Technical Supplement

Emergency department measures

Hospital Quarterly: January to March 2014

Bureau of
Health Information

Summary

This supplement describes the methods and technical terms used to calculate descriptive statistics and performance indicators reported in *Hospital Quarterly*.

The emergency department (ED) module of *Hospital Quarterly* is based on analyses of ED attendance data extracted from a centralised data warehouse administered by the NSW Ministry of Health called the Health Information Exchange (HIE).

There are more than 180 EDs in NSW. The activity and performance measures reported in *Hospital Quarterly* are currently based on 117 hospital EDs which have had an electronic records system in place and reliable data in the HIE for five or more quarters. These 117 EDs comprise the 'NSW totals' reported in *Hospital Quarterly* and account for approximately 90% of all ED attendances in NSW.

The Bureau reports individual performance for 77 of these EDs in *Hospital Quarterly*. EDs are reported individually if they are part of hospitals in the principal referral, major or district peer groups (peer groups A1, A2, A3, B, C1 and C2).

Inclusion of additional EDs in *Hospital Quarterly*

When five quarters of reliable electronic data become available in the HIE, additional EDs are included in *Hospital Quarterly*. When a new ED is added, its data for preceding quarters are also included in the report.

The tables in Appendix 1 show the quarters when new EDs were added, and the effect of new data on attendances and performance measures.

Reporting of additional EDs began in:

- *Hospital Quarterly, October to December 2011* (Bega District Hospital)

- *Hospital Quarterly, July to September 2012* (Ballina District Hospital, Bateman's Bay District Hospital, Casino and District Memorial Hospital, Maclean District Hospital and Moruya District Hospital)

- *Hospital Quarterly, January to March 2014* (A further 21 hospitals – see list in Appendix 1).

The inclusion of more EDs increases total attendances reported in *Hospital Quarterly* and may affect performance measures. The latest inclusion of 21 additional EDs increased the number of attendances reported for NSW each quarter by about 4%, starting from January to March 2013. All the additional hospitals are peer group C2 or smaller and tend to have shorter waiting times. There was, however, little change at the NSW level on measures of time to treatment, time to leaving the ED or on the percentage of patients leaving the ED in four hours. LHD results are more affected.

The additional 21 EDs are part of the following local health districts:

- Northern NSW (NNSWLHD)

- Southern NSW (SNSWLHD)

- Murrumbidgee (MLHD)

- Mid North Coast (MNCLHD).

In particular MLHD has gone from two hospitals to 20 hospitals reported. Times to treatment and time to leaving the ED for MLHD are generally shorter across all urgency categories. The per cent leaving the ED within four hours is also affected – generally improving by around 13%. The differences for other LHDs are generally less significant (see Appendix tables for detail).

Comparisons in *Hospital Quarterly* for January to March 2014 with the same quarter in the previous year or more recent quarters will be based on the same number of EDs. Comparisons of attendances and admissions over longer intervals, such as the same quarter two years ago, may include the effect of additional EDs being reported. Therefore caution is needed for any comparison which spans more than five quarters.

Changeover to a new records system

Progressively, EDs in NSW have replaced historic information systems with more contemporary electronic records systems. During the changeover to a new system, there may have been an impact on the completeness and reliability of data input or extraction from local systems to the HIE and more than one quarter may be affected.

At a facility level during a changeover period, the only information from the HIE reported by the Bureau is for *'total attendances'*. For aggregated NSW reporting (for example, for NSW, local health district and peer group), data from affected hospitals are included in total counts but are excluded from calculation of all other performance measures. Data received from the Ambulance Service of NSW are not affected and are reported as usual.

Changes introduced in Hospital Quarterly, January to March 2012

The Bureau has made a number of changes to reporting measures of ED activity and performance reported in *Hospital Quarterly, January to March 2012*. Further information on the rationale for the changes can be found in the *Hospital Quarterly Background Paper: Approaches to reporting time measures of emergency department performance, Addendum June 2012* at www.bhi.nsw.gov.au

The changes introduced in that issue are:

- **The time that patients spend in EDs is measured starting from presentation time.** Presentation time is defined as the earlier of arrival or triage time. Previously, presentation time was defined as the earlier of arrival, triage or treatment time. The change was introduced to be consistent with definitions being used for national and interstate reporting. The change has had a minimal effect on results based on presentation time, since only a small number of records have a treatment time recorded which is earlier than the times recorded for arrival and triage. In the January to March 2012 quarter, 0.1% of records were affected for NSW, and the highest per cent for a single hospital was 1%. Bureau measures of time to treatment were not affected by the change of definition. For time to leaving the ED, the change has had no effect on the median or 95th percentile times. For individual hospitals, the median time to leaving the ED did not change for most hospitals, and all differences were less than one minute. Similarly, the 95th percentile time to leaving the ED did not change for most hospitals, and all differences were two minutes or less.

- **The labelling of the median and 95th percentile times** (to start treatment or to leaving the ED) **changed, however the methods of calculation did not change.** *Hospital Quarterly* refers to the *'median time'*, replacing *'half of patients (50%)'*; and the *'95th percentile time'*, replacing *'most patients (95%)'*.

- **The median time to leaving the ED and the 95th percentile time to leaving the ED are reported for all patients.** Previously, the cohort for leaving the ED only included admitted patients. This change is consistent with the definition of the cohort for the new national performance benchmark, the National Emergency Access Target (NEAT).[2] Broadening the cohort to include all patients has had a substantial effect on the results. Therefore, times for leaving the ED in previous reports cannot be compared with times for leaving the ED from *Hospital Quarterly, January to March 2012* onwards. Individual performance profiles include results for this new cohort for the current quarter, over the past five years and as a cumulative graph and table together with results for other mode of separation cohorts.

Activity and performance indicators

This section contains the definitions used for calculating measures of ED activity and performance reported in *Hospital Quarterly*.

In the following definitions, numbers in brackets indicate the HIE database field code used to identify records by ED visit type or mode of separation (as appropriate). The arrival date and time field is used to select records from the HIE for each quarter. Unless explicitly stated, records with incomplete information in the fields required for a calculation are excluded.

All attendances

All attendances is the count of every record in the ED visit database of the HIE. This count includes attendances of all ED visit types including emergency presentations, planned return visits, pre-arranged admissions, some outpatient visits, private referrals, persons pronounced dead on arrival and patients in transit. Records are assigned to quarters of the year using the arrival date and time field.

Emergency attendances

Emergency attendances are records in the ED visit database of the HIE with an ED visit type of emergency (1) or an unplanned return visit for a continuing condition (3) or disaster (11). Emergency attendances in *Hospital Quarterly* are reported by triage category.

Records with missing or invalid information for triage category are excluded from reported counts of emergency attendances.

Emergency attendances by quarter

The time series graphs in *Hospital Quarterly* present the number of emergency attendances to an ED during each quarter for the past 21 quarters.

Emergency admissions by quarter

The time series graphs in *Hospital Quarterly* present the number of emergency admissions to an ED during each quarter for the past 21 quarters. Emergency admissions are emergency attendances with modes of separation: admitted to a ward / inpatient unit (1), admitted and discharged as an inpatient within ED (2), admitted and died in ED (3), admitted to a critical care ward (10), admitted via an operating theatre (11), or admitted: left at own risk (13).

All attendances by mode of separation

Emergency attendances are reported based on the mode of separation field: treated and discharged, treated and admitted to hospital, patients left without or before completing treatment, patients transferred to another hospital and other modes. Records with missing mode of separation are included in the *'other'* cohort.

The mode of separation cohorts are:

- *'Treated and discharged'* comprises attendances with mode of separation: departed with treatment complete (4)

- *'Treated and admitted to hospital'* comprises attendances with modes of separation: admitted to a ward / inpatient unit (1), admitted and discharged as an inpatient within ED (2), admitted and died in ED (3), admitted to a critical care ward (10), admitted via an operating theatre (11) or admitted: left at own risk (13)

- *'Left without, or before completing, treatment'* comprises those attendances with modes of separation: departed, did not wait (6) and departed: left at their own risk (7). Patients who *'did not wait'* were triaged but left the ED before treatment was commenced. Patients who *'left at their own risk'* were triaged and treatment was begun by a clinician or nurse, but the patient left prior to the completion of their treatment

- *'Transferred to another hospital'* comprises those patients who transferred to another hospital (5) or were admitted and then transferred to another hospital (12)

- *'Other'* includes patients who were dead on arrival (8) or patients who departed for another clinical service location (9). Attendances with missing mode of separation are also included in this cohort.

Presentation time

Presentation time is the earlier of the following fields in the emergency visit database of the HIE:

- **Arrival time:** the date and time on which the person is recorded in the system as presenting for the service

- **Triage time:** the date and time on which the person is recorded in the system as being assessed by a triage nurse.

If triage time is more than 12 hours before arrival time, then the triage time field is considered an error and presentation time is set equal to arrival time.

Treatment time

Treatment time is the earlier of the following fields in the ED visit database of the HIE:

- First seen by clinician time: the date and time on which the person is first seen by a medical officer and has a physical examination / treatment performed that is relevant to their presenting problem(s)

- First seen by nurse time: the date and time at which the person is first seen by a nurse and has an assessment / treatment performed that is relevant to their presenting problem(s).

If either *'first seen by clinician time'* or *'first seen by nurse time'* is more than 12 hours before presentation time or more than 31 days after presentation time, then that field is considered an error and is excluded from calculations. If both *'first seen by clinician time'* and *'first seen by nurse time'* are more than 12 hours before presentation time or more than 31 days after presentation time, then treatment time for that record is considered an error and excluded from calculations. If treatment time is earlier than presentation time, but 12 hours or less before presentation time, then time from presentation until treatment is set to zero.

Departure time

Departure time is the date and time at which the person leaves the ED as recorded in the actual departure time field in the emergency visit database in the HIE. If departure time is more than 12 hours before presentation time or more than 31 days after presentation time, then that departure time field is considered an error and is excluded from calculation. If departure time is before presentation time by 12 hours or less, then time from presentation until leaving the ED is set to zero.

Time from presentation until treatment

Time from presentation until treatment is the difference between presentation time and treatment time. Time from presentation is reported by triage category for emergency attendances. Records with an ED visit type of emergency (1), unplanned return visit for a continuing condition (3) and disaster (11) are included.

If treatment time is more than 12 hours before presentation time or more than 31 days after presentation time, then that time from presentation until treatment is considered an error and is excluded from calculations. If treatment time is before presentation time by 12 hours or less, then time from presentation until treatment is set to zero.

Time from presentation until leaving

Time from presentation until leaving the ED is the difference between presentation time and departure time. Records that do not have a valid departure time are excluded from calculations.

If departure time is more than 12 hours before presentation time or more than 31 days after presentation time, then that time from presentation until leaving is considered an error and is excluded from calculations. If departure time is before presentation time by 12 hours or less, then time from presentation until leaving is set to zero.

Median

The median is the midpoint of the waiting times distribution. This measure is used in *Hospital Quarterly* to describe time from presentation until treatment and time from presentation until leaving the ED. The median is the time by which half of patients started treatment or left the ED. The other half of patients took equal to or longer than this time. The Bureau uses the data for each patient and the empirical distribution function with averaging to compute the median in SAS[©3]. Results are rounded to the nearest whole minute for reporting.

95th percentile

The 95th percentile is a statistical measure of the waiting time distribution. It is used in *Hospital Quarterly* to describe time from presentation until treatment, and time from presentation until leaving the ED. The 95th percentile is the time by which 95% of patients started treatment or left the ED. The final 5% of patients took equal to or longer than this time. The Bureau uses the data for each patient and the empirical distribution function with averaging to compute the 95th percentile in SAS[©3]. Results are rounded to the nearest whole minute for reporting.

Percentage of patients who left the ED within four hours of presentation by quarter

The time series graph in *Hospital Quarterly* shows the percentage of patients who left the ED within 4 hours of presentation by quarter. Records that do not have a valid departure time are excluded from calculation.

If departure time is more than 12 hours before presentation time or more than 31 days after presentation time, then that time from presentation until leaving is considered an error and is excluded from calculations. If departure time is before presentation time by 12 hours or less, then time from presentation until leaving is set to zero.

Arrivals by ambulance and Off Stretcher Time

Ambulance arrivals is the count of all cases used for calculation of the off stretcher performance measure. It includes all emergency and priority medical patients transported by ambulance and delivered to an ED.

Off Stretcher Time (OST) is the time in minutes between the time of arrival of an emergency patient by ambulance and the time they are transferred to the care of the ED. The OST performance measure is reported as a percentage of all patients arriving by ambulance that are transferred within 30 minutes. The denominator is all off-stretcher cases. The numerator is all patients arriving by ambulance who were transferred to the care of an ED within 30 minutes of arrival at the ED.

Data for these measures is provided by the Ambulance Service of NSW, which records the time of transfer as entered by ambulance officers using a dashboard console.

The NSW target requires 90% of patients arriving by ambulance to be transferred to the care of the ED within 30 minutes of arrival.

Percentage of patients who received treatment by time

The distribution curve in *Hospital Quarterly* shows the cumulative percentage of emergency attendances by minutes from presentation until treatment by triage category. The cumulative percentage is computed by summing the proportions of patients whose treatment started in one minute intervals of time elapsed since presentation within each triage category. Emergency patients who received treatment are patients with visit type = 1, 3 or 11 and mode of separation = 1, 2, 3, 4, 5, 7, 10, 11, 12 and 13. This cohort only includes patients who had a valid triage category and treatment time.

Treatment times which are more than 12 hours before presentation time or more than 31 days after presentation time are considered as errors and are excluded from calculations. If treatment time is 12 hours or less before presentation time then time from presentation until treatment is set to zero.

If the cumulative distribution does not reach 100%, it indicates that some patients in that triage category waited longer than the maximum time shown on the horizontal axis for their treatment to start.

Percentage of patients who left the ED by time

The distribution curve in *Hospital Quarterly* shows the cumulative percentage of attendances by the number of hours from presentation until leaving the ED. The cumulative percentage is computed by summing the proportions of patients left the ED in one minute intervals of time elapsed since presentation. Records that do not have a valid departure time are excluded from calculation. Departure times which are before presentation time or more than 31 days after presentation time are considered as errors and are excluded from calculation.

If departure time is more than 12 hours before presentation time or more than 31 days after presentation time, then that time from presentation until leaving is considered an error and is excluded from calculations. If departure time is before presentation time by 12 hours or less, then time from presentation until leaving is set to zero.

If the cumulative distribution does not reach 100%, it indicates that some patients waited longer than the maximum time shown on the horizontal axis to leave the ED.

Percentage of patients who left ED by time and mode of separation

The distribution curve in *Hospital Quarterly* shows the cumulative percentage of attendances by the number of hours from presentation until leaving the ED by mode of separation. The cumulative percentage is computed by summing the proportions of patients who left the ED in one minute intervals of time elapsed since presentation for each mode of separation. Records that do not have a valid departure time are excluded from calculation. Departure times

which are before presentation time or more than 31 days after presentation time are considered as errors and are excluded from calculation.

If departure time is more than 12 hours before presentation time or more than 31 days after presentation time, then that time from presentation until leaving is considered an error and is excluded from calculations. If departure time is before presentation time by 12 hours or less, then time from presentation until leaving is set to zero.

If the cumulative distribution does not reach 100%, it indicates that some patients in that mode of separation waited longer than the maximum time shown on the horizontal axis of the graph to leave the ED.

Time from presentation until treatment by quarter

The time series graph in *Hospital Quarterly* shows the median and 95th percentile of minutes from presentation until treatment for emergency patients who received treatment by quarter for each triage category. Emergency patients who received treatment are patients with visit type = 1, 3 or 11 and mode of separation = 1, 2, 3, 4, 5, 7, 10, 11, 12 and 13. This cohort only includes patients who had a valid triage category and treatment time.

Treatment times which are more than 12 hours before presentation or more than 31 days after presentation are considered as errors and are excluded from calculations. If treatment time is 12 hours or less before presentation time then time from presentation until treatment is set to zero.

Time from presentation until leaving the ED by quarter

The time series graph in *Hospital Quarterly* shows the median and 95th percentile of hours from presentation until leaving the ED by quarter. Records that do not have a valid departure time are excluded from calculations.

If departure time is more than 12 hours before presentation time or more than 31 days after presentation time, then that time from presentation until leaving is considered an error and is excluded from calculations. If departure time is before presentation time by 12 hours or less, then time from presentation until leaving is set to zero.

Appendix

First included in *Hospital Quarterly*	First quarter of data starts	Emergency department	Local health district	Peer group
October to December 2011	October to December 2010	Bega District Hospital*	Southern NSW	C1
July to September 2012	July to September 2011	Ballina District Hospital	Northern NSW	C2
July to September 2012	July to September 2011	Casino and District Memorial Hospital	Northern NSW	C2
July to September 2012	July to September 2011	Maclean District Hospital	Northern NSW	C2
July to September 2012	July to September 2011	Bateman's Bay District Hospital	Southern NSW	C2
July to September 2012	July to September 2011	Moruya District Hospital	Southern NSW	C2
January to March 2014	January to March 2013	Deniliquin Health Service	Murrumbidgee	C2
January to March 2014	January to March 2013	Macksville District Hospital	Mid North Coast	C2
January to March 2014	January to March 2013	Queanbeyan Health Service	Southern NSW	C2
January to March 2014	January to March 2013	Tumut Health Service	Murrumbidgee	C2
January to March 2014	January to March 2013	Young Health Service	Murrumbidgee	C2
January to March 2014	January to March 2013	Corowa Health Service	Murrumbidgee	D1a
January to March 2014	January to March 2013	Temora Health Service	Murrumbidgee	D1a
January to March 2014	January to March 2013	Finley Health Service	Murrumbidgee	D1b
January to March 2014	January to March 2013	Murrumburrah-Harden Health Service	Murrumbidgee	D1b
January to March 2014	January to March 2013	Wyalong Health Service	Murrumbidgee	D1b
January to March 2014	January to March 2013	Barham Health Service	Murrumbidgee	D2
January to March 2014	January to March 2013	Gundagai Health Service	Murrumbidgee	D2
January to March 2014	January to March 2013	Hay Health Service	Murrumbidgee	D2
January to March 2014	January to March 2013	Hillston Health Service	Murrumbidgee	D2
January to March 2014	January to March 2013	Lockhart Health Service	Murrumbidgee	D2
January to March 2014	January to March 2013	Boorowa Health Service	Murrumbidgee	F3
January to March 2014	January to March 2013	Culcairn Multi-Purpose Service	Murrumbidgee	F3
January to March 2014	January to March 2013	Jerilderie Multi-Purpose Service	Murrumbidgee	F3
January to March 2014	January to March 2013	Kyogle Multi-Purpose Service	Northern NSW	F3
January to March 2014	January to March 2013	Lake Cargelligo Multi-Purpose Service	Murrumbidgee	F3
January to March 2014	January to March 2013	Tumbarumba Multi-Purpose Service	Murrumbidgee	F3

(*)   Bega District ED underwent a reporting system change during July to September 2010. Starting with *Hospital Quarterly, October to December 2011*, attendance counts are included in activity measures for NSW, Peer group C1 and SNSWLHD from July to September 2010, and times are included in performance measures for NSW, Peer group C1 and SNSWLHD from October to December 2010.

Appendix table 2: Effect on attendances of including additional emergency departments in *Hospital Quarterly* since October to December 2007, by local health district

	Total EDs included	All emergency department attendances		
		Total ED included	Attendances for additional EDs	Change in total attendances (%)
New South Wales				
January to March 2009	90	486,105		
April to June 2009	90	501,272		
July to September 2009	90	517,347		
October to December 2009	90	514,586		
January to March 2010	90	507,730		
April to June 2010	90	495,621		
July to September 2010	90	506,987		
October to December 2010	91	538,069		
January to March 2011	91	526,732		
April to June 2011	91	512,332		
July to September 2011	96	542,910		
October to December 2011	96	561,713		
January to March 2012	96	562,671		
April to June 2012	96	567,000		
July to September 2012	96	564,930		
October to December 2012	96	579,949		
January to March 2013	117	602,415	26,788	4.7%
April to June 2013	117	585,906	25,805	4.6%
July to September 2013	117	612,227	26,428	4.5%
October to December 2013	117	621,683	27,100	4.6%
January to March 2014	117	614,438	25,208	4.3%
Murrumbidgee (MLHD)				
January to March 2009	2	12,544		
April to June 2009	2	12,904		
July to September 2009	2	13,477		
October to December 2009	2	13,552		
January to March 2010	2	12,847		
April to June 2010	2	13,196		
July to September 2010	2	13,489		
October to December 2010	2	14,325		
January to March 2011	2	13,229		
April to June 2011	2	13,339		
July to September 2011	2	13,443		
October to December 2011	2	13,156		
January to March 2012	2	13,139		
April to June 2012	2	13,501		
July to September 2012	2	13,827		
October to December 2012	2	13,859		
January to March 2013	20	27,358	14,290	109.4%

	Total EDs included	All emergency department attendances		
		Total ED included	Attendances for additional EDs	Change in total attendances (%)
April to June 2013	20	26,682	13,794	107.0%
July to September 2013	20	28,318	14,030	98.2%
October to December 2013	20	28,306	14,630	107.0%
January to March 2014	20	26,450	13,364	102.1%
Mid North Coast (MNCLHD)				
January to March 2009	3	20,845		
April to June 2009	3	21,122		
July to September 2009	3	22,059		
October to December 2009	3	21,826		
January to March 2010	3	20,882		
April to June 2010	3	20,522		
July to September 2010	3	21,151		
October to December 2010	3	22,112		
January to March 2011	3	21,545		
April to June 2011	3	20,317		
July to September 2011	3	21,444		
October to December 2011	3	22,172		
January to March 2012	3	22,284		
April to June 2012	3	21,714		
July to September 2012	3	22,296		
October to December 2012	3	22,022		
January to March 2013	4	24,125	3,297	15.8%
April to June 2013	4	23,496	2,837	13.7%
July to September 2013	4	24,686	3,033	14.0%
October to December 2013	4	25,893	3,249	14.3%
January to March 2014	4	24,677	3,135	14.6%
Northern NSW (NNSWLHD)				
January to March 2009	4	27,488		
April to June 2009	6	26,180		
July to September 2009	6	29,121		
October to December 2009	6	28,378		
January to March 2010	6	27,527		
April to June 2010	6	26,640		
July to September 2010	6	27,515		
October to December 2010	6	27,883		
January to March 2011	6	27,389		
April to June 2011	6	26,711		
July to September 2011	9	41,106		
October to December 2011	9	43,430		
January to March 2012	9	42,030		
April to June 2012	9	41,483		
July to September 2012	9	41,745		

	Total EDs included	All emergency department attendances		
		Total ED included	Attendances for additional EDs	Change in total attendances (%)
October to December 2012	9	44,146		
January to March 2013	10	44,259	1,366	3.2%
April to June 2013	10	42,841	1,331	3.2%
July to September 2013	10	44,408	1,465	3.4%
October to December 2013	10	46,243	1,315	2.9%
January to March 2014	10	45,992	1,336	3.0%
Southern NSW (SNSWLHD)				
January to March 2009	1	4,350		
April to June 2009	1	4,477		
July to September 2009	1	4,788		
October to December 2009	1	4,632		
January to March 2010	1	4,403		
April to June 2010	1	4,304		
July to September 2010	1	4,456		
October to December 2010	2	7,987		
January to March 2011	2	8,049		
April to June 2011	2	7,382		
July to September 2011	4	13,815		
October to December 2011	4	14,858		
January to March 2012	4	14,774		
April to June 2012	4	13,774		
July to September 2012	4	13,896		
October to December 2012	4	14,424		
January to March 2013	5	18,787	4,264	29.4%
April to June 2013	5	17,233	4,312	33.4%
July to September 2013	5	17,824	4,350	32.3%
October to December 2013	5	19,001	4,563	31.6%
January to March 2014	5	18,099	4,254	30.7%

	% leaving the ED within 4 hours (Target 69%)		
	Total EDs included (%)	Additional EDs (%)	Change (percentage points)
New South Wales			
January to March 2009	64.0%		
April to June 2009	62.5%		
July to September 2009	59.0%		
October to December 2009	61.0%		
January to March 2010	61.6%		
April to June 2010	59.9%		
July to September 2010	57.5%		
October to December 2010	58.8%		
January to March 2011	58.7%		
April to June 2011	58.5%		
July to September 2011	56.6%		
October to December 2011	59.0%		
January to March 2012	60.2%		
April to June 2012	58.9%		
July to September 2012	57.7%		
October to December 2012	63.6%		
January to March 2013	65.9%	86.5%	1.0%
April to June 2013	66.0%	86.9%	1.0%
July to September 2013	65.7%	87.5%	1.0%
October to December 2013	71.3%	89.6%	0.8%
January to March 2014	73.2%	88.5%	0.6%
Murrumbidgee (MLHD)			
January to March 2009	70.3%		
April to June 2009	69.4%		
July to September 2009	68.9%		
October to December 2009	70.4%		
January to March 2010	68.2%		
April to June 2010	67.9%		
July to September 2010	58.4%		
October to December 2010	†		
January to March 2011	65.3%		
April to June 2011	66.5%		
July to September 2011	59.9%		
October to December 2011	62.2%		
January to March 2012	65.5%		
April to June 2012	66.4%		
July to September 2012	63.6%		
October to December 2012	66.8%		

	% leaving the ED within 4 hours (Target 69%)		
	Total EDs included (%)	Additional EDs (%)	Change (percentage points)
January to March 2013	81.2%	94.3%	14.3%
April to June 2013	82.0%	95.0%	14.0%
July to September 2013	81.2%	94.3%	13.0%
October to December 2013	82.5%	94.8%	13.3%
January to March 2014	81.6%	94.6%	13.3%
Mid North Coast (MNCLHD)			
January to March 2009	69.7%		
April to June 2009	68.1%		
July to September 2009	66.6%		
October to December 2009	69.4%		
January to March 2010	70.5%		
April to June 2010	69.6%		
July to September 2010	59.0%		
October to December 2010	60.9%		
January to March 2011	60.8%		
April to June 2011	60.4%		
July to September 2011	**56.7%**		
October to December 2011	64.1%		
January to March 2012	65.7%		
April to June 2012	63.6%		
July to September 2012	61.3%		
October to December 2012	63.5%		
January to March 2013	65.7%	63.5%	-0.3%
April to June 2013	66.8%	62.6%	-0.6%
July to September 2013	69.9%	74.6%	0.7%
October to December 2013	74.7%	86.5%	1.7%
January to March 2014	75.8%	81.3%	0.8%
Northern NSW (NNSWLHD)			
January to March 2009	76.8%		
April to June 2009	65.4%		
July to September 2009	63.6%		
October to December 2009	65.0%		
January to March 2010	63.8%		
April to June 2010	65.6%		
July to September 2010	64.7%		
October to December 2010	61.8%		
January to March 2011	59.5%		
April to June 2011	57.7%		
July to September 2011	66.6%		
October to December 2011	71.0%		
January to March 2012	70.1%		
April to June 2012	70.4%		

	% leaving the ED within 4 hours (Target 69%)		
	Total EDs included (%)	Additional EDs (%)	Change (percentage points)
July to September 2012	69.4%		
October to December 2012	72.5%		
January to March 2013	73.3%	76.4%	0.1%
April to June 2013	73.8%	71.5%	-0.1%
July to September 2013	74.3%	77.7%	0.1%
October to December 2013	77.1%	82.2%	0.2%
January to March 2014	78.8%	81.7%	0.1%
Southern NSW (SNSWLHD)			
January to March 2009	90.9%		
April to June 2009	88.6%		
July to September 2009	87.5%		
October to December 2009	86.8%		
January to March 2010	85.8%		
April to June 2010	†		
July to September 2010	79.0%		
October to December 2010	79.9%		
January to March 2011	77.1%		
April to June 2011	77.4%		
July to September 2011	75.4%		
October to December 2011	75.0%		
January to March 2012	75.8%		
April to June 2012	73.2%		
July to September 2012	73.5%		
October to December 2012	74.4%		
January to March 2013	77.9%	76.4%	-0.5%
April to June 2013	75.6%	77.3%	0.6%
July to September 2013	77.0%	76.2%	-0.3%
October to December 2013	77.7%	77.4%	-0.1%
January to March 2014	78.8%	77.7%	-0.3%

(†) Due to the implementation of a new electronic information system in this emergency department during the quarter, the data for this hospital are not considered reliable enough to display (see *Hospital Quarterly Background Paper: Approaches to reporting time measures of emergency department performance, Addendum June 2012* for more information).

Appendix table 4: Effect on waiting times to treatment (minutes) of including additional emergency departments in *Hospital Quarterly, January to March 2014*, by local health district

	Median time to start treatment			95th percentile time to start treatment		
	All EDs included	Additional EDs only	Change in median time to start treatment	All EDs included	Additional EDs only	Change in 95th percentile time to start treatment
New South Wales						
Triage 2	8 minutes	6 minutes	0 minutes	31 minutes	58 minutes	0 minutes
Triage 3	20 minutes	13 minutes	0 minutes	94 minutes	95 minutes	0 minutes
Triage 4	26 minutes	20 minutes	0 minutes	138 minutes	137 minutes	0 minutes
Triage 5	23 minutes	13 minutes	-1 minutes	133 minutes	123 minutes	-1 minutes
Murrumbidgee (MLHD)						
Triage 2	5 minutes	0 minutes	-1 minutes	25 minutes	35 minutes	3 minutes
Triage 3	11 minutes	1 minutes	-5 minutes	70 minutes	47 minutes	-7 minutes
Triage 4	14 minutes	5 minutes	-8 minutes	116 minutes	80 minutes	-18 minutes
Triage 5	5 minutes	3 minutes	-9 minutes	80 minutes	63 minutes	-34 minutes
Mid North Coast (MNCLHD)						
Triage 2	8 minutes	10 minutes	0 minutes	29 minutes	55 minutes	3 minutes
Triage 3	17 minutes	26 minutes	1 minutes	69 minutes	117 minutes	9 minutes
Triage 4	20 minutes	30 minutes	1 minutes	106 minutes	160 minutes	14 minutes
Triage 5	18 minutes	26 minutes	1 minutes	107 minutes	130 minutes	6 minutes
Northern New South Wales (NNSWLHD)						
Triage 2	6 minutes	4 minutes	0 minutes	26 minutes	42 minutes	0 minutes
Triage 3	17 minutes	13 minutes	0 minutes	79 minutes	45 minutes	0 minutes
Triage 4	26 minutes	22 minutes	0 minutes	134 minutes	94 minutes	-1 minutes
Triage 5	23 minutes	21 minutes	-1 minutes	143 minutes	108 minutes	-2 minutes
Southern New South Wales (SNSWLHD)						
Triage 2	9 minutes	13 minutes	1 minutes	40 minutes	56 minutes	7 minutes
Triage 3	21 minutes	25 minutes	1 minutes	98 minutes	119 minutes	7 minutes
Triage 4	32 minutes	36 minutes	2 minutes	152 minutes	180 minutes	9 minutes
Triage 5	30 minutes	33 minutes	1 minutes	163 minutes	183 minutes	13 minutes

Appendix table 5:   Effect on time to leaving the ED (hours, minutes) of including additional emergency departments in *Hospital Quarterly, January to March 2014*, by local health district

	Median time to leaving the ED			95th percentile time to leaving the ED		
	All EDs included	Additional EDs only	Change in median time to leaving the ED	All EDs included	Additional EDs only	Change in 95th percentile time to leaving the ED
New South Wales						
January to March 2014	2h 45m	1h 10m	-5m	9h 29m	6h 3m	-7m
Murrumbidgee (MLHD)						
January to March 2014	1h 30m	0h 48m	-1h 13m	8h 52m	4h 10m	-3h 7m
Mid North Coast (MNCLHD)						
January to March 2014	2h 19m	1h 51m	-4m	8h 40m	7h 39m	-12m
Northern New South Wales (NNSWLHD)						
January to March 2014	2h 0m	1h 54m	0m	8h 50m	7h 19m	-1m
Southern New South Wales (SNSWLHD)						
January to March 2014	2h 9m	2h 13m	2m	7h 5m	7h 34m	9m

References

1.   Australian Institute of Health and Welfare. METeOR Metadata Online Registry. Emergency department stay – presentation time, hhmm. [online] [cited 28 May 2012]. Available from www.meteor.aihw.gov.au/content/index.phtml/itemId/471889

2.   Australian Government Department of Health and Ageing. National Health Reform. National Partnership Agreement on Improving Public Hospital Services. [online] [cited 28 May 2012]. Available from www.yourhealth.gov.au/internet/yourhealth/publishing.nsf/Content/npa-improvingpublichospitals-agreement-toc

3.   SAS Institute. The SAS System for Windows, version 9.2 Cary (NC): SAS Institute 2005.

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