

Emergency Departments

Hospital Quarterly: Performance of NSW public hospitals

January to March 2014

There were 614,438 patient visits to NSW public hospital emergency departments (EDs) during January to March 2014, 2% more than the same quarter in 2013.

The number of patients arriving by ambulance increased by 2% compared to the same quarter last year. The percentage of these patients transferred from the care of ambulance paramedics into the care of ED clinicians within 30 minutes of arrival is 88%, higher than the same time last year (84%).

The median times to start treatment for each triage category are unchanged or slightly shorter compared with the same quarter one year ago

and the 95th percentile times to start treatment have decreased by three minutes (triage 2), 15 minutes (triage 3), 18 minutes (triage 4), and 17 minutes (triage 5).

In this quarter, 73% of all patients left the ED within four hours, which is a seven percentage point increase from the same quarter last year.

This edition of Hospital Quarterly sees 21 additional hospitals included in emergency department reporting. These are mostly smaller hospitals that have changed their data collection systems and now have five quarters of stable data available in the state data collection. Their inclusion increases the total activity recorded for NSW overall and for the affected LHDs, from January-March 2013 onwards. Therefore numbers vary from those previously reported and comparisons to results prior to Jan-March 2013 in this report should be interpreted with caution. Please refer to Technical Supplement January to March 2014 for further details.

Information at the hospital, LHD and peer group level from this issue of Hospital Quarterly will also be available for viewing and downloading on the Bureau's new online interactive tool Healthcare Observer. Visit www.bhi.nsw.gov.au/healthcareobserver

During the quarter	Jan-Mar 2013	Jan-Mar 2014	The difference
All emergency department attendances	602,415	614,438	12,023 (+2%)
All arrivals at NSW hospitals by ambulance	135,798	138,653	2,855 (+2%)
Emergency attendances that were categorised as triage 2	60,095	65,410	5,315 (+9%)
Median time to start treatment for triage 2 patients	8 mins	8 mins	unchanged
People leaving the ED within four hours of presentation	66%	73%	+7 percentage points
Admissions to hospital from NSW EDs	157,902	164,851	6,959 (+ 4%)

Emergency department journeys

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

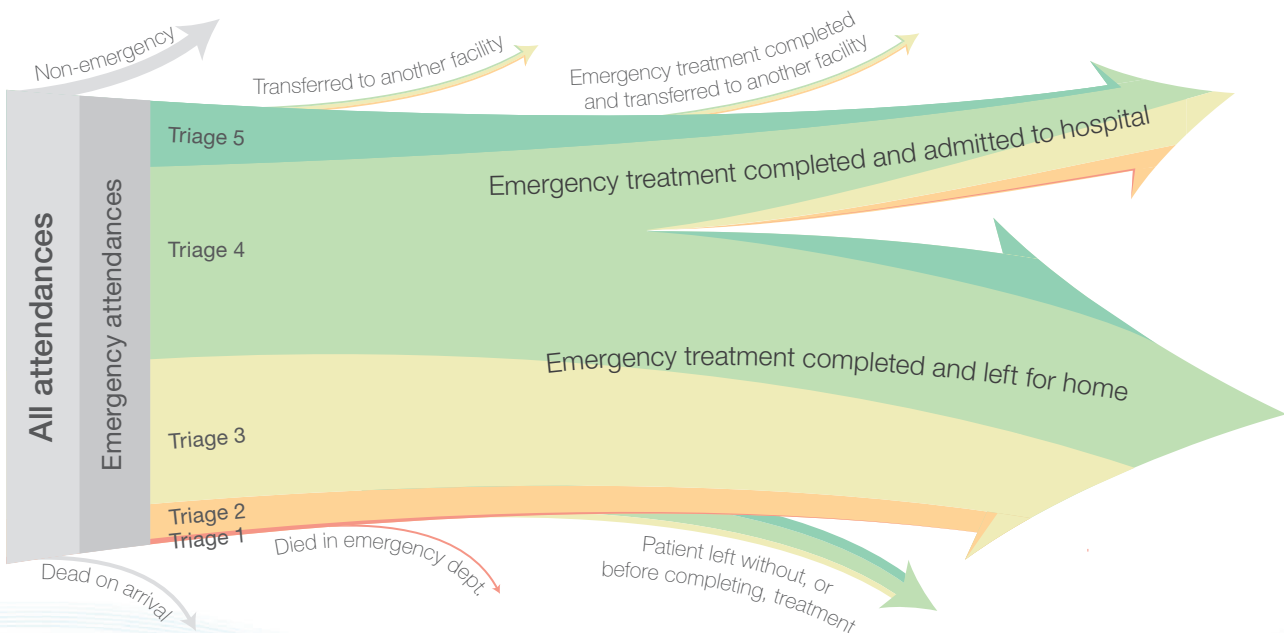
What happens next depends on the clinical needs of patients. Patients from the most urgent triage categories (triage categories 1 and 2) are given priority and care typically begins immediately upon arrival. Patients from the less urgent triage categories (3 to 5) typically complete triage and administrative 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 January to March 2014 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

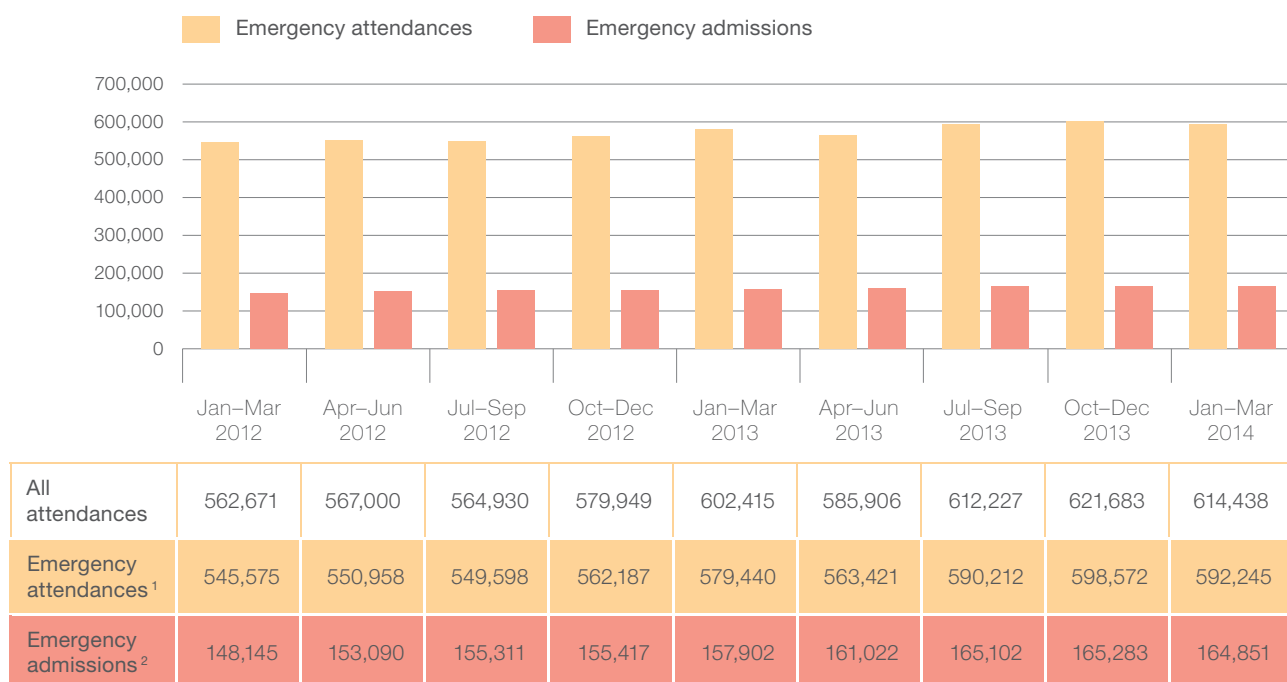
In the January to March 2014 quarter there were 592,245 emergency attendances. This two per cent increase on the same quarter one year ago (579,440) maintains the overall increasing trend of the past two years (Figure 2).

Over the same time, the number of emergency admissions from EDs has been increasing. This

quarter there were 164,851 admissions. This is four per cent higher than the same quarter one year ago (157,902).

The number of ED attendances has continued to increase over the past two years.

Figure 2: Emergency attendances and admissions from NSW emergency departments, January to March 2012 to January to March 2014



All attendances	562,671	567,000	564,930	579,949	602,415	585,906	612,227	621,683	614,438
Emergency attendances ¹	545,575	550,958	549,598	562,187	579,440	563,421	590,212	598,572	592,245
Emergency admissions ²	148,145	153,090	155,311	155,417	157,902	161,022	165,102	165,283	164,851

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, January to March 2013*.

Note: The emergency department activity reported here includes only the 121 facilities for which electronic data are reported. These facilities cover approximately 89% 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 17 April 2014.

Arriving at the emergency department

Emergency attendances this quarter

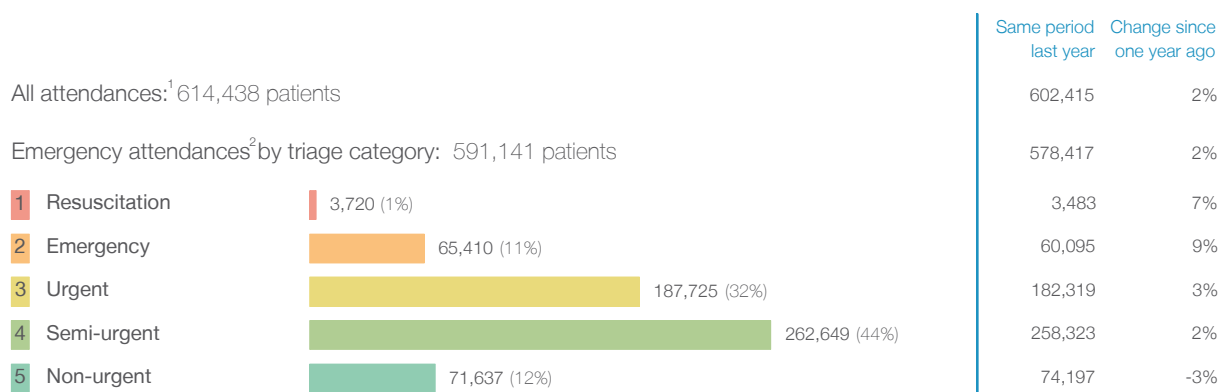
There were 614,438 attendances at NSW EDs during January to March 2014 (Figure 3).

While almost all (96%) of these visits were considered '*emergency attendances*', 23,297 (4%) patients attended for non-emergency reasons, such as a planned return visit, attending an outpatient clinic or pre-arranged admission 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), 32% were categorised as urgent (triage 3) 44% were semi-urgent (triage 4) and 12% were non-urgent (triage 5).

In this quarter there was an increase in triage 1, 2, 3 and 4 attendances and a slight decrease in triage 5 compared to the same quarter 12 months ago.

Figure 3: Attendances at NSW emergency departments, January to March 2014



1. All emergency and non-emergency attendances at the emergency department (ED).

2. 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 121 facilities for which electronic data are reported. This covers approximately 89% of NSW emergency activity.

Source: NSW Health, *Health Information Exchange*. Data extracted on 17 April 2014.

Transfer of care from ambulance to emergency department

In January to March 2014 there were 138,653 arrivals by ambulance at NSW hospitals. This is an increase of 2% over the same quarter last year.

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 time 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. We are reporting transfer of care for matched records only. In January to March 2014 there were 121,245 people who arrived at the ED by ambulance and had a transfer of care time.

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 fewer than 50 ambulance arrivals have had their results suppressed but are included in the state totals.

In NSW there is a target of 30 minutes within which 90% of ambulance arrivals should have their care transferred to ED clinicians. In this quarter, 88% of patients arriving at NSW EDs by ambulance had their care transferred within 30 minutes.

The median transfer of care time has improved by one minute (from 13 minutes in January to March 2013 to 12 minutes in this quarter).

Off stretcher time measures the length of time from the ambulance's arrival at the emergency department to the paramedics returning to their vehicle and having completed a range of tasks to prepare the ambulance for the next assignment. In this quarter, the median off-stretcher time was unchanged from the same time last year (26 minutes).

The percentage of ambulance arrivals with a transfer of care time within 30 minutes continues to improve.

Figure 4: Measures relating to ambulance arrivals at ED, January 2013 to March 2014

	Jan-Mar 2013	Apr-Jun 2013	Jul-Sep 2013	Oct-Dec 2013	Jan-Mar 2014
All ambulance arrivals	135,798	136,457	144,407	142,191	138,653
Ambulance Arrivals with transfer of care time ¹	115,040	116,590	122,801	123,148	121,026
Per cent of arrivals with transfer of care within 30 mins ¹	84%	83%	80%	87%	88%
Median transfer of care time ¹ (minutes)	13	13	14	12	12
Median off stretcher time ¹ (minutes)	26	27	27	26	26

1. Calculated for records that can be matched.
Source: Data provided by Ministry of Health on 17 April 2014.

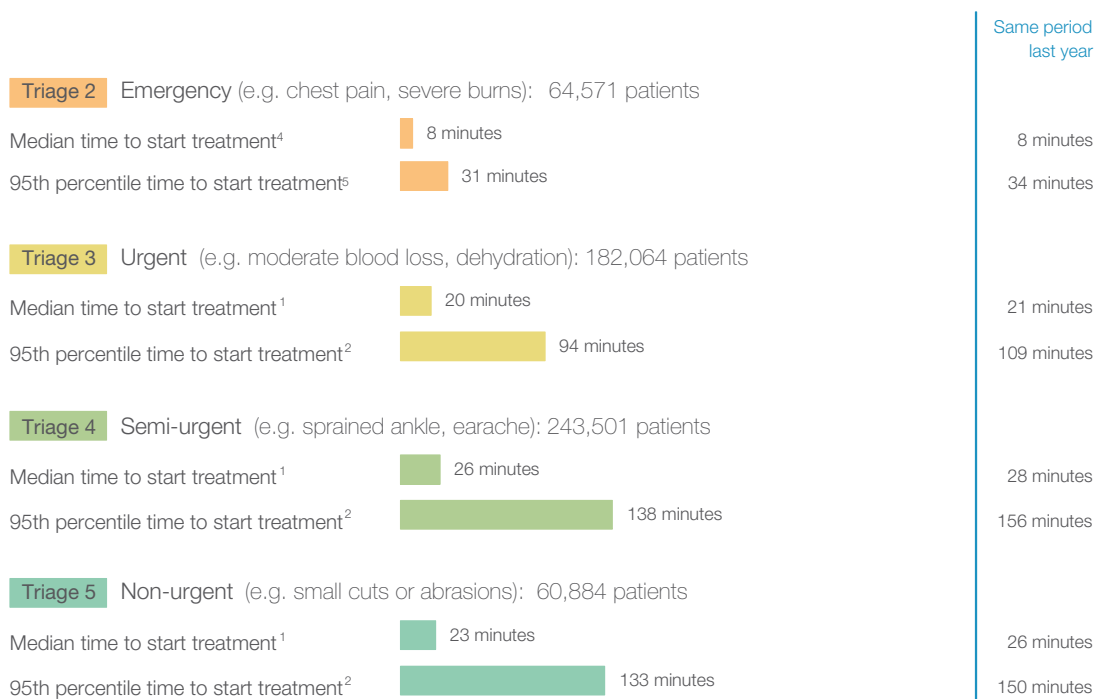
Time to start treatment performance

In January to March 2014, the median times to start treatment were unchanged or slightly shorter compared with the same quarter in 2013 (Figure 5). The median time to start treatment for the emergency category (triage 2) remains unchanged at eight minutes, the urgent category (triage 3) one minute less at 20 minutes, the semi-urgent category (triage 4) two minutes less at 26 minutes and the non-urgent category (triage 5) three minutes less at 23 minutes.

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

- 31 minutes, three minutes shorter than one year ago (triage 2)
- 94 minutes, 15 minutes shorter than one year ago (triage 3)
- 138 minutes, 18 minutes shorter than one year ago (triage 4)
- 133 minutes, 17 minutes shorter than one year ago (triage 5).

Figure 5: Waiting times for treatment in NSW emergency departments, January to March 2014



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.

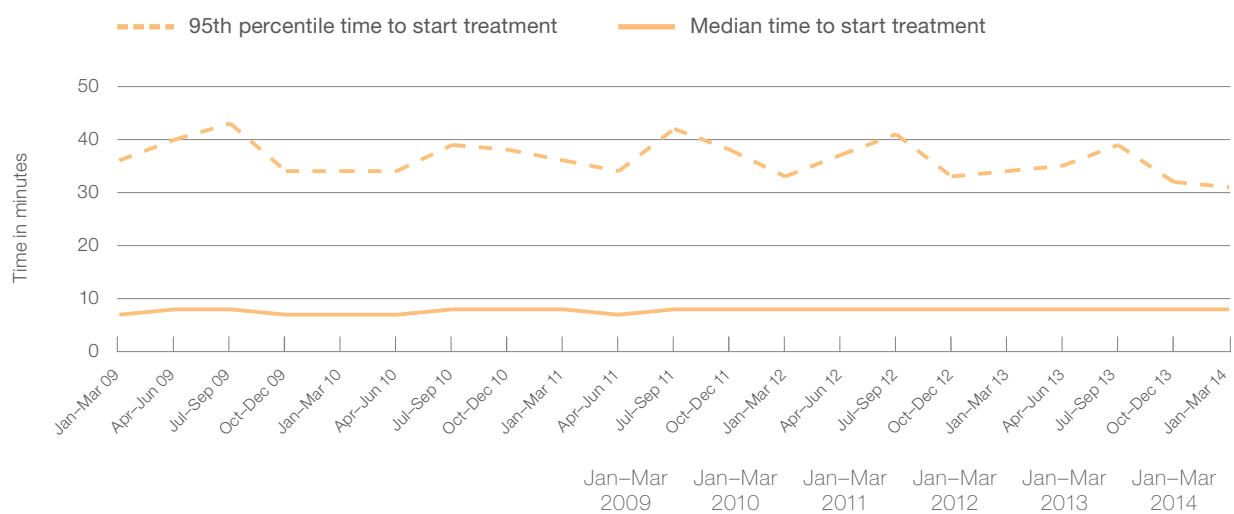
Source: NSW Health, *Health Information Exchange*. Data extracted on 17 April 2014.

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).

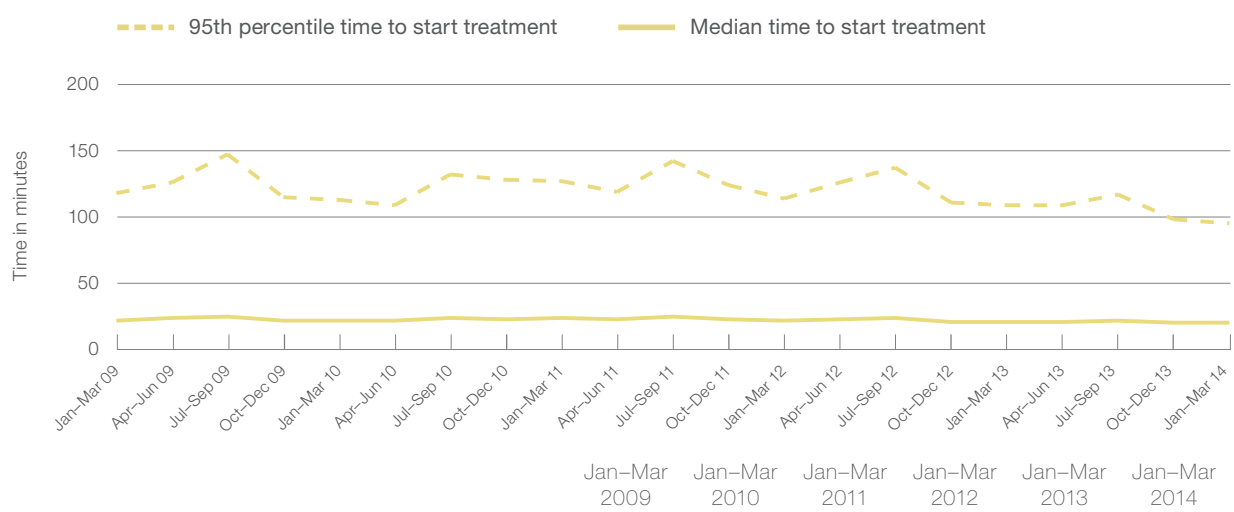
The 95th percentile treatment times are the lowest for this quarter over the past five years across all triage categories.

Figure 6a: Triage 2 Median and 95th percentile times to start treatment (minutes) in NSW emergency departments, January 2009 to March 2014



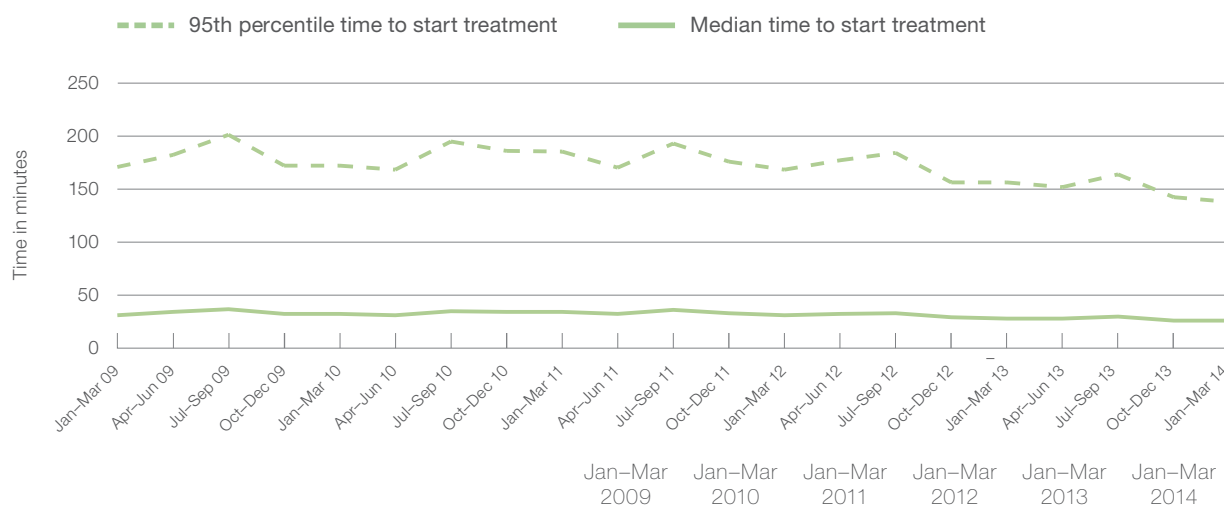
Median time to start treatment ¹ (minutes)	7	7	8	8	8	8
95th percentile time to start treatment ² (minutes)	36	34	36	33	34	31

Figure 6b: Triage 3 Median and 95th percentile times to start treatment (minutes) in NSW emergency departments, January 2009 to March 2014



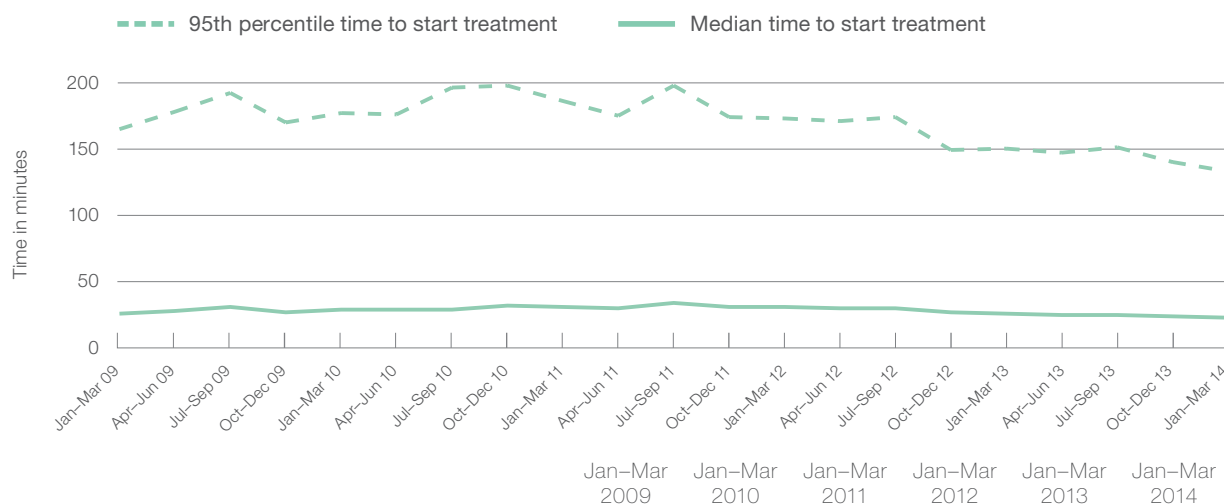
Median time to start treatment ¹ (minutes)	22	22	24	22	21	20
95th percentile time to start treatment ² (minutes)	118	113	127	114	109	94

Figure 6c: **Triage 4** Median and 95th percentile times to start treatment (minutes) in NSW emergency departments, January 2009 to March 2014



Median time to start treatment ¹ (minutes)	31	32	34	31	28	26
95th percentile time to start treatment ² (minutes)	171	172	185	168	156	138

Figure 6d: **Triage 5** Median and 95th percentile times to start treatment (minutes) in NSW emergency departments, January 2009 to March 2014



Median time to start treatment ¹ (minutes)	26	29	31	31	26	23
95th percentile time to start treatment ² (minutes)	165	177	186	173	150	133

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 17 April 2014.

Leaving the emergency department

Time from presentation until leaving the ED this quarter

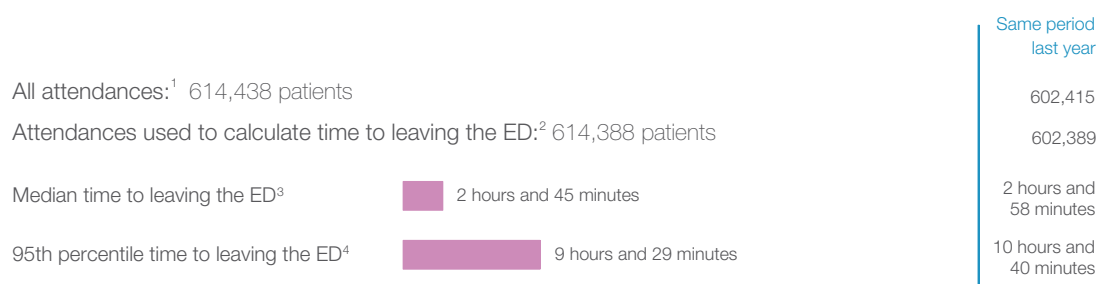
In the January to March 2014 quarter, the median time to leaving the ED was two hours and 45 minutes after presentation. The 95th percentile time to leaving the ED was nine hours and 29 minutes after presentation (Figure 7). Both are improvements from the same quarter last year.

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

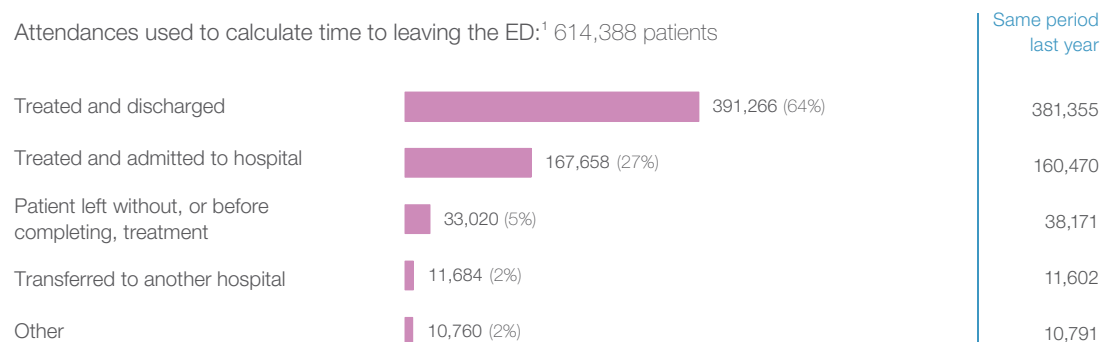
The number of patients who left without treatment or before treatment started, decreased from the same period last year.

Figure 7: Time from presentation until leaving the emergency department, January to March 2014



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 17 April 2014.

Figure 8: Leaving the emergency department by mode of separation, January to March 2014

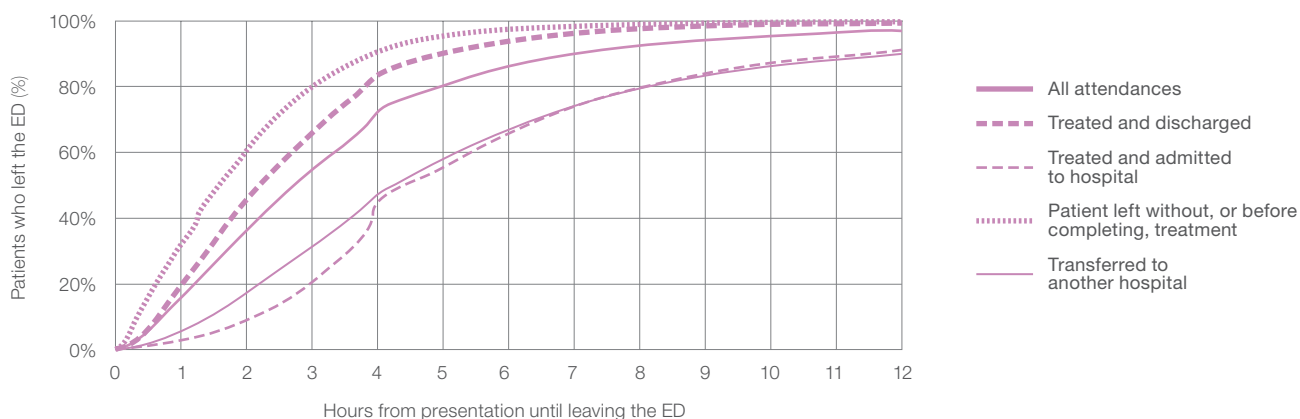


1. All attendances that have a departure time.
- Note: All percentages rounded to whole numbers and therefore percentages may not add to 100%.
- Source: NSW Health, *Health Information Exchange*. Data extracted on 17 April 2014.

In the January to March 2014 quarter:

- 64% 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.
- 27% 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 (5%) left the ED without, or before, completing treatment (Figure 8). On average, these patients spent the shortest time in the ED (Figure 9).

Figure 9: Percentage of patients who left the emergency department, by time and mode of separation, January to March 2014



1 hour 2 hours 3 hours 4 hours 6 hours 8 hours 10 hours 12 hours

Treated and discharged	19%	45%	66%	84%	94%	98%	99%	99%
Treated and admitted to hospital	3%	9%	21%	45%	66%	80%	87%	91%
Patient left without, or before completing treatment	32%	61%	80%	91%	98%	99%	100%	100%
Transferred to another hospital	5%	17%	32%	48%	67%	80%	86%	90%
All attendances	16%	36%	54%	73%	86%	93%	96%	97%

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

Source: NSW Health, Health Information Exchange. Data extracted on 17 April 2014.

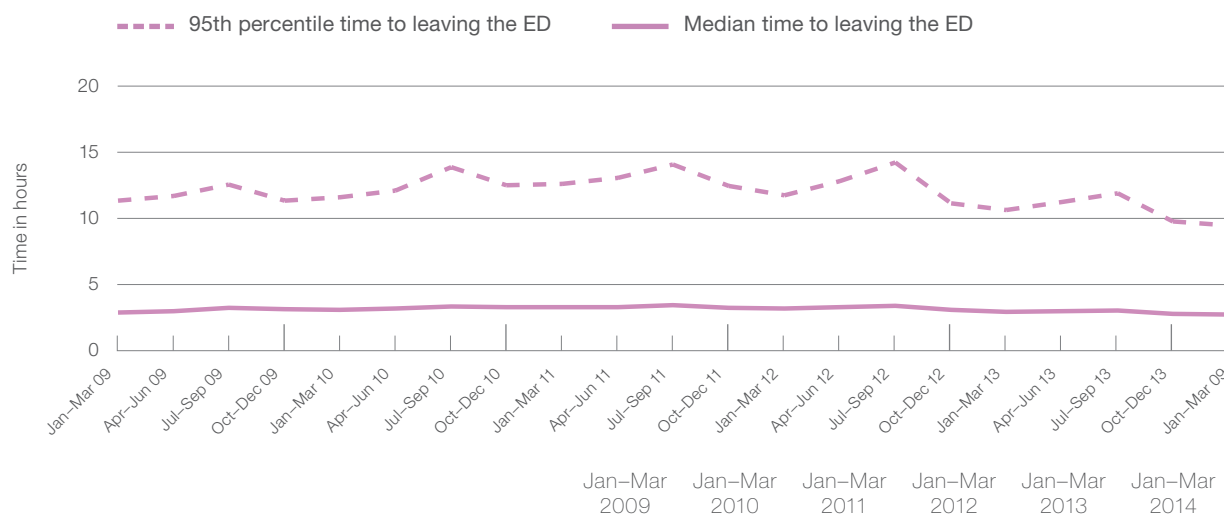
Time from presentation until leaving the ED: trends over time

Figure 10 shows the median and 95th percentile time from presentation until leaving the ED by quarter over five years. During January to March 2014, the median time to leaving the ED was two hours and 45 minutes from presentation. This is shorter than the same quarter in the previous five years.

During the January to March 2014 quarter, the 95th percentile time to leaving the ED was nine hours and 29 minutes after arriving in the ED. This is shorter than the same quarter in 2013 when the 95th percentile time to leaving the ED was 10 hours and 40 minutes, and shorter than this quarter in the previous years.

The time by which 95% of patients leave the ED following their arrival is the lowest recorded over the last five years.

Figure 10: Time from presentation until leaving the emergency department by quarter, January 2009 to March 2014



Median time to leaving the ED ¹ (hours, minutes)	2h 54m	3h 5m	3h 18m	3h 14m	2h 58m	2h 45m
95th percentile time to leaving the ED ² (hours, minutes)	11h 21m	11h 37m	12h 36m	11h 46m	10h 40m	9h 29m

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.

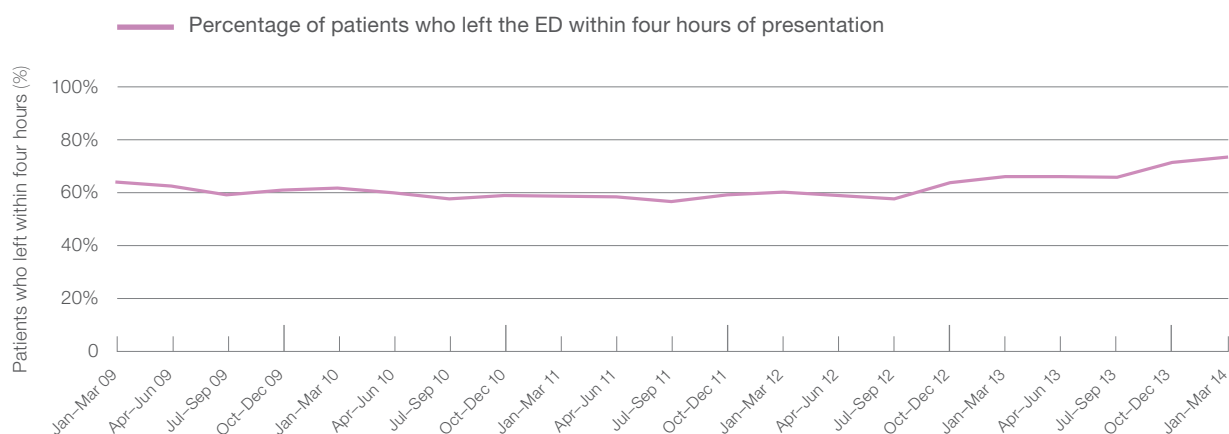
Source: NSW Health, Health Information Exchange. Data extracted on 17 April 2014.

Leaving the ED within four hours

In the January to March 2014 quarter, 73% of patients left the ED within four hours of presentation (Figure 11). This is higher than both last quarter (71%) and the same quarter last year (66%).

The January to March 2014 quarter showed the highest percentage of patients leaving the ED within four hours over the past five years.

Figure 11: Percentage of patients who left the emergency department within four hours of presentation, by quarter, January 2009 to March 2014



	Jan-Mar 2009	Jan-Mar 2010	Jan-Mar 2011	Jan-Mar 2012	Jan-Mar 2013	Jan-Mar 2014
Patients who left within four hours (%)	64%	62%	59%	60%	66%	73%

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.

Note: This measure is based on the National Emergency Access Target, however data presented here may not be directly comparable to the figures reported by the Commonwealth due to slight differences in timing, methods of calculation and the number of hospitals included.

Source: NSW Health, Health Information Exchange. Data extracted on 17 April 2014.

Some reasons for variation by hospital in patients leaving the ED within four hours

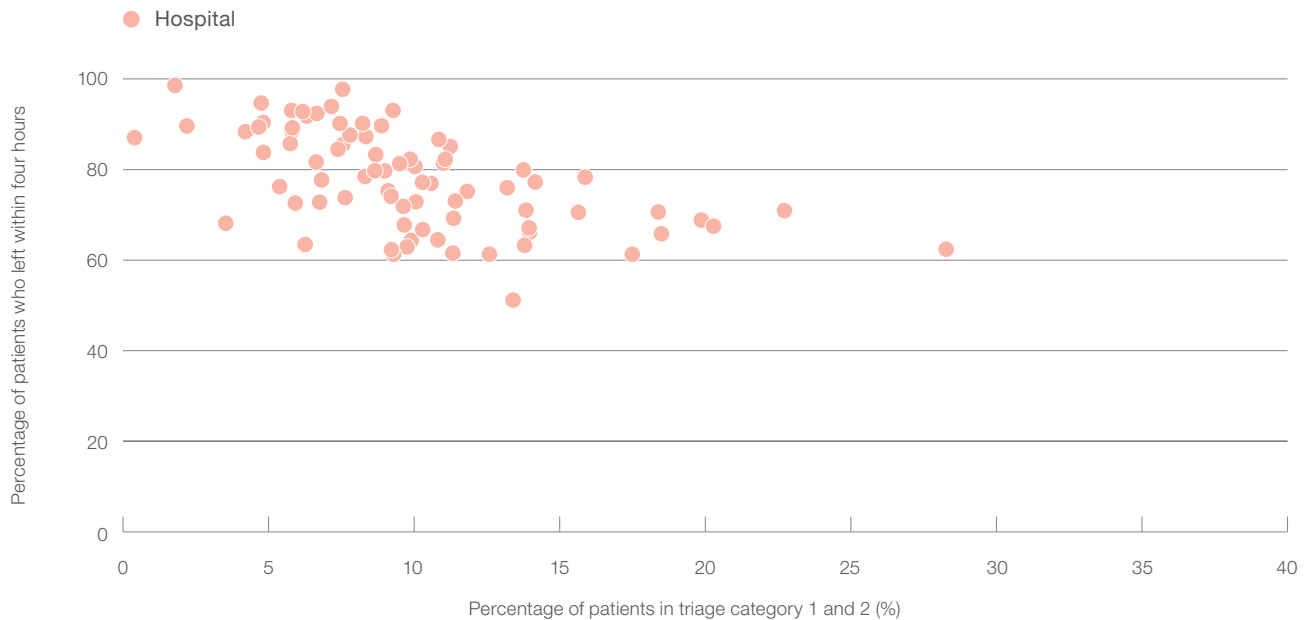
A higher proportion of urgent cases is a challenge for emergency departments.

Not all EDs are the same. Some will receive a particularly high proportion of urgent cases that require quick assessment, complex care and stabilisation in the ED. Others will receive higher proportions of non-urgent cases. **Figure 12** presents the correlation between patients leaving the ED within four hours and the proportion of urgent patients.

In **Figure 12** the percentage of urgent cases in each hospital (triage 1 and 2) is represented by a dot.

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

Figure 12: Percentage of patients who left the emergency department within four hours, by percentage of patients in triage 1 and 2, January to March 2014.



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

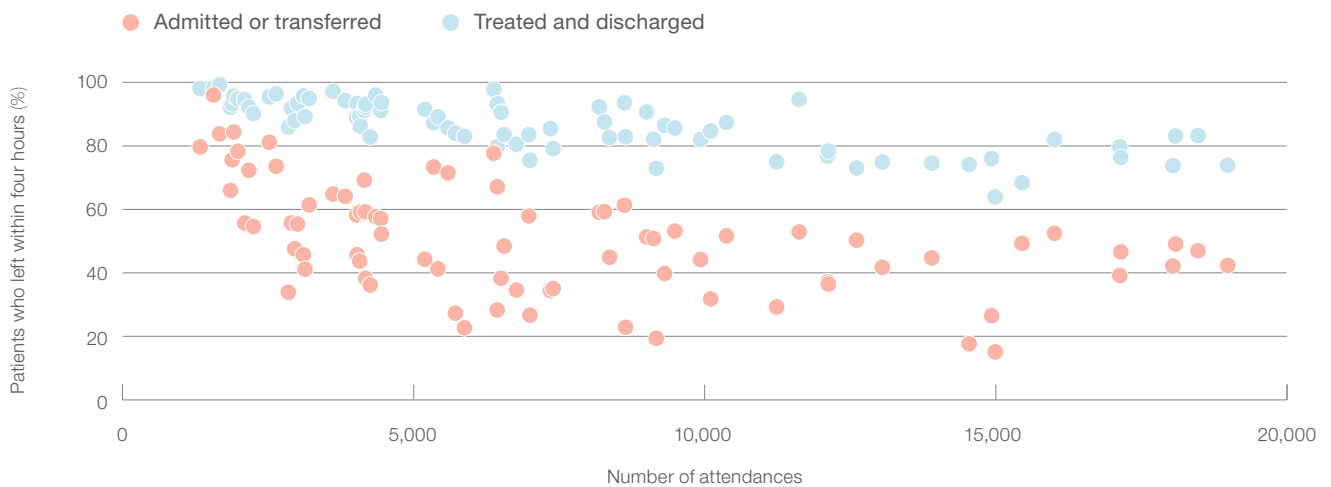
Source: NSW Health, *Health Information Exchange*. Data extracted on 17 April 2014.

Associations between the number of ED attendances and patients admitted or transferred

Figure 13 presents the correlation between the percentage of patients leaving the ED within four hours 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 per cent of patients leaving within four 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.

Figure 13: Percentage of patients who left the emergency department within four hours by total attendances, by grouped mode of separation January to March 2014



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

Source: NSW Health, *Health Information Exchange*. Data extracted on 17 April 2014.

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. Nearly two thirds of all patients are treated and discharged.

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

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

Figure 14: Percentage of ED patients in mode of separation group by triage category, January to March 2014

	Triage 1	Triage 2	Triage 3	Triage 4	Triage 5	All Triage Categories
Treated and discharged	7%	34%	53%	75%	85%	65%
Treated and admitted to hospital	82%	60%	41%	17%	5%	28%
Patient left without, or before completing treatment	1%	1%	3%	7%	9%	5%
Transferred to another hospital	10%	5%	3%	1%	0%	2%
Other	0%	0%	0%	0%	1%	0%

Figure 15: Percentage of ED patients in triage category by peer group, January to March 2014

	A1	B	C1	C2	All
Triage category 1 Resuscitation	1.1%	0.5%	0.3%	0.3%	0.6%
Triage category 2 Emergency	14.6%	11.3%	8.2%	7.3%	10.8%
Triage category 3 Urgent	36.8%	32.4%	30.5%	24.8%	31.1%
Triage category 4 Semi-urgent	39.5%	42.8%	47.4%	48.4%	43.7%
Triage category 5 Non-urgent	8.0%	13.1%	13.5%	19.3%	13.7%

Source: NSW Health, *Health Information Exchange*. Data extracted on 17 April 2014.

The volume of patients admitted to hospital from ED affects the per cent of patients leaving within four hours

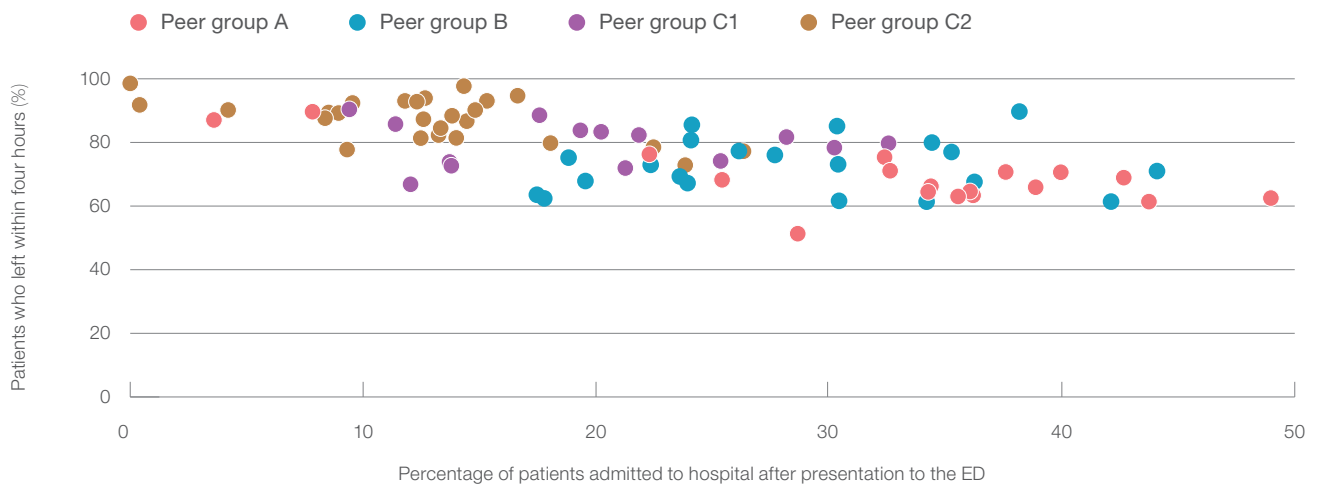
Figure 16 presents the correlation between the percentage of patients leaving the ED within four hours and the proportion of patients that are admitted to hospital, by peer group. This figure reaffirms the Bureau’s finding that as more patients are admitted, fewer patients leave the ED within four hours.

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 (large metropolitan hospitals) have higher percentages of admitted patients and lower percentages

of patients leaving the ED within four hours compared with hospitals in the C2 peer group (usually small and usually rural hospitals). Hospitals in the C2 peer group have a lower proportion of admission and better achievement in the percentage of patients who leave the ED within four hours.

Hospitals from peer group A (large metropolitan hospitals) have a higher percentage of admitted patients and are less likely to have patients leave the ED within four hours compared with hospitals in the C2 peer group (usually small and usually rural hospitals).

Figure 16: Percentage of patients who left the emergency department within four hours by percentage of ED patients admitted to hospital, January to March 2014



Note: Time from presentation to the ED until recorded as leaving the ED.
 Source: NSW Health, *Health Information Exchange*. Data extracted on 17 April 2014.

There is variation within peer groups in the percentage of patients who leave the ED within four hours

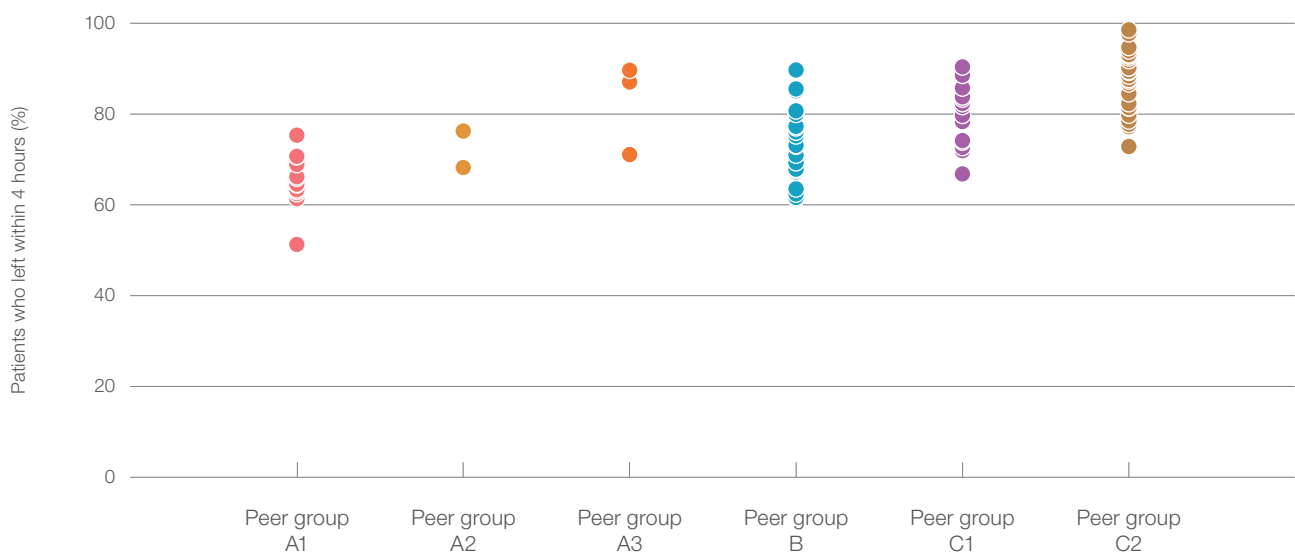
Figure 17 shows the percentage of patients leaving the ED within four hours of arrival at the hospital level by peer group.

This figure again shows that C2 peer group hospitals generally have more patients leaving the ED within four hours compared to other peer groups. In contrast, hospitals belonging to peer group A1 hospitals generally have fewer patients leaving the ED within four hours compared to other peer groups. While there are differences on

average between the peer groups, there is also considerable variation between hospitals within each peer group.

During the quarter, 55 out of the 78 hospitals reported an improved percentage of their patients who left the ED within four hours compared with the same quarter last year. 17 hospitals showed a reduction in the percentage of patients leaving the ED within four hours. In the A1 peer group, all 13 hospitals showed an increase in the percentage of patients who left the ED within four hours.

Figure 17: Percentage of patients who left the ED within four hours of presentation, by peer group, January to March 2014



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

Source: NSW Health, *Health Information Exchange*. Data extracted on 17 April 2014.

Conclusion of analysis

The portion of patients leaving the ED within four hours at a hospital varies with:

- Urgency of cases
- Number of patients admitted or transferred to another hospital
- Volume 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 tend to have poorer performance.

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 have patients leaving the ED within four hours.

Number of patients admitted or transferred to another hospital

[Figure 13](#) shows that most hospitals have patients leaving the ED within four hours 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 the percentage of patients leaving the ED within four hours is likely to be lower. For example [Figure 14](#) shows 92% of triage 1 patients and 65% of triage 2 patients were admitted or transferred to another hospital.

Volume of patients

Our analysis shows that the percentage of patients leaving ED within four hours is also related to volume of patients. Hospitals from peer group A (large metropolitan hospitals) have lower performance when compared with C peer group (smaller 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 15](#)) 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 in regards to the percentage of patients leaving the ED within four hours is within peer group. This is because hospitals in the same peer group are likely to have similar factors such as volume and patient type. Even when comparing similar hospitals, there is variation in the proportion of patients leaving within four hours.

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 (local health district (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 largest number of patients (triage 4) in the January to March 2014 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 13 minutes at Royal Prince Alfred Hospital
- The 95th percentile time to start treatment for patients with conditions triaged as **emergency** (triage 2) ranged from 10 minutes at Manning Base and Hornsby Ku-ring-gai Hospitals to 54 minutes at Royal Prince Alfred Hospital
- The median time to start treatment for all patients with conditions triaged as **semi-urgent** (triage 4) ranged from 15 minutes at the Tweed Hospital to 43 minutes at Lismore Base Hospital
- The 95th percentile time to start treatment for patients with conditions triaged as **semi-urgent** (triage 4) ranged from 80 minutes at the Tweed Hospital to 191 minutes at Manning Base 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, 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 January to March 2014 quarter are summarised below:

- The median time to leaving the ED ranged from two hours and four minutes at Tweed Hospital to three hours and 56 minutes at Gosford Hospital
- The 95th percentile time to leaving the ED ranged from six hours and 22 minutes at Manly District Hospital to 20 hours and 20 minutes at Campbelltown Hospital
- The percentage of patients who left the ED within four hours from presentation ranged from 51% at Gosford Hospital to 90% at Auburn 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

Download our reports

The report, *Hospital Quarterly: Performance of NSW public hospitals, January to March 2014* and related reports are available at www.bhi.nsw.gov.au

The suite of products includes:

- Three core modules titled *Admitted Patients*, *Elective Surgery* and *Emergency Departments*
- Appendix tables showing key results by peer group and LHD
- Activity and performance profiles about emergency department care and elective surgery for more than 80 hospitals and NSW as a whole
- Performance dashboards of hospital, LHD and peer group results on the Bureau's new online interactive tool Healthcare Observer at www.bhi.nsw.gov.au/healthcareobserver



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.

To contact the Bureau

Telephone: +61 2 9464 4444

Fax: +61 2 9464 4445

Email: enquiries@bhi.nsw.gov.au

Postal address: PO Box 1770
Chatswood New South Wales 2057
Australia

Web: www.bhi.nsw.gov.au

Copyright Bureau of Health Information 2014

State Health Publication Number: (BHI) 140199
ISSN 1838-3238

Suggested citation: Bureau of Health Information. *Hospital Quarterly: Performance of NSW public hospitals, January to March 2014. Admitted Patients. 4(2)*. Sydney (NSW); 2014.

Published June 2014

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.

Admitted Patients

Hospital Quarterly:

Performance of
NSW public hospitals

January to March 2014

Admitted patients are people who are accepted into hospital to receive care for reasons such as surgery, illness or childbirth. When a person is admitted into 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 requires that they start a second or third episode during the same period of stay in hospital. Examples include a patient who is transferred from acute care to rehabilitation, or a patient who is transferred from one hospital to another.

Information on the number, type and length of episodes allows healthcare professionals to better understand hospital needs.

In the January to March 2014 quarter there were 435,633 admitted patient episodes of care completed, 3% (13,750) more than the same quarter in the previous year.

Same day episodes have increased more than overnight episodes.

The average length of stay (ALOS) for both acute and non-acute episodes has had a minimal decrease (0.1 days) since the same quarter last year. This reflects the higher proportion of same day episodes. Overnight acute ALOS is unchanged at 4.9 days.

Information at the hospital, LHD and peer group level from this issue of Hospital Quarterly will also be available for viewing and downloading on the Bureau's new online interactive tool Healthcare Observer. Visit www.bhi.nsw.gov.au/healthcareobserver

During the quarter	Jan-Mar 2013	Jan-Mar 2014	The difference
All admitted patient episodes	421,883	435,633	13,750 (3%)
All acute	406,272	419,335	13,063 (3%)
Overnight	223,606	226,742	3,136 (1%)
Sameday	182,666	192,593	9,927 (5%)
Newborn	17,807	18,092	285 (2%)
Average length of stay (days)			
Acute	3.2	3.1	-0.1 (-3%)
Acute overnight	4.9	4.9	no difference
Non-acute	15.1	15.0	-0.1 (-1%)

What's in this module

This module includes information on:

- The volume and average length of stay associated with admitted patient acute episodes that were completed within the reference period
- The number of babies born is also reported
- The volume, average length of stay and bed days for non-acute episodes of patient care
- Trends in the ALOS and bed days
- A graphic representation of the variation in ALOS for acute overnight episodes of care for each hospital peer group
- Percentages of same day and overnight episodes that are planned and unplanned

Which patients are included in this report

The group of patients reported in the admitted patient module includes individuals admitted to:

- Public hospitals
- Privately managed hospitals contracted to supply services for public patients
- Public multi-purpose services
- Public psychiatric hospitals

Excluded from this module are:

- Non-admitted patients, including community residential care and residential aged care covered by Commonwealth block funding
- Organ donors – posthumously admitted
- Hospital boarders who are not admitted, such as relatives of patients
- Newborn babies who are aged 9 days or less at the time of admission and who only require newborn care and/or accommodation

How many patients are admitted to hospitals

Of the 435,633 episodes of care completed in the January to March 2014 quarter, 96% (419,335) were recorded as acute care.

The remaining 16,298 episodes were for patients admitted for non-acute care. Non-acute care includes rehabilitation, palliative care and “other” non-acute care.

The number of acute care episodes increased by 3% compared to the same quarter in the previous year. Non-acute episodes increased by 4%.

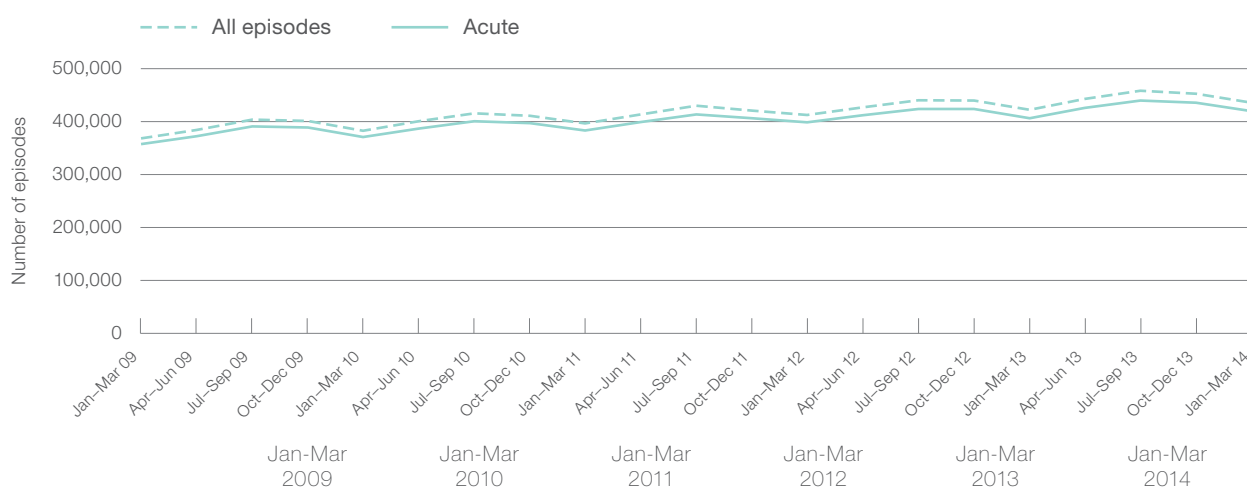
Over the past five years, although there are seasonal fluctuations, there has still been a gradual increase of episodes over time.

The number of babies born in the quarter (18,092) is 1.6% higher than the same period in the previous year.

Figure 1: Number of acute and non-acute episodes completed January to March 2014 by care type



Figure 2: Number of total and acute episodes completed January 2009 to March 2014



Total episodes	367,899	382,439	396,276	412,318	421,883	435,633
Acute episodes	357,491	370,879	383,118	398,338	406,272	419,335
Babies born	17,428	17,413	17,899	18,217	17,807	18,092

Note: Non-acute episodes involve patients hospitalised for rehabilitation, palliative care and ‘other’ non-acute reasons such as hostel accommodation, and geriatric evaluation and maintenance. These are sometimes referred to as sub-acute care.

Source: NSW Health, Health Information Exchange, Admitted Patient Data Collection. Data extracted on 15 April 2014.

How many acute episodes are same day and overnight

Admitted patient episodes can be either 'planned' (arranged in advance) or 'unplanned/other' (which include emergency admissions or unplanned surgical patients). With regard to acute care episodes during the January to March 2014 quarter:

- 174,303 (42%) were planned,
- 245,032 (58%) were unplanned,
- 226,742 (54%) were overnight and
- 192,593 (46%) were same day.

Figure 3 shows that the majority of same day episodes were planned. Conversely the majority of overnight episodes were unplanned.

Figure 4 shows that the number of same day and overnight episodes have increased over the five year period.

The number of same day episodes has increased by a greater amount (23%) than overnight episodes (13%) compared to five years ago.

Figure 3: Sameday/overnight acute episodes by percentage planned/unplanned, January to March 2014

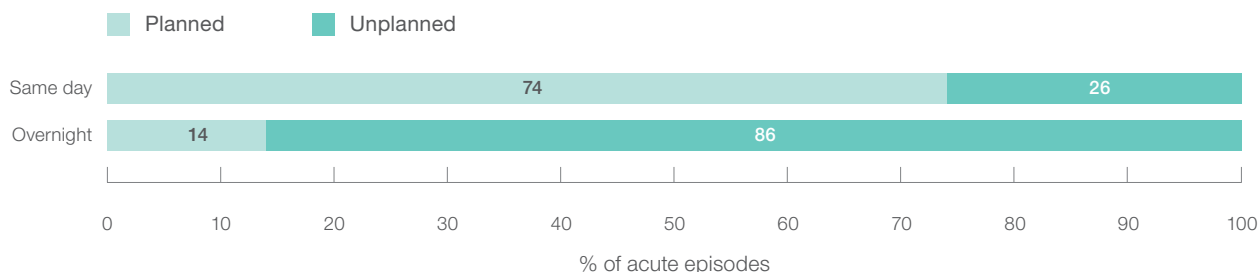
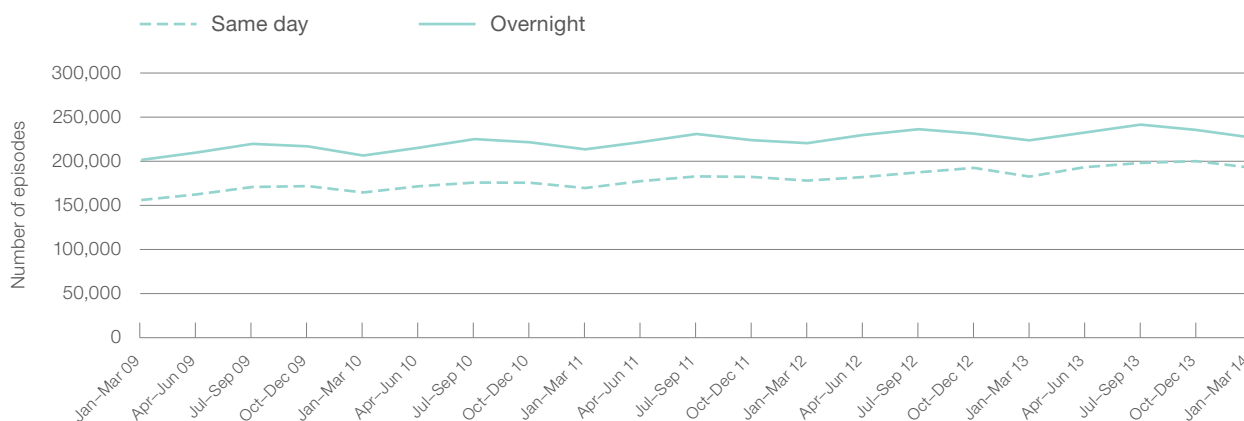


Figure 4: Same day and overnight patient episodes completed each quarter January 2009 to March 2014



Source: NSW Health, Health Information Exchange, Admitted Patient Data Collection. Data extracted on 15 April 2014.

How long did people spend in hospital

The length of time a patient stays in hospital is a reflection of both the treatment needs of a patient and the efficiency and effectiveness of the treatment provided.

The average length of stay for a patient varies depending on whether the episode is for acute or non-acute care. This is because acute episodes tend to be for an immediate treatment or surgery that is usually completed in a short period of time. A non-acute episode usually involves treatment or care over a longer term. A typical non-acute episode might involve rehabilitation following surgery for a fractured hip.

Another example might be palliative care for patients with a terminal illness.

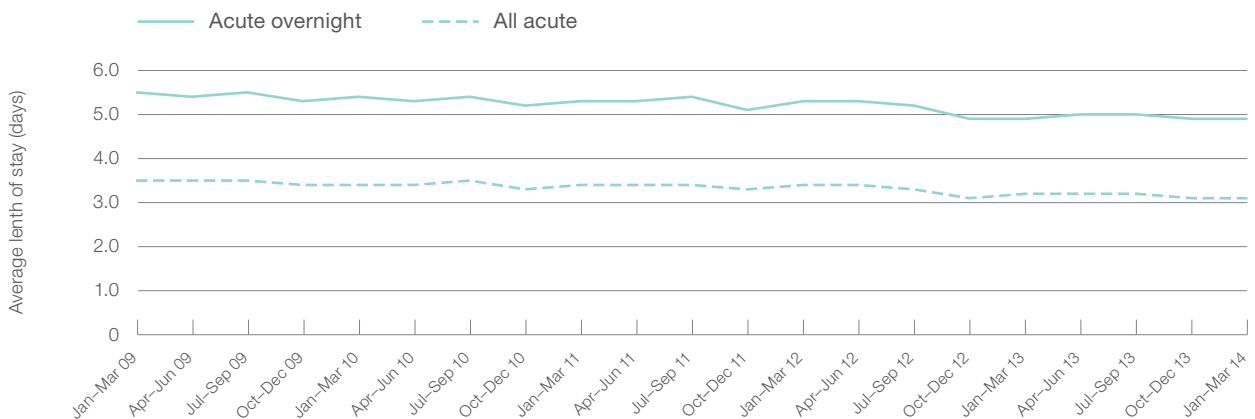
The ALOS for all patient episodes completed during the quarter was 3.5 days. Over the five year period ALOS for all acute and overnight acute episodes have decreased by 0.4 days and 0.6 days respectively.

The average length of stay for an acute patient episode of care has decreased over the previous five years.

Figure 5: Average length of stay for acute, overnight acute and non-acute episodes completed, January to March 2014



Figure 6: Average length of stay for all acute and acute overnight episodes completed, January 2009 to March 2014



Source: NSW Health, Health Information Exchange, Admitted Patient Data Collection. Data extracted on 15 April 2014.

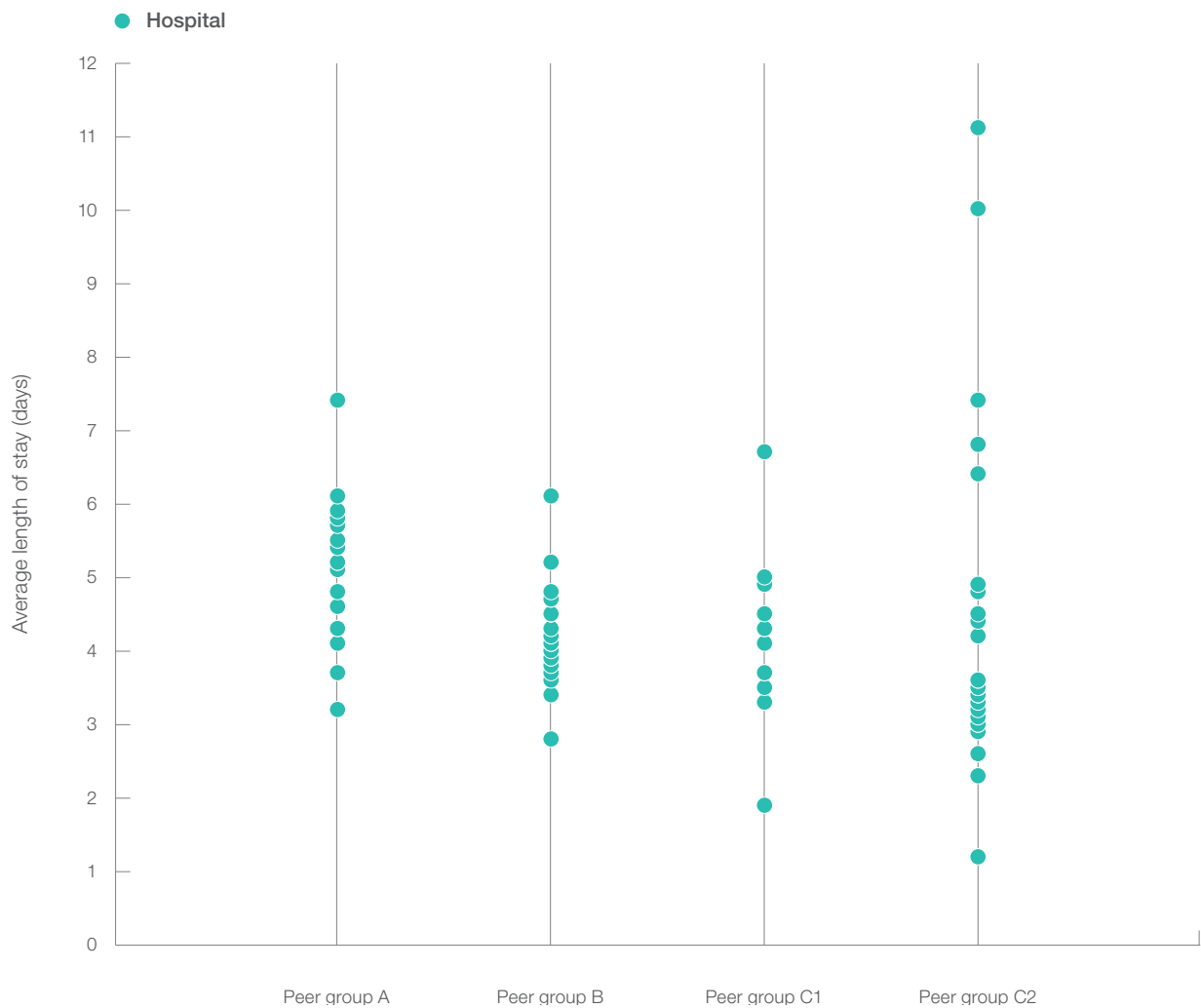
What is the variation in length of stay among hospitals

Figure 7 shows the variation in the ALOS related to acute overnight episodes of care for NSW hospitals within peer groups A, B, C1 and C2. Among peer group A (tertiary referral) hospitals the ALOS varies between 3.2 and 7.4 days. The ALOS among peer group B (major) hospitals

varies between 2.8 and 6.1 days. Peer group C1 (district) hospitals show variations in their ALOS of between 1.9 and 6.7 days.

Peer group C2 (smaller district) hospitals have the greatest variation in ALOS – 1.2 to 11.1 days.

Figure 7: Average length of stay for all completed acute overnight episodes by peer group January to March 2014



Source: NSW Health, Health Information Exchange, Admitted Patient Data Collection. Data extracted on 15 April 2014.
 Note: ALOS is calculated by using the total bed days for all episodes that ended in the quarter. Variation in the mix of services provided by a hospital can influence the ALOS.

How many beds are utilised

Bed days are the number of days a person occupies a hospital bed within a specified time period. This is an important measure of hospital utilisation, patient demand and service provision.

For patient episodes completed during January to March 2014 there was a total of 1,537,437 hospital bed days, a 1% increase on the number in the same quarter in the previous year (1,518,861).

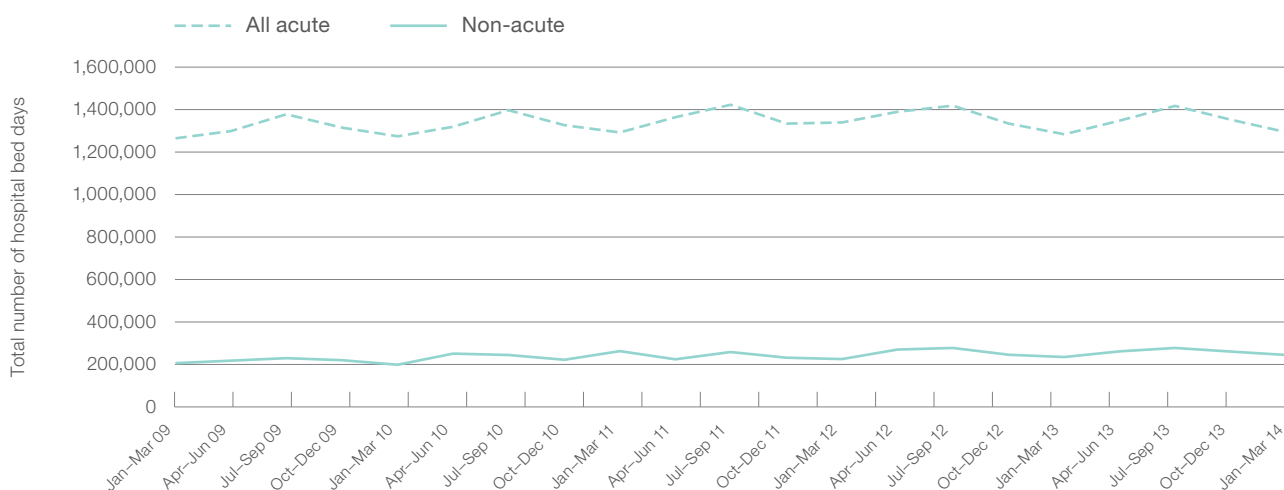
The number of acute bed days was 1,292,773, an increase of 1% from the same quarter in the previous year (1,283,448). The number of non-acute bed days was 244,664, an increase of 4% from the same quarter in the previous year (235,413).

Over the previous five year period the number of bed days for acute episodes has fluctuated seasonally but remained relatively stable. The number of non-acute bed days has increased by 19% over this period.

Figure 8: Total number of hospital bed days for January to March 2014



Figure 9: Total number of bed days for each quarter, January 2009 to March 2014



Note: Bed days are calculated for all episodes completed during the reference period.

Source: NSW Health, Health Information Exchange, Admitted Patient Data Collection. Data extracted on 15 April 2014.

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

Download our reports

The report, *Hospital Quarterly: Performance of NSW public hospitals, January to March 2014* and related reports are available at www.bhi.nsw.gov.au

The suite of products includes:

- Three core modules titled *Admitted Patients*, *Elective Surgery* and *Emergency Departments*
- Appendix tables showing key results by peer group and LHD
- Activity and performance profiles about emergency department care and elective surgery for more than 80 hospitals and NSW as a whole
- Performance dashboards of hospital, LHD and peer group results on the Bureau's new online interactive tool Healthcare Observer at www.bhi.nsw.gov.au/healthcareobserver



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.

To contact the Bureau

Telephone: +61 2 8644 2100

Fax: +61 2 8644 2119

Email: enquiries@bhi.nsw.gov.au

Postal address: PO Box 1770
Chatswood New South Wales 2057
Australia

Web: www.bhi.nsw.gov.au

Copyright Bureau of Health Information 2014

State Health Publication Number: (BHI) 140199
ISSN 1838-3238

Suggested citation: Bureau of Health Information. *Hospital Quarterly: Performance of NSW public hospitals, January to March 2014. Admitted Patients. 4(2)*. Sydney (NSW); 2014.

Published June 2014

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.

Elective Surgery

Hospital Quarterly:

Performance of
NSW public hospitals

January to March 2014

Elective surgery, often called planned surgery, is surgery that a doctor considers necessary but 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 (see page 2 for a description of these categories).

There were 49,486 elective surgical procedures performed in January to March 2014, three per cent more than the number conducted in the same quarter one year ago.

Compared with the same quarter last year, the volume of non-urgent surgery increased by five per cent, semi-urgent increased by three per cent and urgent increased by one per cent.

Most patients (97%) received their surgery on time in NSW. This is unchanged from the previous quarter (October–December 2013), but an improvement of two percentage points from the same quarter last year. The percentage point increases in patients receiving surgery by category is shown in the table below.

This edition again includes analyses of the differences between NSW hospitals in terms of important factors that can influence a patient's time spent on the waiting list in each category.

Information at the hospital, LHD and peer group level from this issue of Hospital Quarterly will also be available for viewing and downloading on the Bureau's new online interactive tool Healthcare Observer. Visit www.bhi.nsw.gov.au/healthcareobserver

During the quarter	Jan–Mar 2013	Jan–Mar 2014	The difference
Elective surgical procedures performed	48,009 procedures	49,486 procedures	1,477 procedures (+3%)
Elective surgery patients treated on time	95%	97%	+2 percentage points
Urgent elective surgery patients treated on time	99%	100%	+1 percentage points
Semi-urgent elective surgery patients treated on time	94%	97%	+3 percentage points
Non-urgent elective surgery patients treated on time	94%	96%	+2 percentage points

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 (eg, 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 (eg, colposcopy, amputation of digit)	Admission within 90 days desirable for a condition not likely to deteriorate quickly
Category 3 Non-urgent (eg, septoplasty)	Admission within 365 days acceptable for a condition not likely 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, January to March 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.

In this Report

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 timeframe.

As in the previous issue of *Hospital Quarterly*, the Bureau presents 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.

These analyses are for patients who received their surgery in the January to March 2014 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:

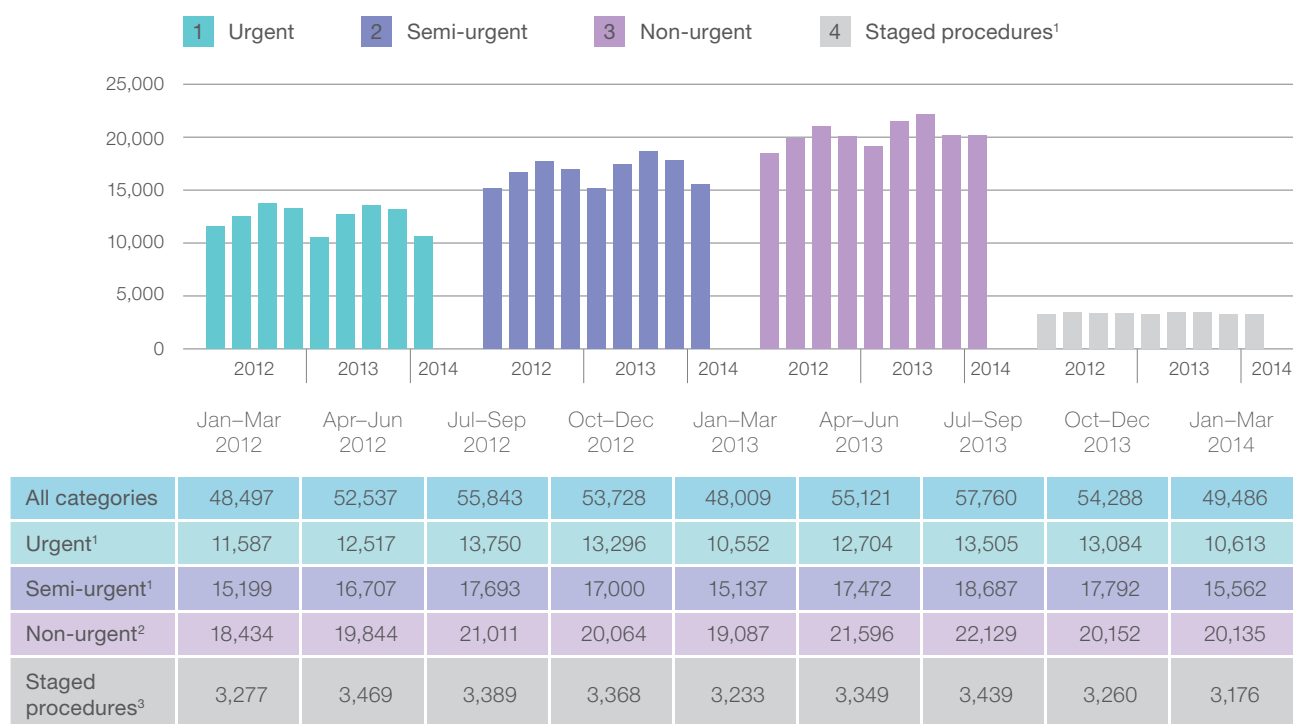
Group	Name	Description
A1	Principal referral	Very large hospitals providing a broad range of services, including specialised units at a state or national level.
A2	Paediatric specialist	Specialist hospitals for children and young people.
A3	Ungrouped acute – tertiary referral	Major specialist hospitals 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 January to March 2014, the Waiting List Collection On-line System (WLCOS) recorded that 49,486 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 9% lower than the number conducted in the previous quarter and 3% higher than the 48,009 surgical procedures completed in the same quarter last year (Figure 1).

Figure 1: Total number of elective surgery procedures conducted, by urgency category, January 2012 to March 2014



1. Including non-urgent cystoscopy.

Source: NSW Health, *Waiting List Collection On-line System*. Data for July 2013 to March 2014 extracted on 22 April 2014. Data for January 2013 to June 2013 extracted on 16 March 2014. Data for all quarters from January 2012 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 October 2011.

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).

Composition of surgery

Urgent surgery: There were 10,613 procedures completed, up 1% compared with one year ago. Urgent procedures made up 21% of all completed elective surgery.

Semi-urgent surgery: There were 15,562 procedures completed, up 3% compared with one year ago. Semi-urgent procedures made up 31% of all completed elective surgery.

Non-urgent surgery: There were 20,135 procedures completed, up 5% compared with one year ago. Non-urgent procedures made up 41% of all completed elective surgery.

Staged surgery: There were 3,176 procedures, down 2% compared with one year ago. Staged procedures made up 6% of all completed elective surgery.

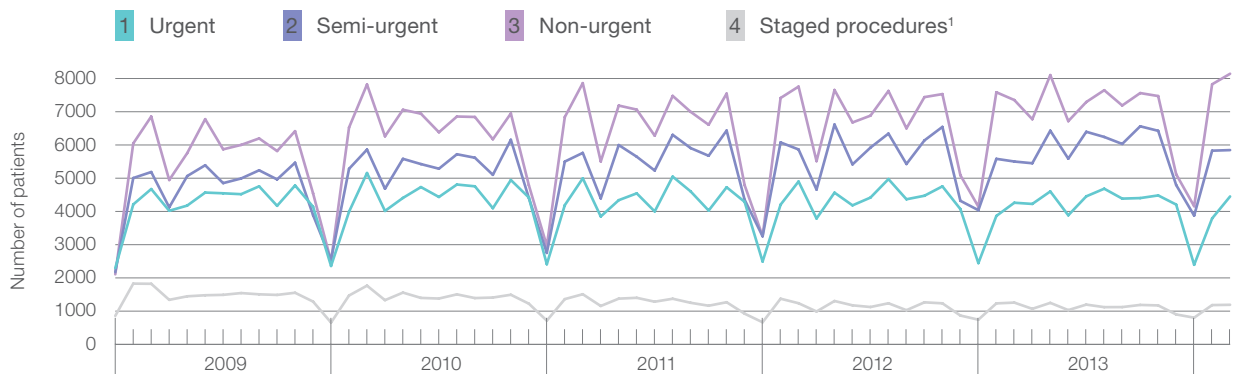
Change over five years

The composition of surgical procedures completed by urgency category has changed over the past five years (Figure 2), with this change mainly driven by the number of semi-urgent and non-urgent surgeries.

During the past five years there has been an overall increase in the number of procedures performed. Proportionally, there has been a downward trend in procedures in the urgent category and an upward trend in the semi and non-urgent categories.

The proportion of non-urgent surgery has increased over the past five years. 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, January 2009 to March 2014



1. Including non-urgent cystoscopy.

Source: NSW Health, *Waiting List Collection On-line System*. Data for January to March 2014 extracted on 22 April 2014. Data for January 2013 to June 2013 extracted on 16 March 2014. Data for all quarters from January 2012 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 October 2011.

Patients admitted on time for elective surgery

Of all patients who were admitted to a public hospital for elective surgery, 97% were admitted within the timeframe recommended by their surgeon (Figure 3). This remains unchanged from the preceding quarter and up two percentage points from the same quarter in 2013 (95%).

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

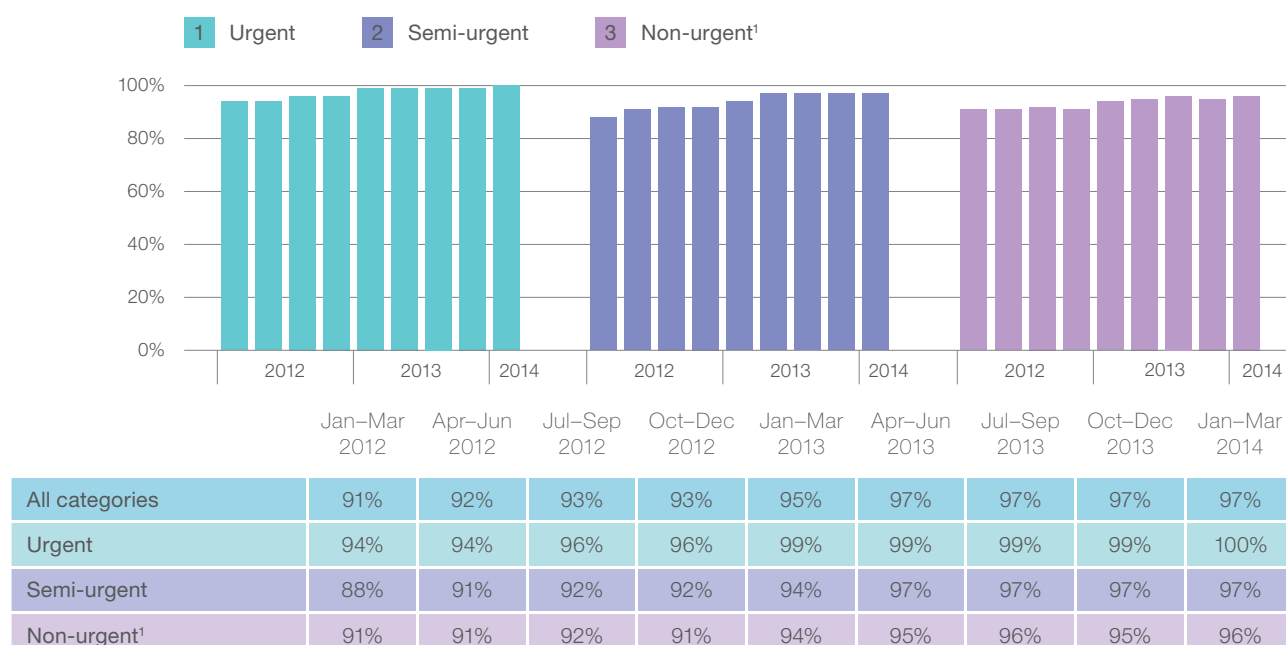
Urgent surgery: 100% of patients were admitted within the recommended 30 days, up one percentage point from last quarter and the same quarter in 2013.

Semi-urgent surgery: 97% of patients were admitted within 90 days, unchanged from last quarter and up three percentage points compared with the same quarter in 2013.

Non-urgent surgery: 96% of patients were admitted within 365 days, an increase of one percentage point from last quarter and an increase of two percentage points compared with the same quarter in 2013.

There has been a noticeable increase in the proportion of surgeries completed on time across all urgency categories over the past two years.

Figure 3: Percentage of elective surgery patients treated within recommended waiting time, by urgency category, January 2012 to March 2014



1. Excluding non-urgent cystoscopy.

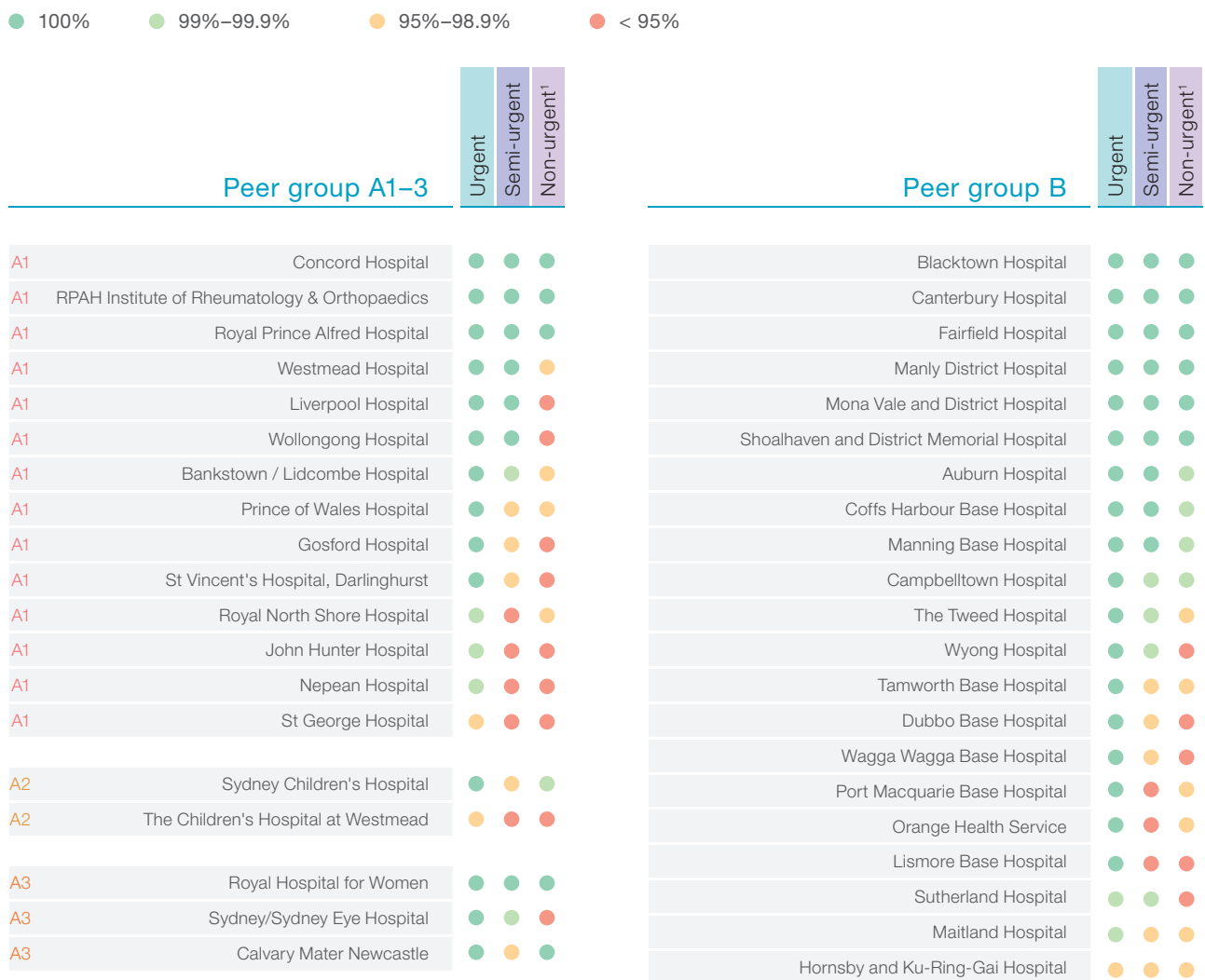
Source: NSW Health, *Waiting List Collection On-line System*. Data for July 2013 to March 2014 extracted on 22 April 2014. Data for January 2013 to June 2013 extracted on 16 March 2014. Data for all quarters from January 2012 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 October 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 and are sorted by peer group. They highlight differences in the per cent 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.

10 hospitals from peer group C2 are treating all of their patients within the recommended waiting times across all urgency categories.

Figure 4: Percentage of elective surgery patients treated within recommended waiting time, by urgency category and peer group January to March 2014

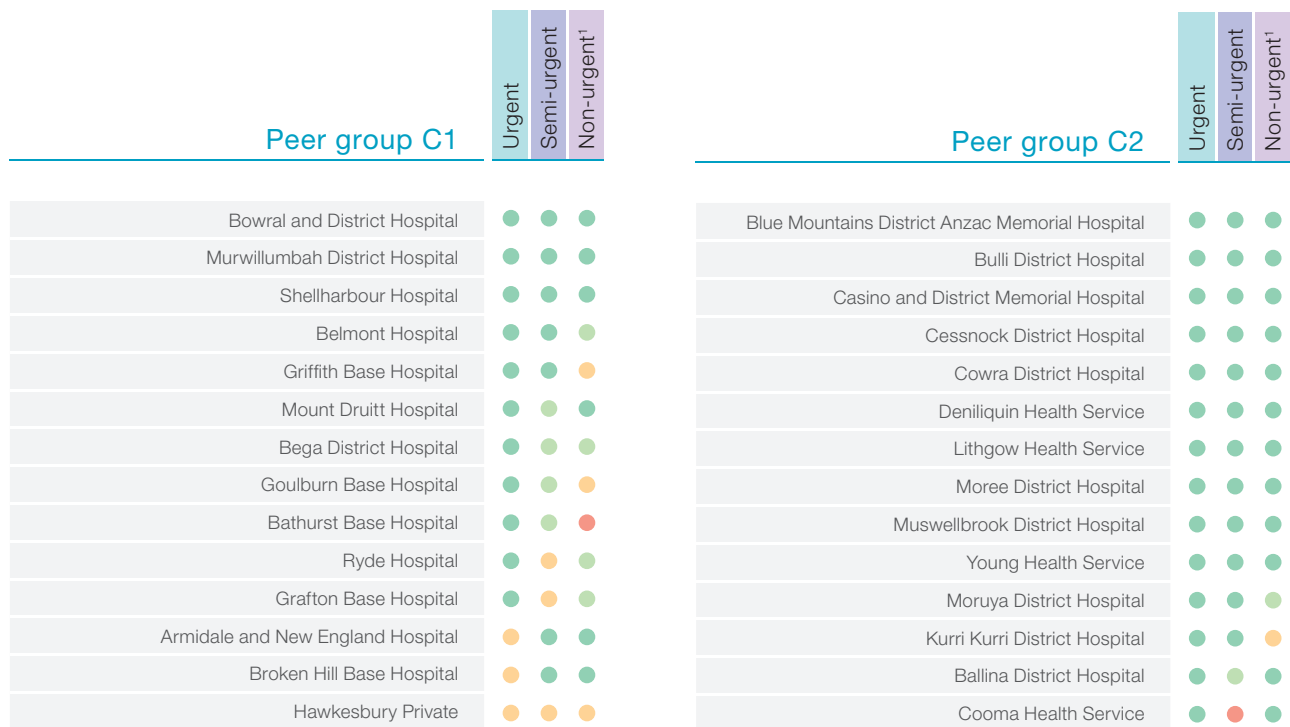


1. Excluding non-urgent cystoscopy.

Source: NSW Health, *Waiting List Collection On-line System*. Data for January to March 2014 extracted on 22 April 2014.

Figure 4: Percentage of elective surgery patients treated within recommended waiting time, by urgency category and peer group January to March 2014.

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



1. Excluding non-urgent cystoscopy.

Source: NSW Health, *Waiting List Collection On-line System*. Data for January to March 2014 extracted on 22 April 2014.

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 each urgency category

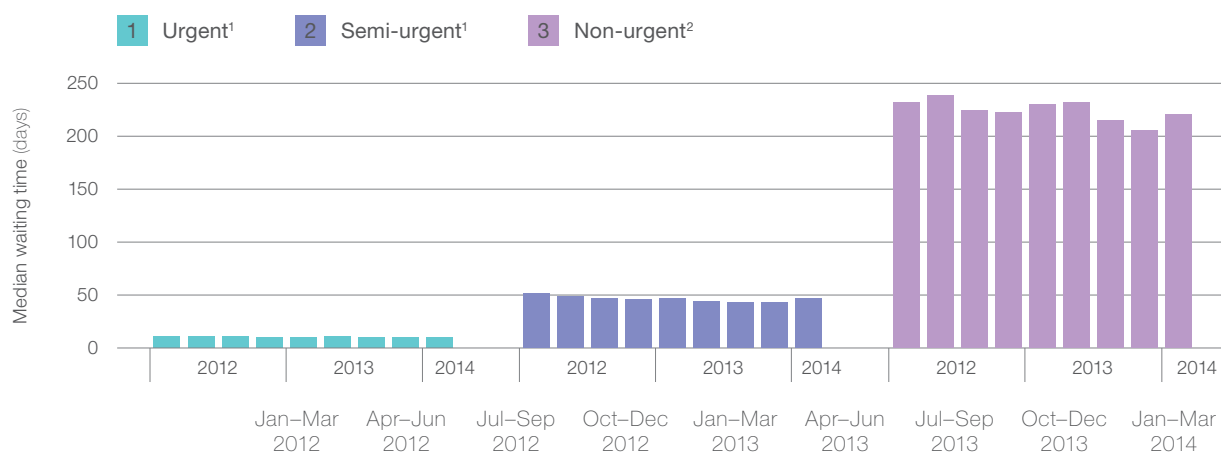
Urgent surgery: The median wait was 10 days – largely unchanged over the past two years.

Semi-urgent surgery: The median wait time for this category was 47 days, unchanged from the same quarter in 2013 and four days less than the same quarter in 2012 (51 days).

Non-urgent surgery: The median wait time for this category was 220 days, 10 days less than the same quarter in 2013 (230 days), and 12 days less than in 2012.

Semi-urgent and especially non-urgent surgery median wait times show variation between quarters, with January to March generally higher than October to December.

Figure 5: NSW elective surgery median waiting time (days), by urgency category, January 2012 to March 2014



Urgency Category	2012 (Jan-Mar)	2012 (Apr-Jun)	2012 (Jul-Sep)	2012 (Oct-Dec)	2013 (Jan-Mar)	2013 (Apr-Jun)	2013 (Jul-Sep)	2013 (Oct-Dec)	2014 (Jan-Mar)
Urgent ¹	11	11	11	10	10	11	10	10	10
Semi-urgent ¹	51	49	47	46	47	44	43	43	47
Non-urgent ²	232	238	224	222	230	232	215	205	220

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 July 2013 to March 2014 extracted on 22 April 2014. Data for January 2013 to June 2013 extracted on 16 March 2014. Data for all quarters from January 2012 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 October 2011.

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

Figures 6 a, b and c present the median waiting times at hospitals by total number of procedures and stratified by peer group.

It can be seen that smaller hospitals (peer groups C1 and C2) perform a lower number of procedures, and therefore cluster closer to the origin of the x axis.

Peer group A hospitals generally perform a higher number of procedures and so are more dispersed towards the right hand side of the graph. Figures 6 a, b and c show variation in waiting times within peer groups. There is little or no evident relationship between number of procedures and median waiting times within urgency groups.

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).

In addition, the Bureau investigated associations of urgency mix between the 90th percentile wait times and found no association (data not shown).

This analysis reveals 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, January to March 2014

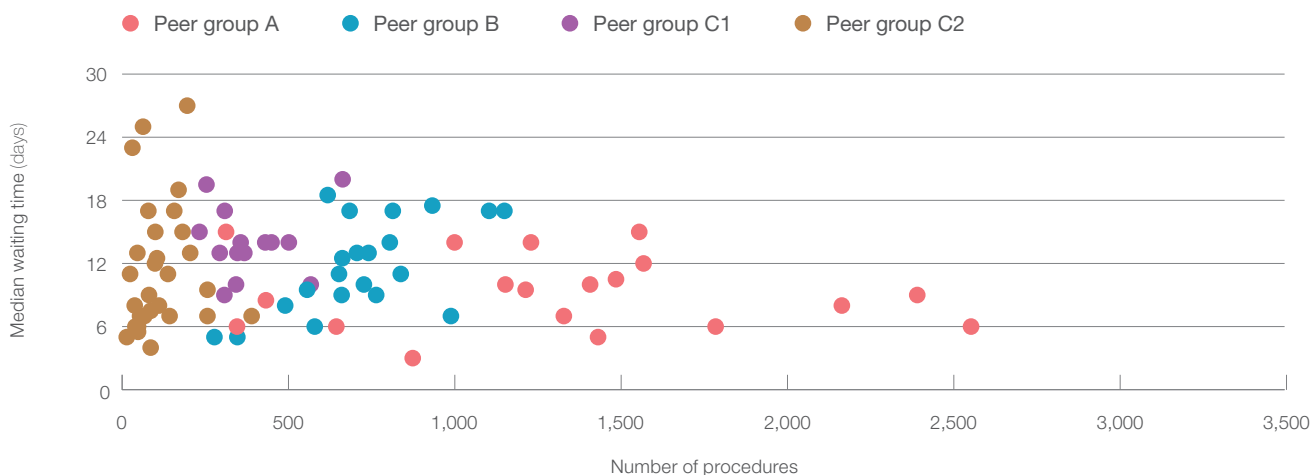


Figure 6b: Semi-urgent: NSW elective surgery median waiting time by peer group, January to March 2014

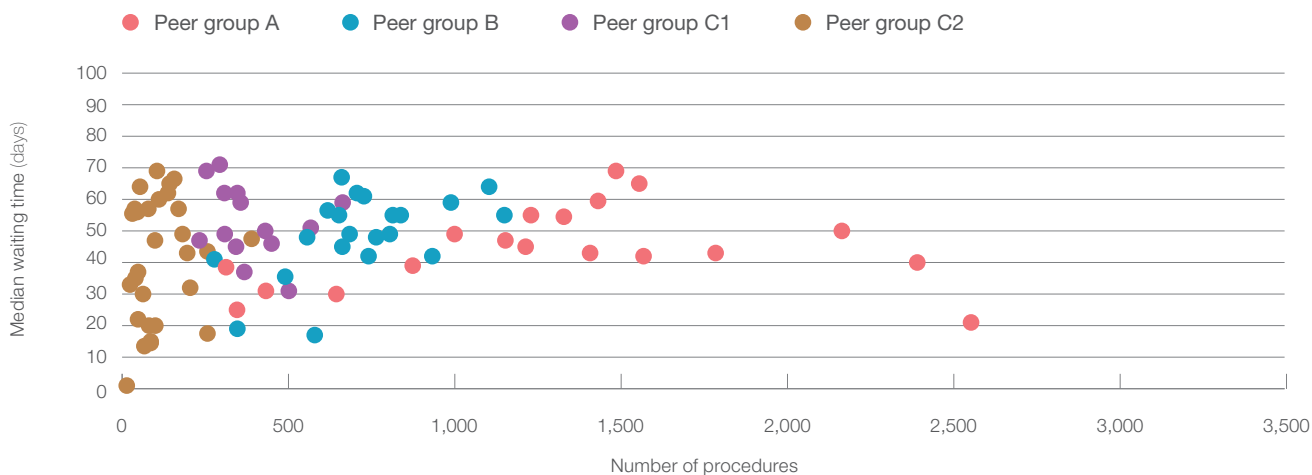
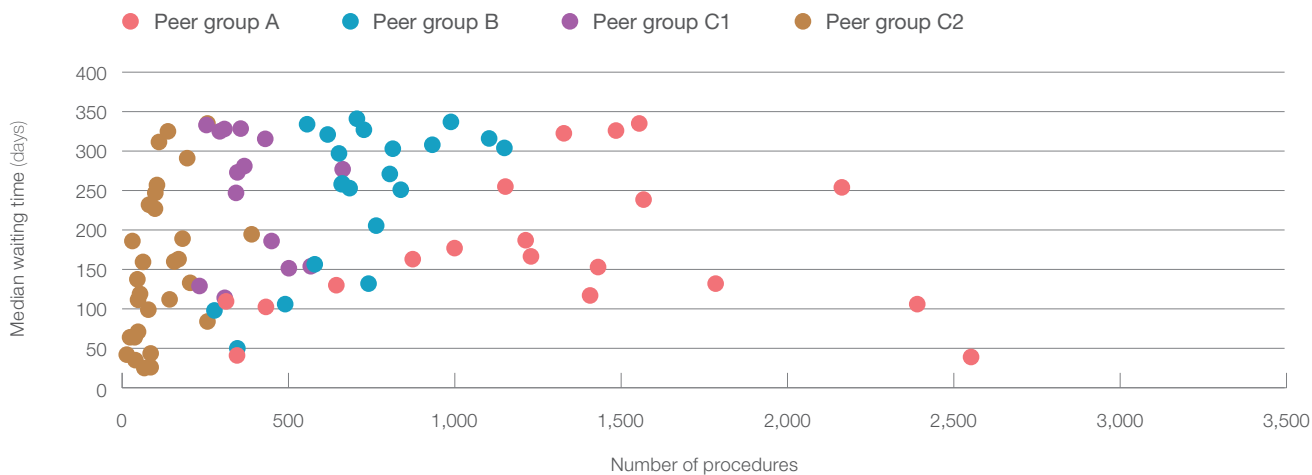


Figure 6c: Non-urgent!: NSW elective surgery median waiting time by peer group, January to March 2014



1. Excluding non-urgent cystoscopy.

Source: NSW Health, *Waiting List Collection On-line System*. Data for July to March 2014 extracted on 22 April 2014.

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 wait time to be admitted for surgery for the last nine quarters. These results exclude staged patients and non-urgent cystoscopy procedures.

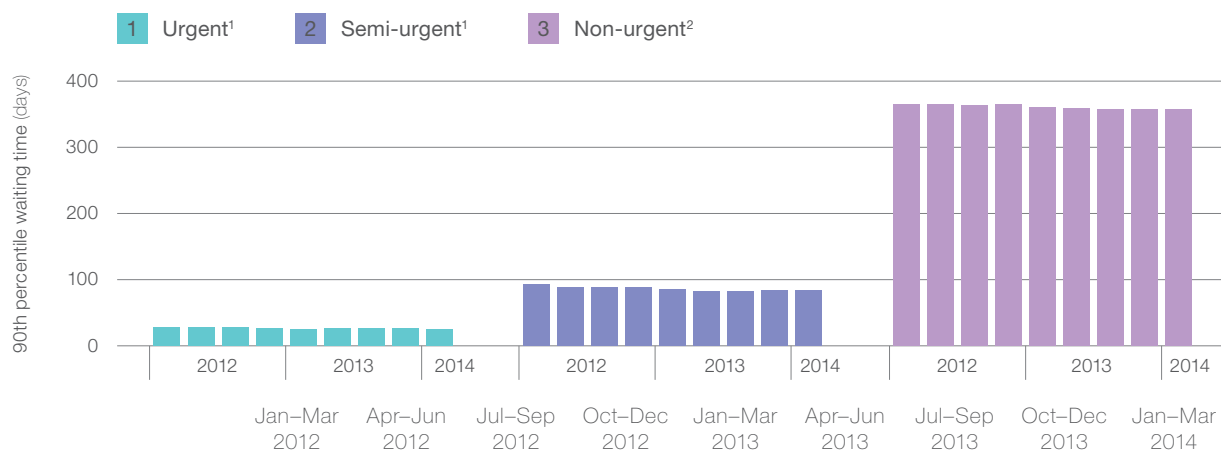
Urgent surgery: The 90th percentile wait was 25 days, no different from the same quarter last year and three days less than the same quarter two years ago.

Semi-urgent surgery: The 90th percentile wait time for this category was 84 days, two days less than the same quarter in 2013 and nine days less than the same quarter in 2012.

Non-urgent surgery: The 90th percentile wait time for this category was 357 days, four days less than the same quarter in 2013 and eight days less than the same quarter in 2012.

There is a slightly downward trend in all three categories over the past two years in the time taken for the majority of patients to have received their surgery.

Figure 7: NSW elective surgery 90th percentile waiting time (days), by urgency category, January 2012 to March 2014



Urgency Category	Jan-Mar 2012	Apr-Jun 2012	Jul-Sep 2012	Oct-Dec 2012	Jan-Mar 2013	Apr-Jun 2013	Jul-Sep 2013	Oct-Dec 2013	Jan-Mar 2014
Urgent ¹	28	28	28	27	25	26	26	26	25
Semi-urgent ¹	93	89	88	88	86	82	83	84	84
Non-urgent ²	365	364	363	364	361	359	357	357	357

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 July 2013 to March 2014 extracted on 22 April 2014. Data for January 2013 to June 2013 extracted on 16 March 2014. Data for all quarters from January 2012 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 October 2011.

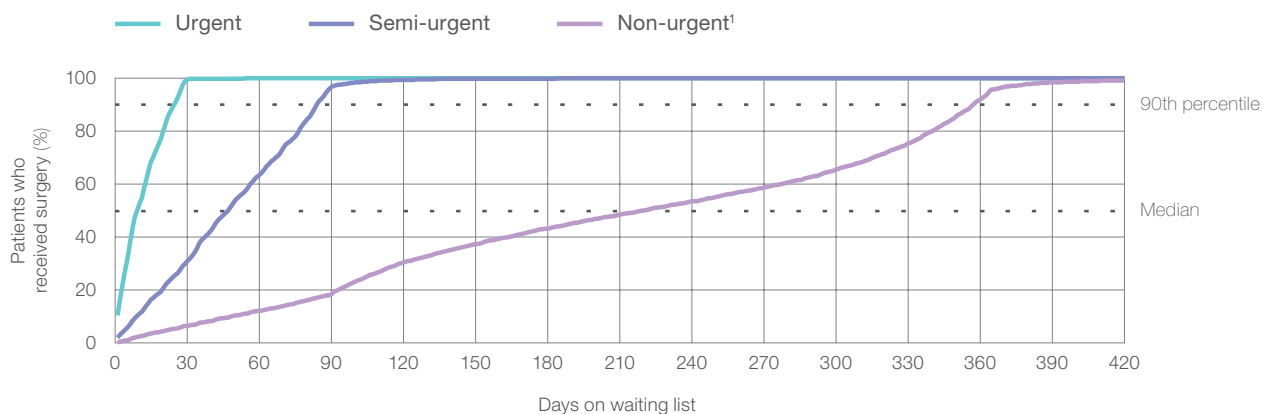
Cumulative wait time

The cumulative percentage of patients who received elective surgery by times presented in **Figure 8** 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 are admitted more rapidly with almost all patients admitted for surgery within 25 days. Non-urgent patients are admitted less rapidly with almost all patients admitted within 357 days.

Figure 8: Cumulative percentage of patients who received elective surgery, by waiting time (days), January to March 2014



1. Excluding 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 for July to March 2014 extracted on 22 April 2014.

Variation between hospitals within a peer group

Figure 9 presents the 90th percentile waiting times 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:

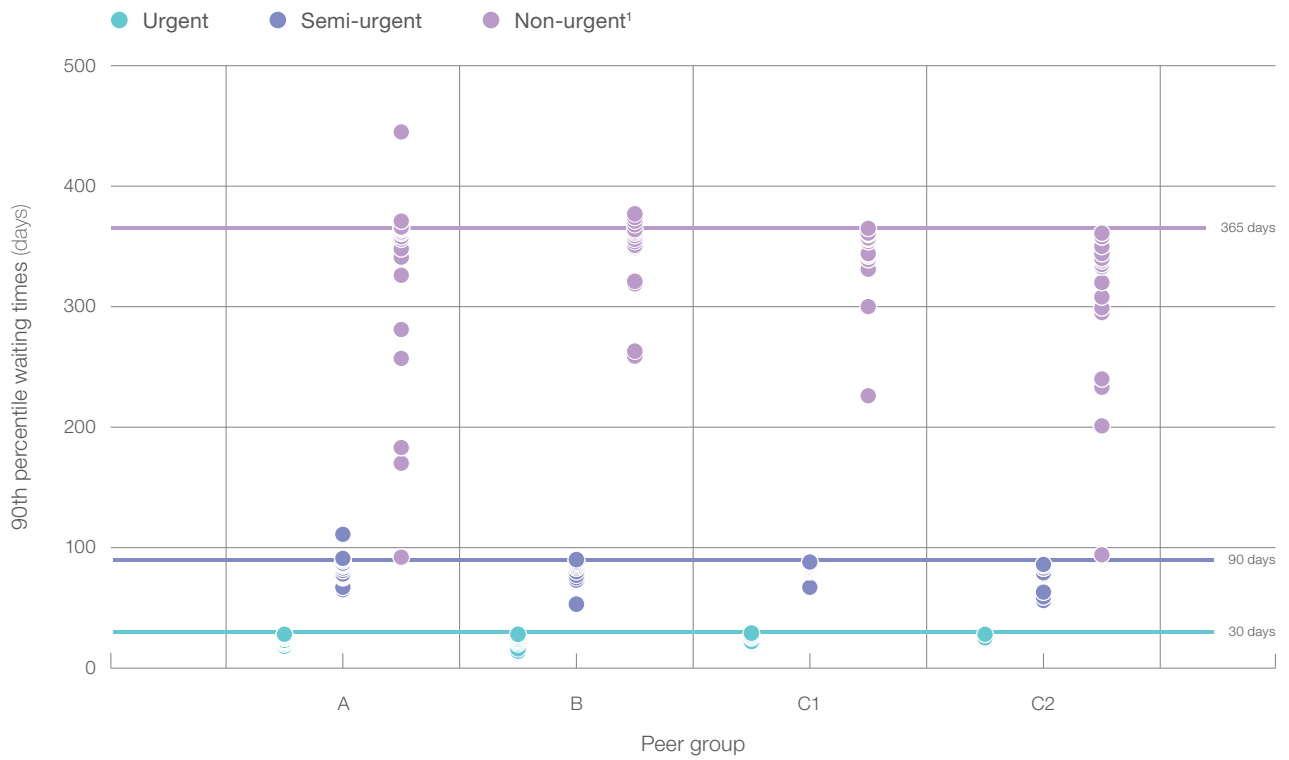
- 92 to 445 days for peer group A
- 259 to 377 days for peer group B
- 226 to 365 days for peer group C1
- 94 to 361 days for peer group C2.

Peer group A had the longest and shortest 90th percentile waiting times of non-urgent surgery

Seven hospitals had 90th percentiles greater than the recommended maximum waiting time of one year. These were in peer groups A and B.

While most hospitals in each peer group have similar 90th percentiles times for non-urgent elective surgery, each peer group has some hospitals showing particularly short waiting times.

Figure 9: NSW elective surgery 90th percentile waiting time (days) by peer group and urgency category, January to March 2014



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 July 2013 to March 2014 extracted on 22 April 2014.

Median waiting times by specialty

Figure 10 presents the number of patients and median waiting times for 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.

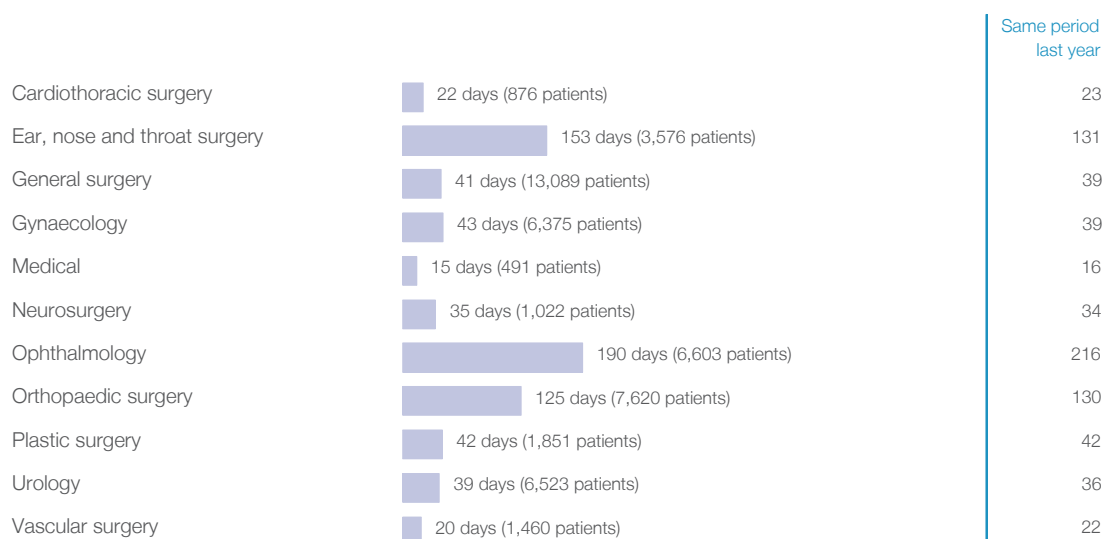
Ophthalmology (190 days), ear, nose and throat surgery (153 days) and orthopaedic surgery (125 days) were the surgical specialties with the longest median waiting times in January to March 2014. These specialties also had the longest median waiting times in the same quarter last year.

Cardio-thoracic surgery (22 days), vascular surgery (20 days) and medical ² (15 days) had the shortest median waiting times. These specialties also had the shortest median waiting times in the same quarter last year.

General surgery (13,089 patients), orthopaedic surgery (7,620 patients) and ophthalmology (6,603 patients) were the surgical specialties with the highest number of patients receiving elective surgery in the January to March 2014 quarter.

Cardio-thoracic surgery (876 patients) and medical ² (491 patients) had the lowest number of patients receiving elective surgery.

Figure 10: Median¹ waiting time (days) for patients who received elective surgery, by specialty, January to March 2014



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 July 2013 to March 2014 extracted on 22 April 2014. Data for January 2013 to June 2013 extracted on 16 March 2014. Data for all quarters from January 2012 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 October 2011.

Median waiting times by common procedures

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

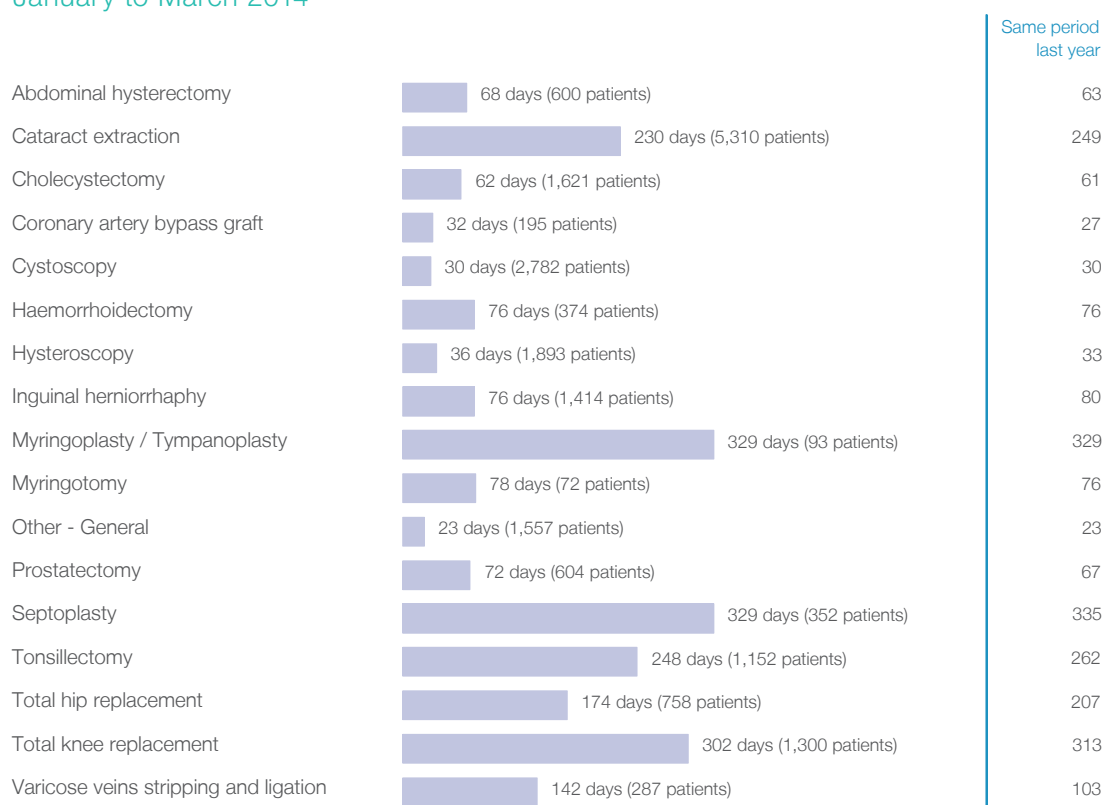
The procedures with the longest median waiting times in the January to March 2014 quarter were septoplasty (329 days) and myringoplasty / tympanoplasty (329 days), total knee replacement (302 days). The procedures with the shortest median waiting times were coronary artery bypass graft (32 days), other – general (23 days), cystoscopy (30 days) and hysteroscopy (36 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 (5,310 patients) performed in the January to March 2014 quarter.

Different waiting times for different procedures is related to their relative urgency eg coronary artery bypass graft (complex heart surgery) is generally considered urgent and has a shorter waiting time than cataract extraction. Urgency category for each patient is determined by their surgeon.

Figure 11: Median¹ waiting time (days) for patients who received elective surgery, by procedure,² January to March 2014



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 July 2013 to March 2014 extracted on 22 April 2014. Data for January 2013 to June 2013 extracted on 16 March 2014. Data for all quarters from January 2012 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 October 2011.

Elective surgery waiting list

The following three pages are about patients who are still on the elective surgery waiting list waiting for surgery.

During the quarter, patients were added to and removed from the waiting list. Patients are 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 January to March 2014 quarter, there were 72,155 patients waiting for elective surgery, which is 4% more than the same quarter

last year (Figure 12). A breakdown of patients waiting for elective surgery by urgency category shows that 81% were assigned as non-urgent, 16% as semi-urgent and 3% as urgent. The number of patients waiting for urgent surgery stayed the same, semi-urgent increased by 6% and non-urgent increased by 4% (Figure 13).

As at 31 March 2014, there were 12,232 patients not ready for surgery on the waiting list, up 5% compared with the same quarter last year (Figure 12).

Figure 12: Elective surgery waiting list, January to March 2014

	Same period last year	Change since one year ago
Patients ready for surgery on waiting list at start of quarter:	69,564	0%
Patients ready for surgery on waiting list at end of quarter:	72,155	4%
Patients not ready for surgery ³ on waiting list at end of quarter:	11,643	5%

Figure 13: Elective surgery waiting list, as at 31 March 2014

Patients ready for surgery on waiting list by urgency category: 72,155 patients		Same period last year	Change since one year ago
1 Urgent ¹	1,978 (3%)	1,974	0%
2 Semi-urgent ¹	11,555 (16%)	10,905	6%
3 Non-urgent ²	58,622 (81%)	56,415	4%

1. Excluding staged procedures.
 2. Excluding staged procedures and non-urgent cystoscopy.
 3. 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 July 2013 to March 2014 extracted on 22 April 2014. Data for January 2013 to June 2013 extracted on 16 March 2014. Data for all quarters from January 2012 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 October 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 time a patient waited for the initial appointment with the specialist is not included in the time the patient spent on the waiting list.

Orthopaedic surgery (18,086 patients) and ophthalmology (16,133 patients) were the surgical specialties with the highest number of patients waiting for surgery as at 31 March 2014.

Cardio-thoracic surgery (412 patients) and medical (247 patients) had the lowest number of patients waiting for elective surgery.

Orthopaedic surgery (149 patients) and general surgery (89 patients) were the surgical specialties with the highest number of patients waiting more than 12 months as at 31 March 2014. Cardio-thoracic surgery, and medical¹ had no patients waiting in NSW more than 12 months.

The number of patients in this quarter waiting more than 12 months for surgery was 426, 44% less than the same quarter last year (755).

Figure 14: Patients waiting for elective surgery and patients waiting more than 12 months, by specialty, as at 31 March 2014

	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	72,155	69,294	4%	426	755
Cardio-thoracic surgery	412	315	31%	0	< 5
Ear, nose and throat surgery	9,536	9,822	-3%	83	292
General surgery	13,218	12,673	4%	89	74
Gynaecology	6,250	5,772	8%	27	24
Medical ¹	247	228	8%	0	< 5
Neurosurgery	1,212	1,145	6%	30	17
Ophthalmology	16,133	15,276	6%	22	58
Orthopaedic surgery	18,086	17,458	4%	149	254
Plastic surgery	2,325	2,297	1%	12	22
Urology	3,810	3,403	12%	9	5
Vascular surgery	926	905	2%	5	5

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

Source: NSW Health, *Waiting List Collection On-line System*. Data for July 2013 to March 2014 extracted on 22 April 2014. Data for January 2013 to June 2013 extracted on 16 March 2014. Data for all quarters from January 2012 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 October 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 procedure with the most patients waiting as at 31 March 2014 (14,176).

The procedures for which the least number of patients were waiting were coronary artery bypass graft (83 patients) and myringotomy (137 patients).

Figure 15: Patients waiting for elective surgery by procedure,¹ as at 31 March 2014

	Patients waiting	Patients waiting (same time last year)	Change since one year ago
Abdominal hysterectomy	705	703	0%
Cataract extraction	14,176	13,381	6%
Cholecystectomy	1,800	1,865	-3%
Coronary artery bypass graft	83	80	4%
Cystoscopy	1,092	1,055	4%
Haemorrhoidectomy	450	330	36%
Hysteroscopy	1,506	1,289	17%
Inguinal herniorrhaphy	2,170	2,195	-1%
Myringoplasty / Tympanoplasty	352	328	7%
Myringotomy	137	160	-14%
Other – General	1,206	1,132	7%
Prostatectomy	676	581	16%
Septoplasty	1,449	1,549	-6%
Tonsillectomy	3,668	3,598	2%
Total hip replacement	2,291	2,013	14%
Total knee replacement	4,961	4,821	3%
Varicose veins stripping and ligation	719	694	4%

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 July 2013 to March 2014 extracted on 22 April 2014. Data for January 2013 to June 2013 extracted on 16 March 2014. Data for all quarters from January 2012 to March 2013 extracted on 17 April 2013. Data for all previous quarters extracted on 15 October 2011.

Conclusions of analysis

97% of all patients received their surgery within the recommended timeframe, however there is variation in waiting times between similar hospitals.

Most NSW hospitals perform well in the urgent surgery category, with almost all patients receiving their procedure within the recommended timeframe. However, performance varies more for patients in the less urgent categories and variation is greatest for patients in the non-urgent category.

The analysis in this issue 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 but C1 and C2 hospitals are more likely to treat all their patients within the recommended waiting times across all urgency categories (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 January to March 2014. 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 January to March 2014. 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, January to March 2014* and related reports are available at www.bhi.nsw.gov.au

The suite of products includes:

- Three core modules titled *Admitted Patients*, *Elective Surgery* and *Emergency Departments*
- Appendix tables showing key results by peer group and LHD
- Activity and performance profiles about emergency department care and elective surgery for more than 80 hospitals and NSW as a whole
- Performance dashboards of hospital, LHD and peer group results on the Bureau's new online interactive tool Healthcare Observer at www.bhi.nsw.gov.au/healthcareobserver



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.

To contact the Bureau

Telephone: +61 2 9464 4444

Fax: +61 2 9464 4445

Email: enquiries@bhi.nsw.gov.au

Postal address: PO Box 1770
Chatswood New South Wales 2057
Australia

Web: www.bhi.nsw.gov.au

Copyright Bureau of Health Information 2014

State Health Publication Number: (BHI) 140199
ISSN 1838-3238

Suggested citation: Bureau of Health Information. *Hospital Quarterly: Performance of NSW public hospitals, January to March 2014. Admitted Patients. 4(2)*. Sydney (NSW); 2014.

Published June 2014

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.