Departments and Elective Surgery modules visit www.bhi.nsw.gov.au

During the quarter	Apr-Jun 2012	Apr-Jun 2013	The difference
Admitted patient episodes	426,448 episodes	442,303 episodes	+ 15,855 (+4%)
Admitted patient episodes (planned)	176,005 planned	187,001 planned	+ 10,996 (+6%)
Babies born	18,278 babies	17,801 babies	-477 (-3%)
Admitted patient episodes (acute)	97% acute	96% acute	-1 percentage point
Acute episodes that were overnight admissions	56% overnight	55% overnight	-1 percentage point
Total bed days for acute admitted patient episodes	1,389,741 days	1,348,743 days	-40,998 (-3%)
Average length of stay for acute admitted patient episodes	3.4 days	3.2 days	-0.2 days (-6%)

Number of admitted patient episodes

Admitted patient episodes can be either *'planned'* (arranged in advance so the hospital can organise what care is needed) or *'unplanned / other'* (which include emergency admissions or unplanned surgical patients).

During the quarter there were 187,001 planned admitted patient episodes this accounted for 42% of all admitted patient episodes.

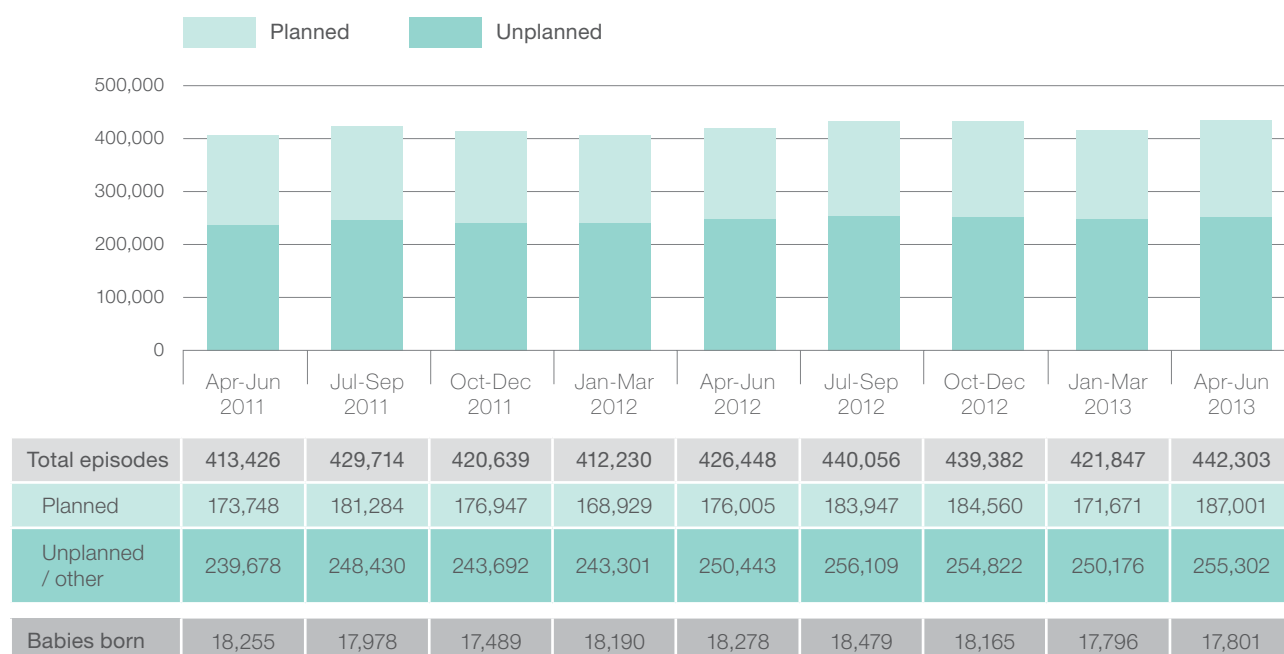
There were 255,302 unplanned episodes in the quarter (Figure 1). Each year there is a seasonal peak in the number of admitted patient episodes during the July to September quarter. The lowest number of admitted patient episodes usually occurs during the January to March quarter.

Figure 1 illustrates these seasonal patterns.

An admission for childbirth is considered *'unplanned'* and approximately one in every 14 unplanned episodes was for childbirth. During the quarter, there were 17,801 babies born in NSW public hospitals, down 3% from the same time one year ago.

There has been a gradual increase in total admitted patient episodes in NSW over the last two years with planned and unplanned in this quarter amongst the highest they have been over that period.

Figure 1: Planned and unplanned admitted patient episodes in NSW public hospitals, April 2011 to June 2013



Note: Only babies born in NSW public hospitals and multi-purpose services are included in this count.

Source: NSW Health, Health Information Exchange, Admitted Patient Data Collection. Data extracted on 19 July 2013.

Number of acute patient episodes

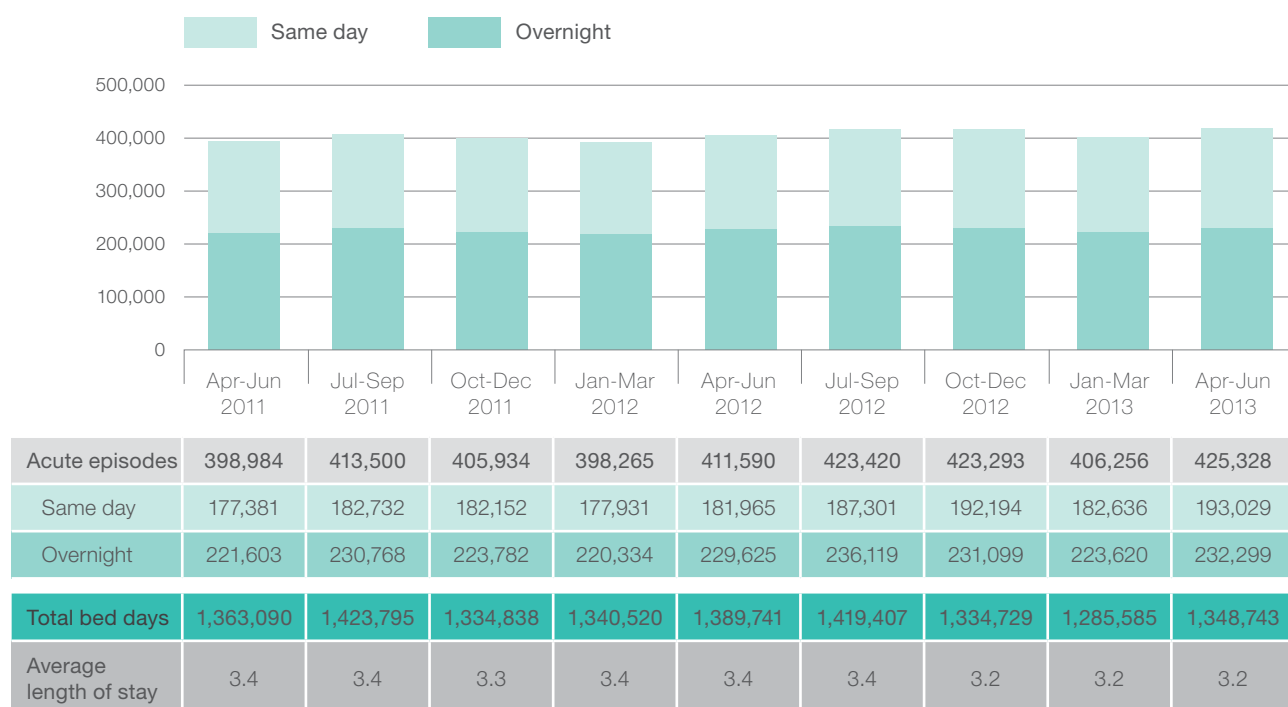
Admitted patient episodes may be for acute care or subacute care (such as rehabilitation or palliative care). This section focuses on acute care, which is typically a short-term admission for immediate care. Acute admitted patient episodes can be either same day (admitted for a single day or part of a day to have a test, to receive surgery or another procedure) or overnight (admitted for one or more nights in hospital). For this report, maternal and newborn admissions are also included under the category of acute episodes. Examples of acute care include hip replacement surgery and medical care following a heart attack. Acute episode activity is presented in **Figure 2**.

The number of acute episodes in NSW public hospitals has been increasing for comparable quarters, up from 411,590 episodes (3%) in the same quarter one year ago and from 398,984 episodes (7%) two years ago.

During April to June, there were 193,029 same day episodes (45% of acute admitted episodes) and 232,299 overnight episodes (representing 55%) as shown in **Figure 2**.

There has been an increase in the number of acute admitted patients episodes over the last two years with same day and overnight admissions amongst the highest reported over that period.

Figure 2: Same day and overnight acute admitted patient episodes in NSW public hospitals, April 2011 to June 2013



Source: NSW Health, Health Information Exchange, Admitted Patient Data Collection. Data extracted on 19 July 2013.

Hospital bed use for acute patients

Total acute bed days is the total time, in days, that acute patients who were discharged from hospital during the quarter had stayed in NSW hospitals. This quarter there were 1,348,743 total acute bed days. This is 3% lower than the same quarter one year ago (1,389,741) and 1% lower than the same quarter two years ago (1,363,090).

The average length of stay for acute admitted patient episodes (including same day patients) decreased to 3.2 days during the April to June 2013 quarter, from 3.4 days in the same quarter a year ago and two years ago (Figure 2).

While there were more admitted patient episodes, on average each episode was of shorter duration.

Appendix table 1a: activity by hospital and local health district

Appendix table 1a presents the admitted patient episode activity for public hospitals in NSW. Data are presented by local health district for all principal referral, paediatric specialist, ungrouped acute – tertiary referral, major and district groups 1 and 2 hospitals. Information from smaller hospitals is presented for each local health district under the *'other'* category.

[Download Appendix 1](#) information by *'local health district'* in a PDF file

[Download Appendix 1](#) information by *'local health district'* in an Excel file

Appendix table 2a: activity by hospital and peer group

Appendix table 2a presents the admitted patient episode activity for public hospitals in NSW. Data are presented by peer group for all principal referral, paediatric specialist, ungrouped acute – tertiary referral, major and district groups 1 and 2 hospitals. Information from smaller hospitals is presented under the *'other'* category.

[Download Appendix 2](#) information by *'peer group'* in a PDF file

[Download Appendix 2](#) information by *'peer group'* in an Excel file

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Elective Surgery

Hospital Quarterly: Performance of NSW public hospitals

April to June 2013

Elective surgery, often called planned surgery, is surgery that a doctor considers necessary but that can be delayed by at least 24 hours. Common examples of elective surgery include hip replacements, cataract extraction and ligament repairs. There are three categories of elective surgery; non-urgent, semi-urgent and urgent.

Compared with the same quarter one year ago, 5% more elective surgery was conducted in NSW.

Compared to the same quarter last year, non-urgent surgery increased by 9%, semi-urgent increased by 5% and urgent increased by 1%.

Most patients (97%) received their surgery on time in NSW. This is an improvement of five percentage points from the same quarter last year. The percentage point increase in patients receiving surgery by category is shown in the table below.

In this edition of Hospital Quarterly, the Bureau will report on new analyses of the differences between NSW hospitals by considering important factors that can influence a patient's time spent on the waiting list in each category.

The analyses uses data from patients who received their surgery in the April-June 2013 quarter. This is one of three *Hospital Quarterly* modules. For the Emergency Departments and Admitted Patients modules visit

www.bhi.nsw.gov.au

During the quarter	Apr-Jun 2012	Apr-Jun 2013	The difference
Elective surgical procedures performed	52,537 procedures	55,118 procedures	2581 procedures (+5%)
Elective surgery patients treated on time	92% on time	97% on time	+5 percentage points
Urgent elective surgery patients treated on time	94% on time	99% on time	+5 percentage points
Semi-urgent elective surgery patients treated on time	91% on time	97% on time	+6 percentage points
Non-urgent elective surgery patients treated on time	91% on time	95% on time	+4 percentage points

* Median waiting time: time by which half of patients received surgery. The other half of patients took equal to or longer than this time.

Our approach to elective surgery reporting

If a person and their surgeon agree surgery is required but can be delayed by at least 24 hours, the surgeon will recommend the patient is placed on the waiting list for the procedure and assigns them to one of three urgency categories. Each category has its own target, which specifies the desired maximum time (in days) the patient should wait for their procedure. These are outlined in the box below:

Urgency categories: Elective surgery guidelines	
Category 1 Urgent (Heart valve replacement, Amputation of limb)	Admission within 30 days desirable for a condition that has the potential to deteriorate quickly and become an emergency
Category 2 Semi-urgent (Colposcopy, Amputation of digit)	Admission within 90 days desirable for a condition not likely to deteriorate quickly
Category 3 Non-urgent (Septoplasty)	Admission within 365 days acceptable for a condition unlikely to deteriorate quickly

Explaining staged surgery

There are times when surgery is deemed necessary but should not, or cannot, take place until a period of time has passed. This time is determined by a clinician and is necessary for the surgery to be effective. This is called staged surgery and is an essential concept in managing elective surgery. It allows surgeons to place patients on the waiting list but prevents them from being admitted to hospital before it is clinically appropriate. Surgeons use clinical judgement to decide whether a procedure should be categorised as staged or not. One example of a staged procedure is waiting for

a broken bone to heal before removing pins or plates. The Bureau excludes staged and non-urgent cystoscopy procedures from performance measures.

Reporting waiting times

To provide a comprehensive picture of the variation in times that patients waited for surgery, the Bureau reports the 90th percentile time and the median wait time by urgency category. The median waiting time for patients who received surgery is also presented by the specialty of the surgeon and by common procedures.

The Bureau also reports on patients who are currently on the waiting list to have their surgery. For these patients, the Bureau reports by urgency category, specialty of the surgeon and most common procedures. The number of patients who have been waiting for more than 12 months is reported for each hospital and by the specialty of the surgeon for NSW.

The Bureau is committed to providing clarity on surgical waiting times in NSW. Further detail on our methods can be found in the Bureau's *Hospital Quarterly Technical Supplement: Elective surgery measures, April June 2013* available on the Bureau's website at www.bhi.nsw.gov.au

See the **Appendices** section of this report (pages 22 to 23) for more detailed performance information about each public hospital providing elective surgery in NSW. This includes Hawkesbury Private Hospital, which is contracted to supply surgery for public patients.

What influences differences in waiting times in NSW?

The Bureau of Health Information's *Hospital Quarterly* provides a detailed assessment of waiting times to receive elective surgery and achievement of the target of all patients receiving their elective surgery within the recommended time frame.

In this edition of *Hospital Quarterly*, the Bureau presents new analyses of the differences between NSW hospitals by considering important factors that can influence a patient's time spent on the waiting list for urgent, semi-urgent and non-urgent surgery.

The new analyses includes patients who received their surgery in the April-June 2013 quarter.

Factors considered in this section are:

- the urgency of the surgery received (i.e. urgent, semi-urgent, non-urgent),
- the number of elective surgery procedures performed in each hospital
- the peer group of the hospital

Hospitals are grouped by hospital type or 'peer groups'. A definition of each peer group is listed below.

Peer groups

NSW hospitals vary in size and the types and complexity of clinical services that they provide. To enable valid comparisons to be made between hospitals, it is important to compare similar or like hospitals together. To do this, the Bureau uses a NSW Health classification system called '*peer group*'. The hospital peer groups included in this report are described in the table below:

Group	Name	Description
A1	Principal referral	Very large hospitals providing a broad range of services, including specialised units at a state or national level.
A2	Paediatric specialist	Specialist hospitals for children and young people.
A3	Ungrouped acute – tertiary referral	Major specialist hospitals that are not similar enough to any other peer group to be classified with them.
B	Major	Large metropolitan and non-metropolitan hospitals.
C1	District group 1	Medium sized hospitals treating between 5,000–10,000 patients each year.
C2	District group 2	Smaller hospitals, typically in rural locations.

Number of elective surgery procedures performed

During April to June 2013, the Waiting List Collection On-line System (WLCOS) recorded that 55,118 patients were admitted from the waiting list to receive an elective surgery procedure in NSW public hospitals or facilities contracted by NSW hospitals. This is 15% higher than the 48,009 conducted in the previous quarter (in line with the usual seasonal pattern) and 5% higher than the 52,537 surgical procedures completed in the same quarter last year (Figure 1).

In this report, results and figures exclude staged patients and non-urgent cystoscopy, unless otherwise stated.

NSW elective surgery numbers were higher than usual this quarter and non-urgent surgeries were the highest reported over the last two years.

Figure 1: Total number of elective surgery procedures conducted, by urgency category, April 2011 to June 2013



1. Excluding staged procedures.
2. Excluding staged procedures and non-urgent cystoscopy.
3. Including non-urgent cystoscopy.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013. Data for all quarters from July 2011 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 July 2011.

Composition of surgery

Urgent surgery: There were 12,712 procedures completed, up 1% compared with one year ago. Urgent procedures made up 23% of all completed elective surgery.

Semi-urgent surgery: There were 17,467 procedures completed, up 5% compared with one year ago. Semi-urgent procedures made up 32% of all completed elective surgery.

Non-urgent surgery: There were 21,588 procedures completed, up 9% compared with one year ago. Non-urgent procedures made up 39% of all completed elective surgery.

Staged surgery: There were 3,351 procedures, down 3% compared with one year ago. Staged procedures made up 6% of all completed elective surgery.

Change over five years

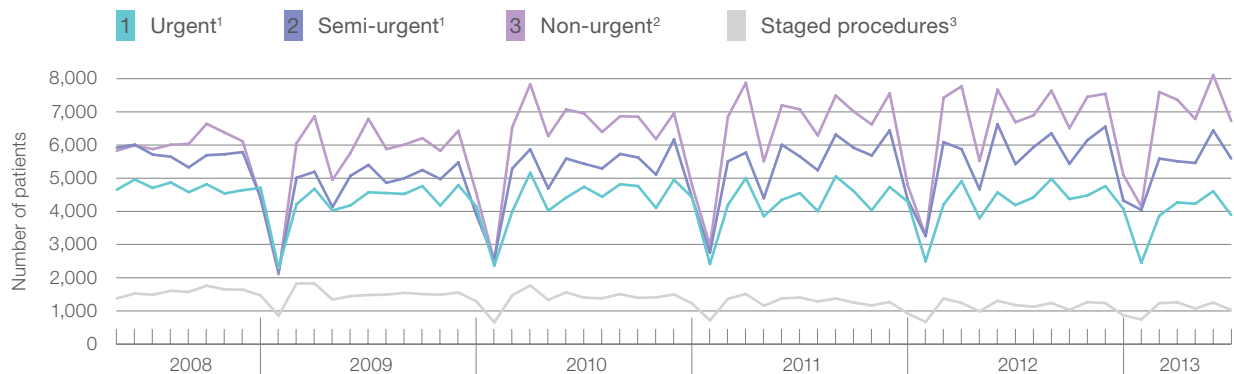
The composition of surgical procedures completed by urgency category has changed over the past five years (Figure 2). Most of this shift in urgency occurred during 2009 and early 2010.

Comparing the proportions that the surgical categories make up of all completed procedures, urgent surgery has decreased from 27% of all surgical procedures in May 2008 to 23% in May 2013.

Over the same period, non-urgent procedures have increased from 34% of all surgical procedures to 40%.

The proportion of non-urgent surgery, over the past five years has increased. This reflects both the increase in non-urgent surgery and the decrease in urgent surgery.

Figure 2: Patients who received elective surgery, by urgency category, by month, April 2008 to June 2013



1. Excluding staged procedures.
2. Excluding staged procedures and non-urgent cystoscopy.
3. Including non-urgent cystoscopy.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013. Data for all quarters from July 2011 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 July 2011.

Patients admitted on time for elective surgery

In the April to June 2013 quarter, 97% of all patients who were admitted to a public hospital for elective surgery were admitted within the time frame recommended by their surgeon (Figure 3), up two percentage points from the preceding quarter (95%) and five percentage points from the same quarter in 2012 (92%).

Figure 3 presents the percentage of patients in each urgency category who received their surgery on time for the most recent nine quarters.

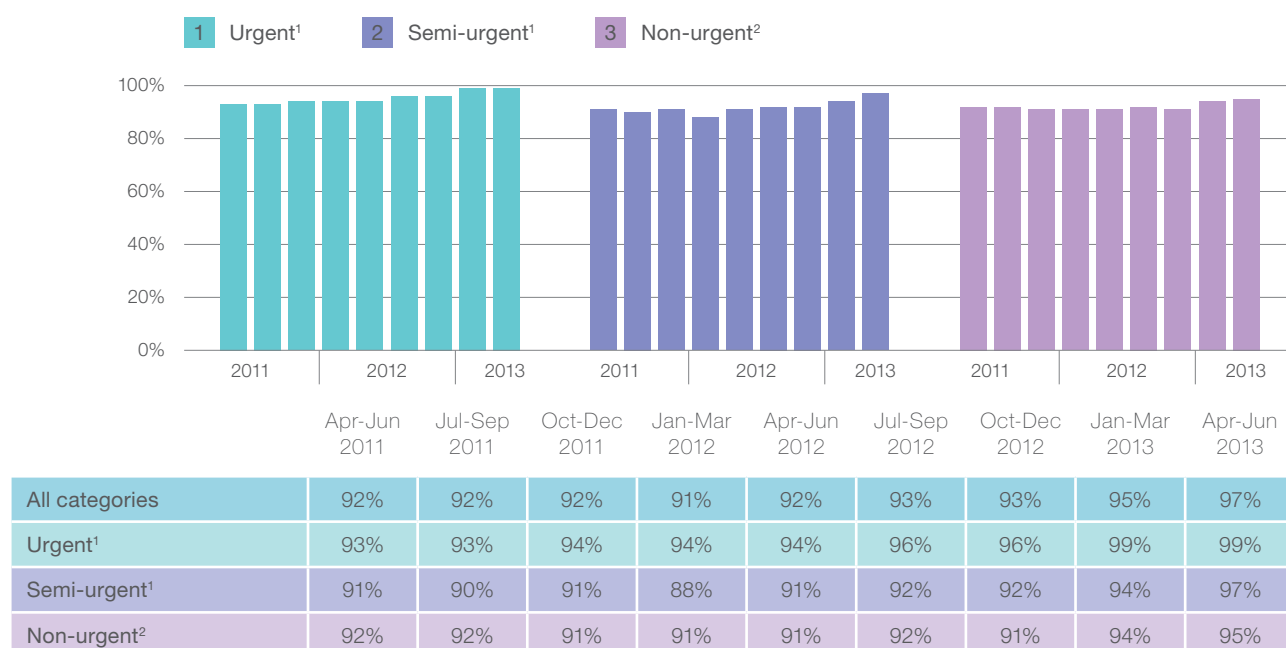
Urgent surgery: 99% of patients were admitted within the recommended 30 days, unchanged from last quarter and up five percentage points compared with the same quarter in 2012.

Semi-urgent surgery: 97% of patients were admitted within 90 days, an increase of three percentage points from last quarter and six percentage points compared with the same quarter in 2012.

Non-urgent surgery: 95% of patients admitted within 365 days, an increase of one percentage point from last quarter and four percentage points compared with the same quarter in 2012.

In the past two quarters there has been a noticeable increase in the proportion of surgeries completed on time across all categories.

Figure 3: Percentage of elective surgery patients treated within recommended waiting time, by urgency category, April 2011 to June 2013



1. Excluding staged procedures.

2. Excluding staged procedures and non-urgent cystoscopy.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013. Data for all quarters from July 2011 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 July 2011.

Some hospitals are achieving the recommended time across all urgency categories

The rows in Figure 4 present the proportion of patients receiving their elective surgery within the recommended time frame for specific hospitals. These tables are sorted by peer group and place hospitals according to decreasing levels of achievement across all urgency categories, hospitals are listed alphabetically when performance is equal. They highlight differences in the percent of elective surgery that is completed on time and show some hospitals

achieve 100% of surgeries on time across all categories and others complete less than 95% of surgeries on time in one or more categories.

The tables show that more hospitals in peer group C2 achieve the highest levels of surgery being performed on time compared to the other peer groups, particularly in the semi-urgent and non-urgent categories.

Figure 4: Percentage of elective surgery patients treated within recommended waiting time, by urgency category and peer group April to June 2013.

● 100% ● 99% - 99.9% ● 95% - 98.9% ● < 95%

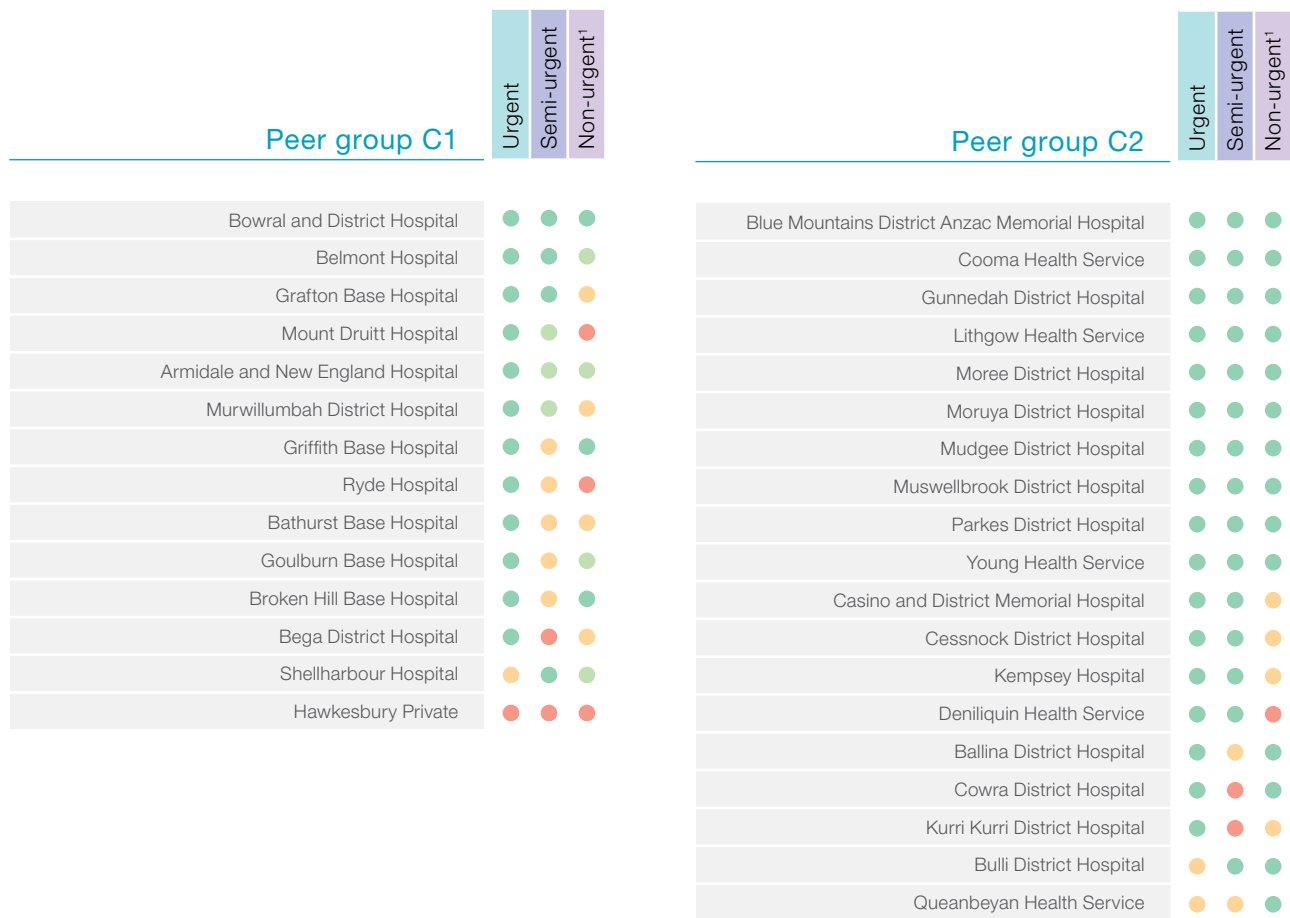


1. Excluding non-urgent cystoscopy.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013.

Figure 4: Percentage of elective surgery patients treated within recommended waiting time, by urgency category and peer group April to June 2013.

● 100% ● 99% - 99.9% ● 95% - 98.9% ● < 95%



1. Excluding non-urgent cystoscopy.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013.

Median waiting times for elective surgery

Median wait time is the number of days by which exactly half the number of patients received surgery. **Figure 5** shows median wait times in the semi-urgent category are the lowest they have been for two years however, median times in the non-urgent category are among the third highest over past two years.

Urgent surgery: The median wait was 11 days – largely unchanged over the past two years.

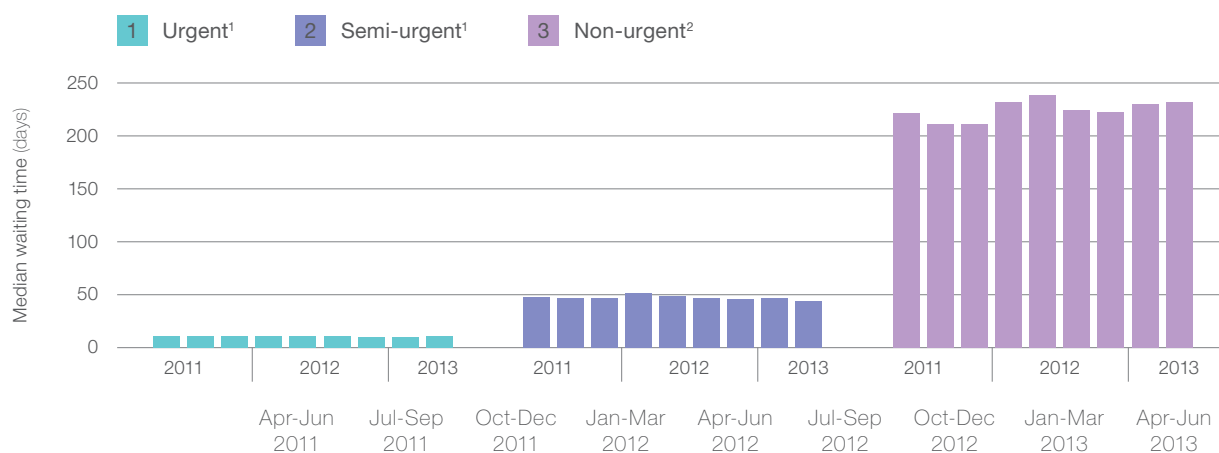
Semi-urgent surgery: The median wait time for this category was 44 days, five days less than the same quarter in 2012 (49 days) and four days less than the same quarter in 2011 (48 days).

Non-urgent surgery: The median wait time for this category was 232 days, six days less than the same quarter in 2012 (238 days).

Non-urgent median waiting times appear as the most volatile of the three urgency categories. Over the past nine quarters, non-urgent procedure wait times have ranged from 211 days in July to September 2011 to 238 in April to June 2012.

Median waiting times for semi-urgent elective surgery are the lowest they have been for two years.

Figure 5: NSW elective surgery median waiting time (days), by urgency category, April 2011 to June 2013



Urgency Category	Apr-Jun 2011	Jul-Sep 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-Jun 2012	Jul-Sep 2012	Oct-Dec 2012	Jan-Mar 2013	Apr-Jun 2013
Urgent ¹	11	11	11	11	11	11	10	10	11
Semi-urgent ¹	48	47	47	51	49	47	46	47	44
Non-urgent ²	221	211	211	232	238	224	222	230	232

1. Excluding staged procedures.

2. Excluding staged procedures and non-urgent cystoscopy.

Note: Because of changes in methods and reporting, numbers of surgical procedures by urgency category will differ from those reported in previous NSW Ministry of Health's *Quarterly Hospital Performance Reports* and Bureau of Health Information *Hospital Quarterly reports* published prior to May 2011.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013. Data for all quarters from July 2011 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 July 2011.

Waiting time performance is not affected by number of procedures or by the mix of patients.

Figure 6 a, b and c presents the median waiting times at hospitals by total number of procedures.

Figure 6 a, b and c represent each urgency category. Because recommended waiting times are different for each urgency category, each graph has a different time scale. Corresponding time scales are represented in the shaded parts of graphs a, b and c.

Analysis of the graph shows smaller hospitals (peer groups C1 and C2) perform a lower number of procedures and therefore cluster at left hand side of graph in Figure 6.

Peer group A hospitals generally perform a higher number of procedures and so are at the right hand side of the graph. Looking across the graph, there are some shorter and some longer times in each peer group. In the non-urgent category in particular, there is a similar range of median waiting times in each peer group and there is no relationship apparent between the number of procedures and median waiting time, either across all hospitals, or within a peer group.

The Bureau also found that having a higher or lower percentage of urgent or less urgent cases was not associated with any increase or decrease in surgery completed on time. (Data not shown).

Our analysis reveals that there is no clear relationship between the volume of surgery performed in a hospital and the median waiting times for patients in all urgency categories: long and short waiting times are seen in hospitals performing both very low or very high numbers of surgical procedures.

Figure 6a: Urgent: NSW elective surgery median waiting time by peer group, April to June 2013.

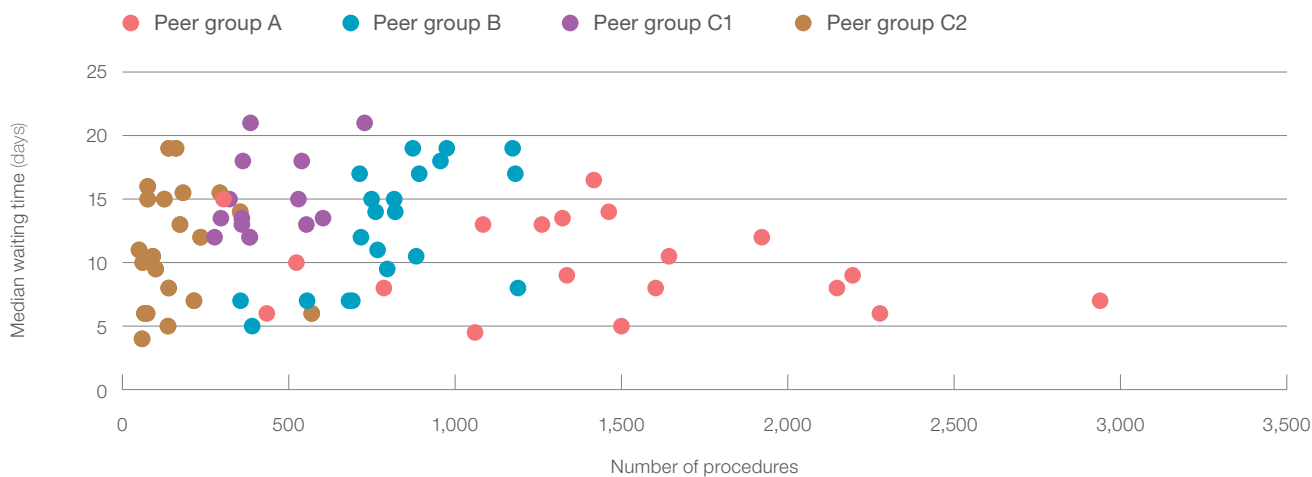


Figure 6b: Semi-urgent: NSW elective surgery median waiting time by peer group, April to June 2013.

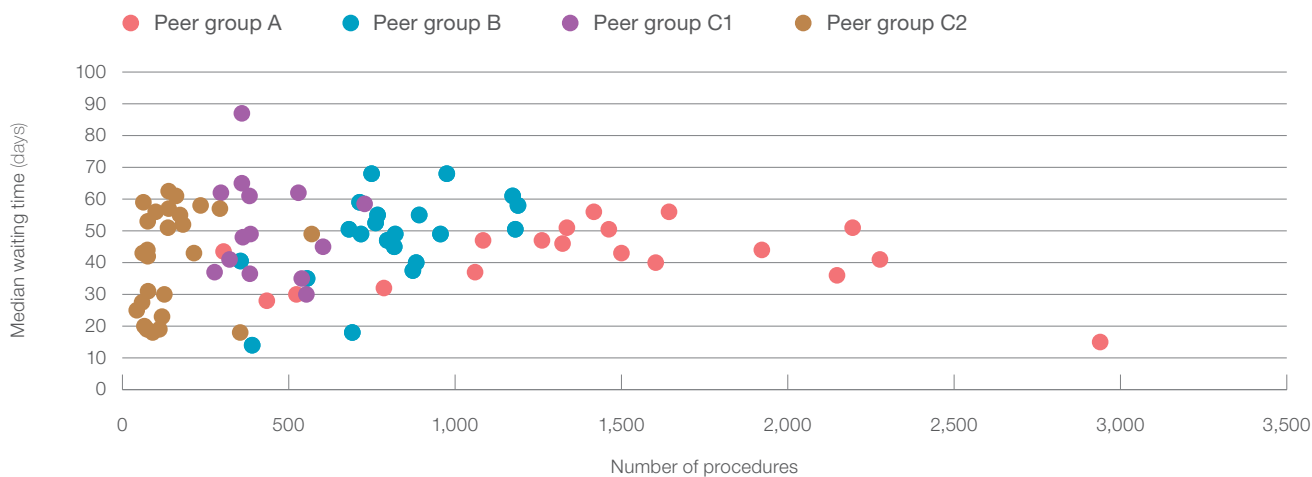
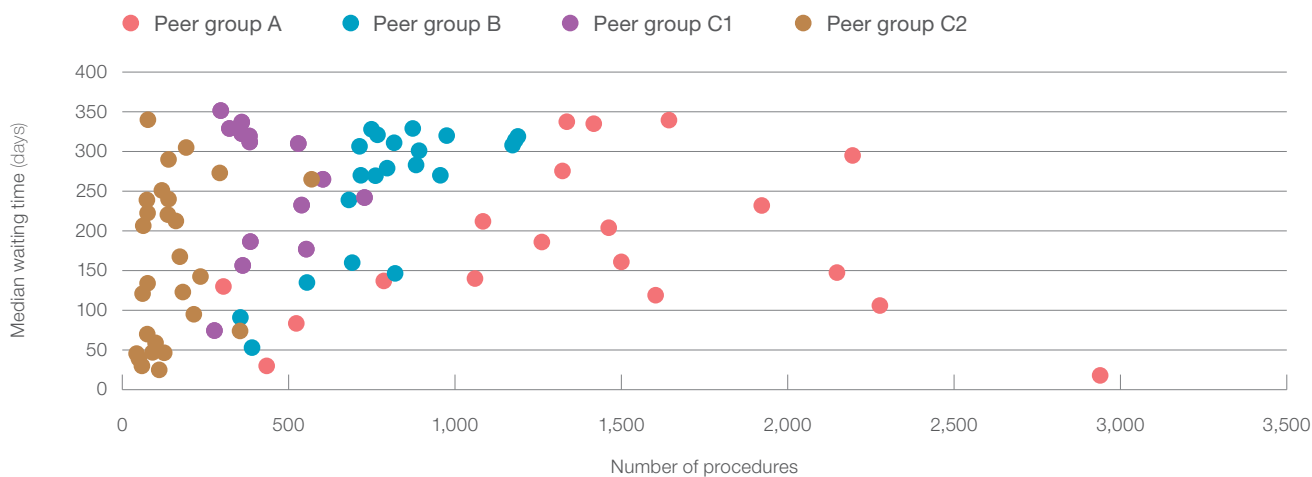


Figure 6c: Non-urgent¹: NSW elective surgery median waiting time by peer group, April to June 2013.



1. Excluding non-urgent cystoscopy.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013.

90th percentile waiting times for elective surgery

The 90th percentile wait time is the number of days by which 90% of patients received surgery. The final 10% took equal to or longer than this time.

Figure 7 presents the 90th percentile waiting time to be admitted for surgery for the last nine quarters. These results exclude staged patients and non-urgent cystoscopy procedures.

Urgent surgery: The 90th percentile wait was 26 days, two and three days less than the same quarters in 2012 and 2011 respectively.

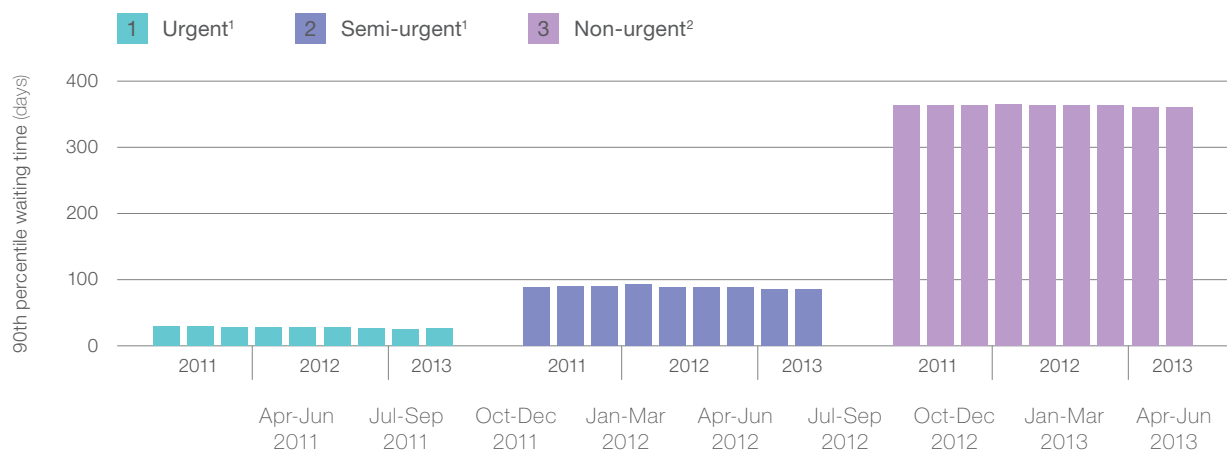
Semi-urgent surgery: The 90th percentile wait time for this category was 82 days, seven days

less than the same quarter in 2012 (89 days) and seven days less than the same quarter in 2011 (89 days).

Non-urgent surgery: The 90th percentile wait time for this category was 359 days, five days less than the same quarter in 2012 (364 days) and five days less than the same quarter in 2011 (364 days).

The time by which almost all patients (90%) have received their surgery has decreased over the last two quarters for semi-urgent and non-urgent surgery.

Figure 7: NSW elective surgery 90th percentile waiting time (days), by urgency category, January 2011 to March 2013



	Apr-Jun 2011	Jul-Sep 2011	Oct-Dec 2011	Jan-Mar 2012	Apr-Jun 2012	Jul-Sep 2012	Oct-Dec 2012	Jan-Mar 2013	Apr-Jun 2013
Urgent ¹	29	29	28	28	28	28	27	25	26
Semi-urgent ¹	89	90	90	93	89	88	88	86	82
Non-urgent ²	364	363	364	365	364	363	364	361	359

1. Excluding staged procedures.
2. Excluding staged procedures and non-urgent cystoscopy.

Note: Because of changes in methods and reporting, numbers of surgical procedures by urgency category will differ from those reported in previous NSW Ministry of Health's *Quarterly Hospital Performance Reports* and Bureau of Health Information *Hospital Quarterly reports* published prior to May 2011.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013. Data for all quarters from July 2011 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 July 2011.

Cumulative wait time

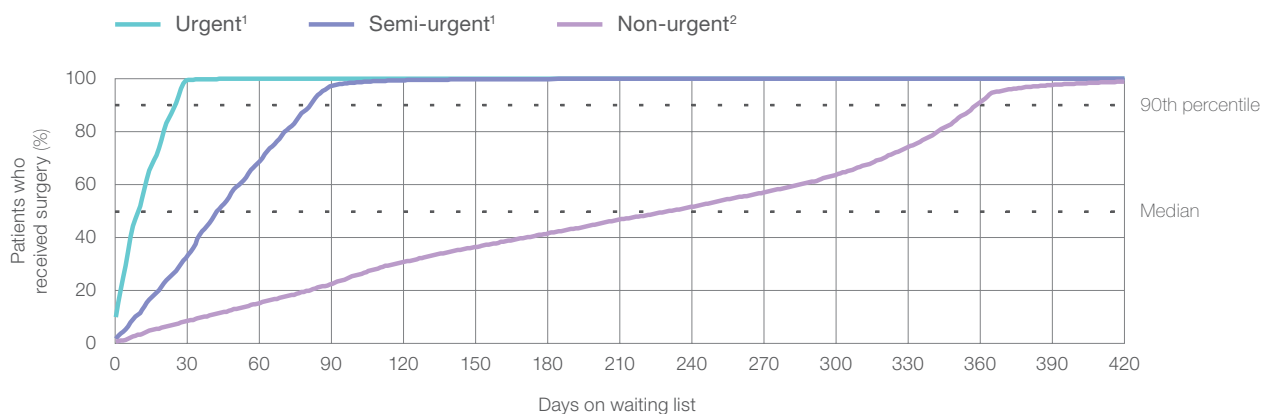
More detail on how long people waited to be admitted for their elective surgery during April to June 2013 is presented in [Figure 8](#).

The graph's slopes indicate the rate at which patients were admitted for surgery. A steep slope indicates a high rate of completion of patients'

surgery over the period shown. A flat slope shows a lower rate of completion of patients' surgery over the period.

Urgent patients have the most rapid rate of admission and almost all patients are admitted for surgery within 30 days. Non-urgent patients are admitted at a slower rate with almost all patients admitted within 420 days.

Figure 8: Cumulative percentage of patients who received elective surgery, by waiting time (days), April to June 2013



1. Excluding staged procedures.

2. Excluding staged procedures and non-urgent cystoscopy.

Note: Excludes the total number of days the patient was coded as 'not ready for care'.

Source: NSW Health, *Waiting List Collection On-line System*. Data extracted on 16 July 2013.

Small number suppression

Some hospitals conduct very few surgical procedures. Publishing these small numbers could lead to some cases being recognised and can also affect the accuracy of the data. The Bureau suppresses information based on very few patients. If there are fewer than five patients in any group, patient numbers are displayed as <5. For measures reported by urgency category, counts have been pooled with another urgency group. Because the staged procedure category is excluded from performance measure calculations, low counts in this group are not suppressed ([Appendix table 1a, 2a](#)). If there are fewer than 10 patients in any group, on time performance and median waiting times are suppressed ([Appendix tables 1b,1c and 2b,2c](#)). If there are fewer than 100 patients in any group, the 90th percentile is suppressed ([Appendix table 1c and 2c](#)).

Variation between hospitals within a peer group

Figure 9 presents the 90th percentile waiting time to receive elective surgery for each of the three urgency categories by peer group. The coloured lines across the graph represent the recommended time to receive surgery in each urgency category: 30 days for urgent, 90 days for semi-urgent and 365 days for non-urgent.

There is a considerable range in the 90th percentiles in each peer group, and every peer group has hospitals with short or long waiting times.

For example for non-urgent surgery, the 90th percentile waiting times ranged from

- 121 to 412 days for peer group A
- 226 to 386 days for peer group B
- 180 to 476 days for peer group C1
- 63 to 364 days for peer group C2.

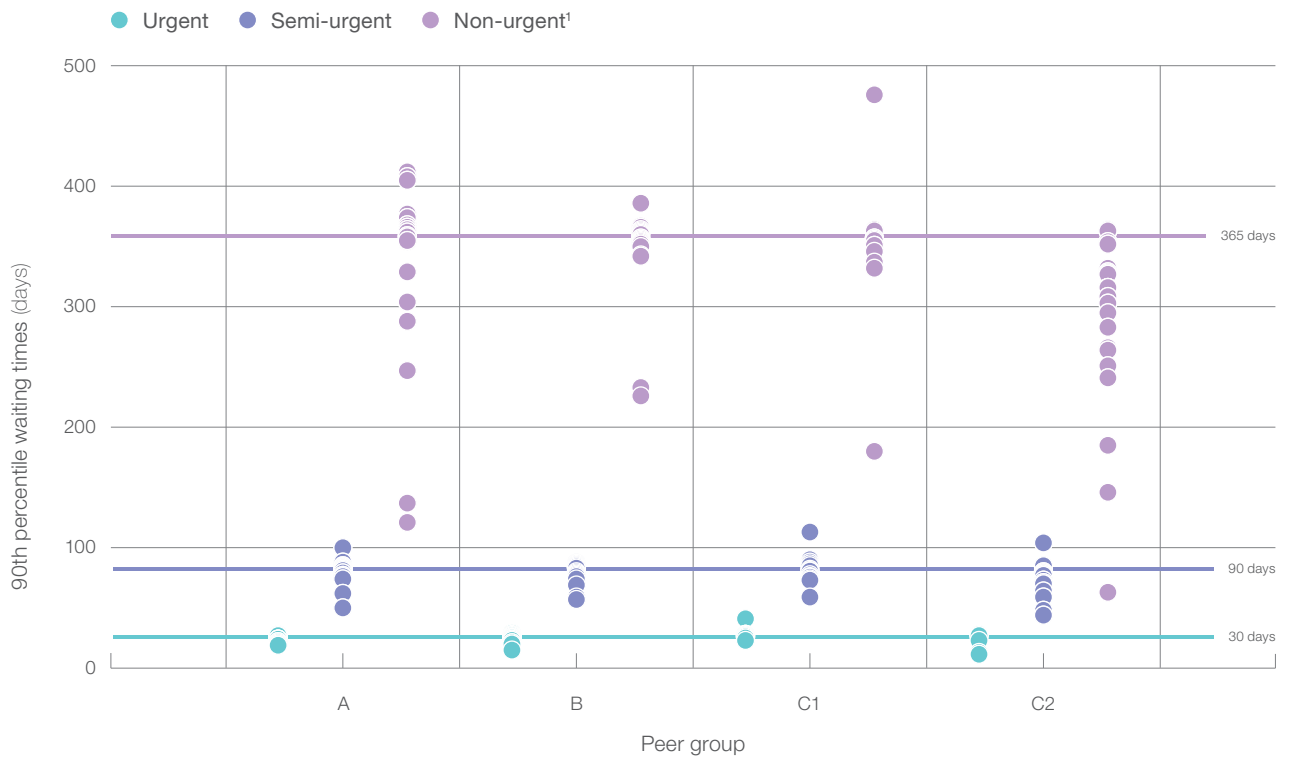
The longest 90th percentile waiting times were in the A peer group, and the shortest 90th percentile was in the C2 group.

Nine hospitals had 90th percentiles greater than the recommended maximum waiting time of one year. Seven of these were in peer group A, one each in the B and C1 peer groups and none in the C2 peer group. Hospitals in the B and C1 peer groups generally had 90th percentile times close to one year; the A and C2 peer groups had a wider range of 90th percentile times.

There is a wide range of 90th percentile waiting times for elective surgery. More hospitals in the higher peer groups had 90th percentiles greater than the maximum recommended waiting times matching fact that fewer hospitals in these groups reached 100% on time surgery. However, there are hospitals with shorter or longer waiting times in each peer group.

While most hospitals cluster together within each peer group with regards to their 90th percentiles times for non-urgent elective surgery, each peer group has some hospitals showing particularly low waiting times.

Figure 9: NSW elective surgery 90th percentile waiting time (days) by peer group and urgency category



1. Excluding non-urgent cystoscopy.

Note: 90th percentile not shown for hospitals with less than 30 patients.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013.

Median waiting times by specialty

Figure 10 presents the median waiting times for patients who received elective surgery and the number of patients who received elective surgery, by the specialty of the surgeon. The specialty of the surgeon describes the area of clinical expertise held by the doctor who performed the surgery.

The median waiting time does not include the time waited for the initial appointment with the specialist. The *NSW Patient Survey Program*, currently managed by the Bureau, asks questions about operations and surgical procedures. This includes how long patients waited to first see a specialist, and then how long they had to wait to be admitted to hospital. Results will be available in early 2014.

Ophthalmology (202 days), ear, nose and throat surgery (161 days) and orthopaedic surgery (118 days) were the surgical specialties

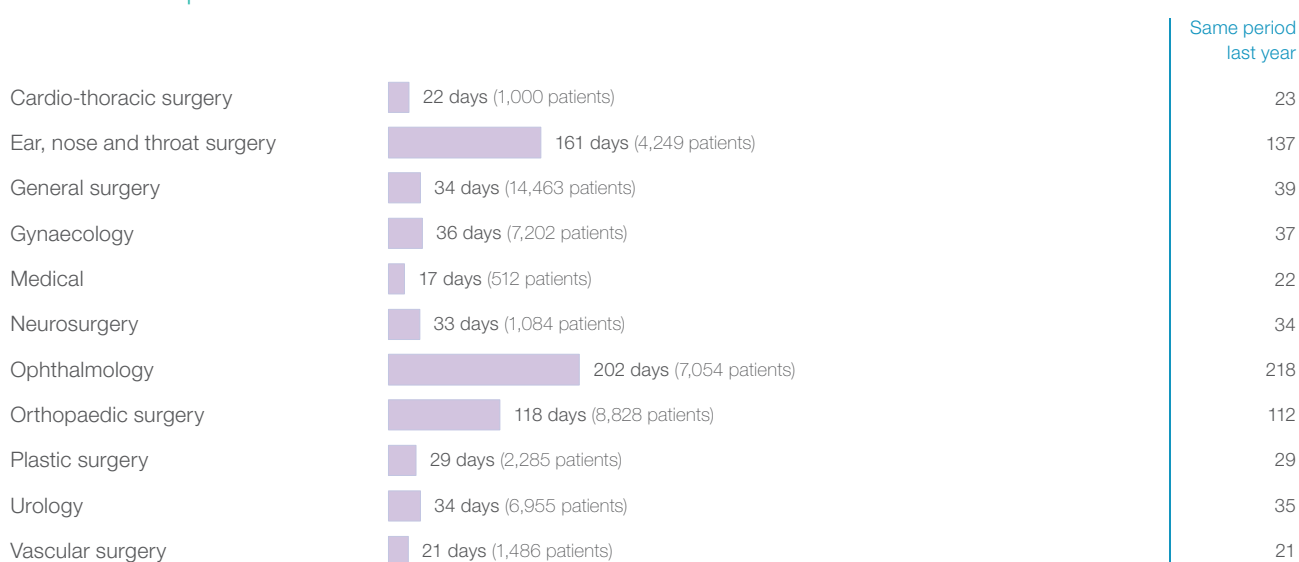
with the longest median waiting times in April to June 2013. These specialties also had the longest median waiting times in the same quarter last year.

Cardio-thoracic surgery (22 days), vascular surgery (21 days) and medical ² (17 days) had the shortest median waiting times. These specialties also had the shortest median waiting times in the same quarter last year.

General surgery (14,463 patients), orthopaedic surgery (8,828 patients) and urology (6,955 patients) were the surgical specialties with the highest number of patients receiving elective surgery in the April to June 2013 quarter.

Cardio-thoracic surgery (1,000 patients) and medical ² (512 patients) had the lowest number of patients receiving elective surgery.

Figure 10: Median¹ waiting time (days) for patients who received elective surgery, by specialty, April to June 2013



1. This is the number of days it took for half the patients who received elective surgery during the period to be admitted and receive their surgery. The other half took equal to or longer than the median to be admitted for surgery.
2. Medical refers to surgery performed by a non-specialist medical practitioner.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013. Data for all quarters from July 2011 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 July 2011.

Median waiting times by common procedures

Figure 11 presents the median waiting times for patients who received elective surgery and the number of patients who received elective surgery, by common procedures. The procedure is the treatment the patient receives when admitted to hospital for elective surgery.

The procedures with the longest median waiting times in the April to June 2013 quarter were septoplasty (316 days), total knee replacement (307 days) and myringoplasty / tympanoplasty (310 days). The procedures with the shortest median waiting times were other – general (21 days), coronary artery bypass graft (27 days),

cystoscopy (29 days) and hysteroscopy (32 days). These procedures also had the longest and shortest median waiting times in the same quarter last year.

Cataract extraction was the most common procedure (5,642 patients) performed in the April to June 2013 quarter.

Wait times for total hip replacement and total knee replacement increased while all other surgeries showed a reduction or stable results over the 12 months.

Figure 11: Median¹ waiting time (days) for patients who received elective surgery, by procedure,² April to June 2013

Procedure	Median waiting time (days) (Number of patients)	Same period last year
Abdominal hysterectomy	55 days (683 patients)	62
Cataract extraction	243 days (5,642 patients)	256
Cholecystectomy	55 days (1,874 patients)	62
Coronary artery bypass graft	27 days (211 patients)	27
Cystoscopy	29 days (3,203 patients)	32
Haemorrhoidectomy	58 days (295 patients)	71
Hysteroscopy	32 days (2,159 patients)	32
Inguinal herniorrhaphy	73 days (1,581 patients)	77
Myringoplasty / Tympanoplasty	310 days (113 patients)	327
Myringotomy	61 days (80 patients)	86
Other – General	21 days (1,830 patients)	23
Prostatectomy	55 days (648 patients)	53
Septoplasty	316 days (437 patients)	338
Tonsillectomy	251 days (1,380 patients)	256
Total hip replacement	221 days (880 patients)	192
Total knee replacement	307 days (1,538 patients)	296
Varicose veins stripping and ligation	90 days (381 patients)	117

1. This is the number of days it took for half the patients who received elective surgery during the period to be admitted and receive their surgery. The other half took equal to or longer than the median to be admitted for surgery.

2. For a description of these procedures see *Elective Surgery Glossary of Common Procedures, December 2012*.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013. Data for all quarters from July 2011 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 July 2011.

Elective surgery waiting list

The following three pages are about patients who have not received surgery but are waiting for elective surgery and are ready for surgery.

During the quarter, patients were added to and removed from the waiting list. Patients can be removed from the waiting list because they received the surgery they were waiting for, or for other reasons such as the surgeon or patient deeming that the surgery is no longer required.

At the end of the April to June 2013 quarter, there were 70,153 patients waiting for elective surgery, which is a similar figure to the same quarter last year (Figure 12). A breakdown of patients waiting for elective surgery by urgency category shows

that 80% were assigned as non-urgent, 17% as semi-urgent and 3% as urgent. The number of patients waiting for urgent surgery decreased by 7%, semi-urgent increased by 2% and non-urgent remained unchanged (Figure 13).

As at 30 June 2013, there were 12,097 patients not ready for surgery on the waiting list, up 3% compared with the same quarter last year (Figure 12).

The semi-urgent and non-urgent waiting lists remain fairly stable, but there is a 7% reduction in the urgent waiting list.

Figure 12: Elective surgery waiting list, April to June 2013

	Same period last year	Change since one year ago
Patients ready for surgery on waiting list at start of quarter:	69,294 patients	
Patients ready for surgery on waiting list at end of quarter:	70,153 patients	
Patients not ready for surgery ¹ on waiting list at end of quarter:	12,097 patients	3%

1. Includes staged procedures, non-urgent cystoscopy and patients currently not available for personal reasons.
 Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013. Data for all quarters from July 2011 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 July 2011.

Figure 13: Elective surgery waiting list, as at 30 June 2013

	Same period last year	Change since one year ago
Patients ready for surgery on waiting list by urgency category:	70,153 patients	
1 Urgent ¹ (3%)	1,861	-7%
2 Semi-urgent ¹ (17%)	11,881	2%
3 Non-urgent ² (80%)	56,411	0%

1. Excluding staged procedures.
 2. Excluding staged procedures and non-urgent cystoscopy.
 Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013. Data for all quarters from July 2011 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 July 2011.

Elective surgery waiting list by specialty

Figure 14 presents the number of patients on the waiting list and those patients who have been waiting more than 12 months, by the specialty of the surgeon. The specialty of the surgeon describes the area of clinical expertise of the doctor who is to perform the surgery.

The time a patient waited for the initial appointment with the specialist is not included in the time spent on the waiting list.

Orthopaedic surgery (17,232 patients) and ophthalmology (15,756 patients) were the surgical specialties with the highest number of patients waiting for surgery as at 30 June 2013.

Cardio-thoracic surgery (338 patients) and medical (219 patients) had the lowest number of patients waiting for elective surgery.

Orthopaedic surgery (118 patients) and ear, nose and throat surgery (254 patients) were the surgical specialties with the highest number of patients waiting more than 12 months as at 30 June 2013. Cardio-thoracic surgery, and medical¹ had no patients waiting in NSW more than 12 months.

The number of patients waiting more than 12 months for surgery was 195 in the same quarter last year compared to 581 in April -June quarter 2013.

Figure 14: Patients waiting for elective surgery and patients waiting more than 12 months, by specialty, as at 30 June 2013

	Patients waiting	Patients waiting (same time last year)	Change since one year ago	Patients waiting more than 12 months	Patients waiting more than 12 months (same time last year)
All specialties	70,153	70,031	0%	581	195
Cardio-thoracic surgery	338	313	8%	0	0
Ear, nose and throat surgery	9,371	9,629	-3%	254	39
General surgery	13,137	12,889	2%	89	36
Gynaecology	6,007	5,985	0%	< 5	22
Medical ¹	219	287	-24%	0	0
Neurosurgery	1,177	1,127	4%	18	12
Ophthalmology	15,756	15,789	0%	44	13
Orthopaedic surgery	17,232	17,414	-1%	118	60
Plastic surgery	2,395	2,317	3%	34	7
Urology	3,524	3,366	5%	12	< 5
Vascular surgery	997	915	9%	9	< 5

1. Medical refers to surgery performed by a non-specialist medical practitioner.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013. Data for all quarters from July 2011 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 July 2011.

Elective surgery waiting list by common procedures

Figure 15 presents the number of patients on the waiting list by common procedures. Cataract extraction was the most common procedure (13,808 patients) that patients were waiting for as at 30 June 2013.

The procedures that had the least number of patients waiting were coronary artery bypass graft (86 patients) and myringotomy (165 patients).

Figure 15: Patients waiting for elective surgery by procedure,¹ as at 30 June 2013

	Patients waiting	Patients waiting (same time last year)	Change since one year ago
Abdominal hysterectomy	686	1,044	-34%
Cataract extraction	13,808	13,935	-1%
Cholecystectomy	1,825	1,863	-2%
Coronary artery bypass graft	86	94	-9%
Cystoscopy	1,050	1,384	-22%
Haemorrhoidectomy	350	363	-4%
Hysteroscopy	1,424	1,333	7%
Inguinal herniorrhaphy	2,188	2,325	-6%
Miringoplasty / Tympanoplasty	323	370	-13%
Miringotomy	165	164	1%
Other – General	1,232	1,215	1%
Prostatectomy	629	663	-5%
Septoplasty	1,457	1,426	2%
Tonsillectomy	3,383	3,816	-11%
Total hip replacement	1,961	2,020	-3%
Total knee replacement	4,785	4,826	-1%
Varicose veins stripping and ligation	739	675	9%

1. The procedures included in this list are procedures which are high volume; some may be associated with long waiting periods. For a description of these procedures see *Elective Surgery Glossary of Common Procedures, December 2012*.

Source: NSW Health, *Waiting List Collection On-line System*. Data for April to June 2013 extracted on 16 July 2013. Data for all quarters from July 2011 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 July 2011.

Conclusions of analysis

There is considerable variation in waiting times between similar hospitals. There is also variation between different peer groups.

Most NSW hospitals perform well in the urgent surgery category, with close to 95% of patients receiving their procedure within the recommended time frame. However, performance varies more for patients in the less urgent categories and variation is greatest for patients in the non-urgent category.

Smaller hospitals (C1 and C2 peer group) vary most in median and 90th percentile waiting times. Patients at hospitals in the C2 peer group are more likely to receive semi-urgent or non-urgent surgery within the recommended time frame.

The analysis in this edition of *Hospital Quarterly* shows that patients can expect to receive urgent surgery within 30 days at all hospitals, but waiting time for semi-urgent and non-urgent surgery varies across hospitals. These variations are not associated with the number of procedures performed in hospitals (Figure 6) nor are they related to the percentage of cases in each urgency category. Performance varies between peer groups, and there are high and low performers in each peer group (Figure 4).

Appendix 1: information by hospital and local health district

Appendix table 1a presents elective surgery activity for major hospitals in NSW. The table is ordered by local health district and includes all principal referral (A1), paediatric specialist (A2), ungrouped acute – tertiary referral (A3), major (B) and district groups 1 (C1) and 2 (C2) hospitals that conduct elective surgery. These hospitals account for 98% of all elective surgery recorded as complete in the NSW booking system. Surgery information from smaller hospitals is presented for each local health district under the *'other'* category.

[Download Appendix 1 information by *'local health district'* in a PDF file](#)

[Download Appendix 1 information by *'local health district'* in an Excel file](#)

Appendix table 1b presents the percentages of elective surgery admissions within the clinically recommended time for each urgency category for April to June 2013. The table is ordered by local health district and includes all principal referral (A1), paediatric specialist (A2), ungrouped acute – tertiary referral (A3), major (B) and district groups 1 (C1) and 2 (C2) hospitals that conduct elective surgery. Surgery information from smaller hospitals is presented for each local health district under the *'other'* category.

Appendix table 1c presents the median and 90th percentile waiting times (in days) of elective surgery admissions for each urgency category for this quarter. The table is ordered by local health district and includes all principal referral (A1), paediatric specialist (A2), ungrouped acute – tertiary referral (A3), major (B) and district groups 1 (C1) and 2 (C2) hospitals that conduct elective surgery. Surgery information from smaller hospitals is presented for each local health district under the *'other'* category.

Appendix 2: information by hospital and peer group

Appendix table 2a presents elective surgery activity for major hospitals in NSW. The table is ordered by peer group and includes all principal referral (A1), paediatric specialist (A2), ungrouped acute – tertiary referral (A3), major (B) and district groups 1 (C1) and 2 (C2) hospitals that conduct elective surgery. These hospitals account for 98% of all elective surgery recorded as complete in the NSW booking system. Surgery information from smaller hospitals is presented for each peer group under the *'other'* category.

[Download Appendix 2 information by *'peer group'* in a PDF file](#)

[Download Appendix 2 information by *'peer group'* in an Excel file](#)

Appendix table 2b presents the percentages of elective surgery admissions within the clinically recommended time for each urgency category for April to June 2013. The table is ordered by peer group and includes all principal referral (A1), paediatric specialist (A2), ungrouped acute – tertiary referral (A3), major (B) and district groups 1 (C1) and 2 (C2) hospitals that conduct elective surgery. Surgery information from smaller hospitals is presented for each peer group under the *'other'* category.

Appendix table 2c presents the median and 90th percentile waiting times (in days) of elective surgery admissions for each urgency category for this quarter. The table is ordered by peer group and includes all principal referral (A1), paediatric specialist (A2), ungrouped acute – tertiary referral (A3), major (B) and district groups 1 (C1) and 2 (C2) hospitals that conduct elective surgery. Surgery information from smaller hospitals is presented for each peer group under the *'other'* category.

Download our reports

The report, *Hospital Quarterly: Performance of NSW public hospitals, April to June 2013* and related reports are available at www.bhi.nsw.gov.au

The suite of products includes:

- A one page *Highlights* document, summarising each module
- Three core modules titled *Admitted Patients, Elective Surgery and Emergency Departments*
- Activity and performance profiles about emergency department care and elective surgery for more than 80 hospitals and NSW as a whole
- *Data Quality Assessments and Data Completeness Reports*
- *Technical Supplements*



About the Bureau

The Bureau of Health Information provides the community, healthcare professionals and the NSW Parliament with timely, accurate and comparable information on the performance of the NSW public health system. The work of the Bureau helps to improve and enhance accountability in the NSW health system and assists in ensuring the system benefits the people of NSW.

The Bureau is an independent, board-governed statutory health corporation. The conclusions in this report are those of the Bureau 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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Please note that there is the potential for minor revisions of data in this report. Please check the online version at www.bhi.nsw.gov.au for any amendments.