



# Addendum

## Technical Supplement: Elective surgery measures

Hospital Quarterly: April to June 2011

# Introduction

This document is an addendum to the Bureau's *Technical Supplement: Measures of elective surgery, July to September 2010*. It presents the effect of recent changes to the composition of hospital peer groups on measures of elective surgery activity and performance.

## Reason for analysis

In May 2009, the NSW Department of Health undertook a review of hospital peer grouping methodology with a view to improving it, particularly in relation to episode funding, but also for other major applications of the groupings, such as health services planning and clinical benchmarking.

Based on the result of that review by the NSW Department of Health, the Bureau made the following changes to hospital peer group reporting for *Hospital Quarterly*, commencing April to June 2011:

## Peer group changes

**A1:** Bankstown / Lidcombe Hospital is now included in this peer group. It was previously in the major metropolitan peer group (BM).

**BM:** Bankstown / Lidcombe Hospital is now included in the principal referral peer group (A1).

**C1:** Murwillumbah District Hospital is now included in this peer group. It was previously in the district group 2 peer group (C2).

**C2:** Bellinger River District Hospital is now included in this peer group. It was previously in the community acute with surgery peer group (D1a). Murwillumbah District Hospital has been removed from this peer group and is now included in district group 1 peer group (C1).

Peer group comparison data based on the revised peer groups are *not* comparable to figures published in previous *Hospital Quarterly* reports. Peer group comparison data included in the *Hospital Quarterly* for the same quarter in the preceding year have been recalculated and will differ from those reported in previous *Hospital Quarterly* reports.

**Table 1** presents the effect of these changes. Data in this table refer to patients admitted for elective surgery during the periods April to June 2011 and April to June 2010. The effect of the changes is shown for the following elective surgery measures, by peer group and elective surgery urgency category:

- Number of surgical procedures
- Percentage of patients who received elective surgery within the clinically recommended timeframe
- Median waiting time.

Table 1: Wait list peer group performance statistics with revised and previous peer group assignments

Peer group	Urgency category	Count of procedures (Apr-Jun 2011)		Count of procedures (Apr-Jun 2010)		% surgery on-time (Apr-Jun 2011)		Median waiting time (Apr-Jun 2011)		Median waiting time (Apr-Jun 2010)	
		Revised	Previous	Revised	Previous	Revised	Previous	Revised	Previous	Revised	Previous
Principal referral group (A1)	A	6,512	6,310	7,080	6,814	94%	94%	9	9	9	9
	B	6,393	6,060	6,481	6,009	93%	93%	43	42	47	45
	C	6,536	5,960	6,434	5,953	91%	91%	178	177	197	201
	D (Staged)	1,966	1,756	1,874	1,710						
Major metro group (BM)	A	1,169	1,371	1,225	1,491	91%	91%	13	13	12	12
	B	2,221	2,554	2,003	2,475	91%	91%	50	51	54	55
	C	2,839	3,415	2,894	3,375	96%	95%	220	216	249	238
	D (Staged)	614	824	769	933						
District group 1 (C1)	A	1,092	1,030	1,037	971	92%	93%	14	14	17	17
	B	1,790	1,672	1,707	1,575	90%	90%	55	55	56	56
	C	2,592	2,333	2,550	2,313	92%	91%	258	246	281	270
	D (Staged)	230	184	322	242						
District group 2 (C2)	A	549	606	495	553	96%	95%	12	12	8	10
	B	1,247	1,351	1,226	1,330	96%	95%	36	40	41	43
	C	2,014	2,245	2,190	2,398	97%	97%	192	214	153	182
	D (Staged)	92	136	202	281						

**Note:** 'Revised' refers to the reclassification of the three hospitals specified above. These columns contain the results reported in *Hospital Quarterly; April to June 2011*. 'Previous' refers to the peer group classifications used in *Hospital Quarterly; January to April 2011*. These columns contain the results that would have been obtained using the previous peer group classifications.

**Note:** % surgery completed on-time (current quarter) and median waiting time (current quarter and same quarter last year) are all reported by peer in the performance profiles. Counts of procedures (current quarter and same quarter last year) are included for context.

## Download the report

The report, *Hospital Quarterly: Performance of NSW public hospitals, April to June 2011* and related reports are available at [www.bhi.nsw.gov.au](http://www.bhi.nsw.gov.au)

The suite of products includes:

- Three core modules on Admitted Patients, Elective Surgery and Emergency Departments
- *Performance Profiles: Elective surgery* (performance and activity reports for more than 80 hospitals and NSW as a whole)
- *Performance Profiles: Emergency department care* (activity reports for EDs in more than 60 hospitals and NSW as a whole)
- *Data Quality Assessments*
- *Technical Supplements*



## About the Bureau

The Bureau of Health Information provides the community, healthcare professionals and the NSW Parliament with timely, accurate and comparable information on the performance of the NSW public health system in ways that enhance the system's accountability and inform efforts to increase its beneficial impact on the health and wellbeing of 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 Department of Health or any other NSW public health organisation is intended or should be inferred.

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Please note that there is the potential for minor revisions of data in this report. Please check the online version at [www.bhi.nsw.gov.au](http://www.bhi.nsw.gov.au) for any amendments.



# Technical Supplement:

Measures of elective surgery activity

Hospital Quarterly: April to June 2010

# Summary

This supplement to the Bureau of Health Information's recurrent public hospital performance reports describes the methods and technical terms used to compute descriptive statistics and performance indicators reported in *Hospital Quarterly*. Due to the technical nature of this narrative, it is intended for audiences interested in the creation of health information.

The elective surgery component of the *Hospital Quarterly* report is based on analyses of data extracted from a central data warehouse. The Bureau reports two performance indicators, the proportion of patients admitted within the recommended timeframe for each elective surgery urgency category and the median waiting time in days. More detail is provided in the activity indicators and the glossary pages. Indicators are presented by hospital, area health service and for NSW.

The Bureau of Health Information used SAS\* V9.1.3™ for the statistical analysis of data for the *Hospital Quarterly: April to June 2010*.

## The Waiting List Collection On-line System

The Waiting List Collection On-line System (WLCOS) contains a census of patients waiting for planned treatment at the end of each month and a record of patients admitted to the facility for the planned procedure or removed from the waiting list during each month. It is provided by NSW public hospitals, public psychiatric hospitals, public multi-purpose services, and for public patients who received treatment at private hospitals and private day procedures centres.

Waiting list data is extracted from the hospital's electronic patient records system and loaded locally into the Health Information Exchange (HIE) of each area health service (Area HIE). The frequency at which these extracts occur varies from site to site (**Figure 1**) depending on the patient record systems in place at each hospital:

1. At some sites, the waiting list extract is manually initiated and then subsequently transferred to the HIE server for that area health service via the HIE file transfer utility, HIEBatch and Reflection FTP
2. At other sites, a locally provided script performs the waiting list extract and transfer to the HIE server for that area health service. This is automatically initiated at a frequency decided by each area health service.

Data is automatically sent from the Area HIEs directly to WLCOS. Data is also periodically loaded into a temporary (non-useable) placeholder file in the HIE maintained by the Department of Health (DOH) from the Area HIEs.

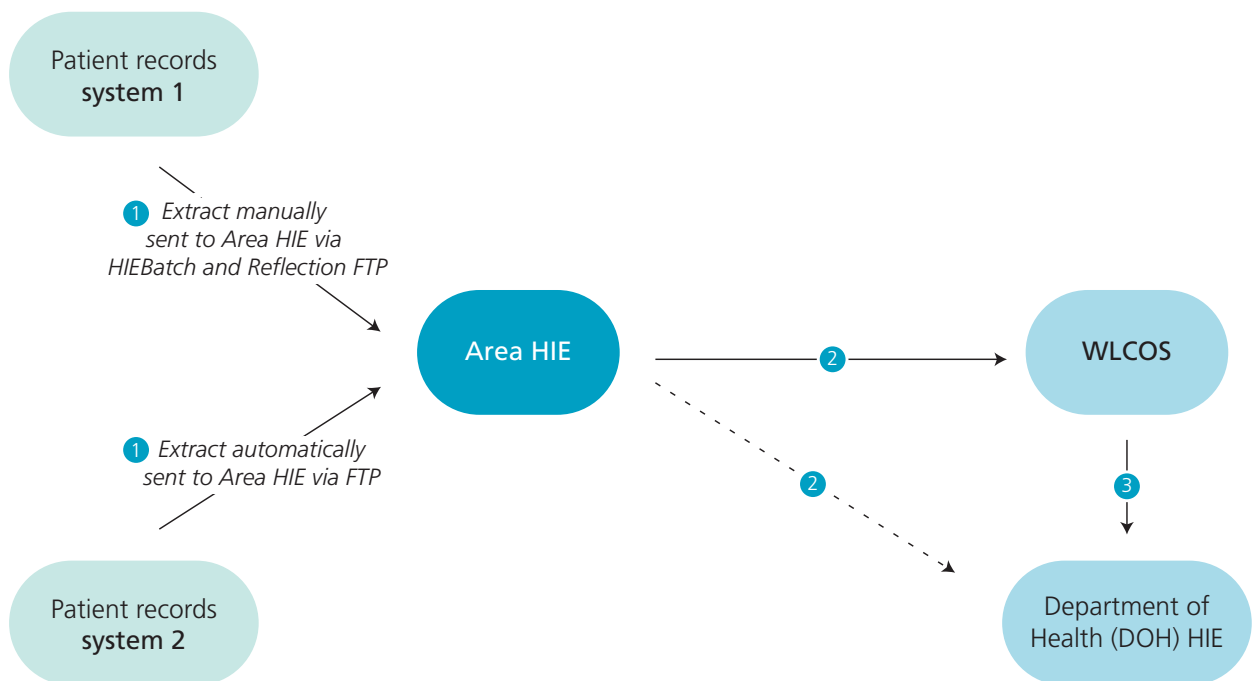
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\* SAS Institute. *The SAS System for Windows version 9.1.3*. Cary (NC): SAS Institute; 2005.

A system of checks (for logic errors and missing data) is applied to the data held in WLCOS. If a discrepancy in the data is detected, this is communicated to staff in the area health service (AHS) for the affected hospital. The AHS then contacts those hospital staff responsible for the quality of the patient records at each hospital. If these discrepancies are actual errors, then the information is corrected in the patient record system by staff from the hospital and amended in WLCOS by AHS staff. Once the data checks and amendments have been completed, this validated data set is copied to the DOH HIE.

Although WLCOS contains many fields relevant to patients undergoing elective surgery, the Bureau required only a selection to allow it to calculate the elective surgery performance indicators for NSW public hospitals.

Figure 1: Populating HIE elective surgery waiting data from hospital record systems



# Activity indicators

The Bureau has reported two performance indicators, both by urgency category:

- The percentage of patients admitted on time for category A, category B, category C and all categories
- Median waiting time (in days) for: category A, category B and category C.

Only patients who have been admitted for their surgery are included in the analysis of these indicators.

This section contains details about the definitions used for the calculations of measures of elective surgery activity reported in the *Hospital Quarterly: April to June 2010*.

## Patients admitted within the recommended timeframe

This indicator provides the proportion of patients admitted within the recommended timeframe for each of the elective surgery urgency categories, at each hospital, area health service and for NSW. It includes only records which have a valid Removal Date, are coded as 'S' for Elec Surg and are coded as '1' or '8' for Removal Status.

### Per cent of patients admitted within the recommended timeframe, by urgency category

The numerator is the number of patients admitted to hospital for their elective surgery within the clinically recommended timeframe, i.e. in 30 days or less for category A patients, 90 days or less for category B patients and 365 days or less for category C patients. The denominator is the total number of patients admitted for elective surgery in each urgency category.

### Per cent of patients admitted within the recommended timeframe, all urgency categories

The numerator is the sum of the number of urgency category A patients admitted in 30 days or less plus the number of urgency category B patients admitted in 90 days or less plus the number of urgency category C patients admitted in 365 days or less. The denominator is the sum of all patients admitted from urgency category A plus all patients admitted from urgency category B plus all patients admitted from urgency category C.

## Median waiting time

Includes only those records which have a valid Removal Date, are coded as 'S' for Elec Surg and are coded as '1' or '8' for Removal Status. If the Flag Urgency for a patient is set to 'D' (not ready for care), then the wait time variable for calculation is Ready for Care Days; otherwise the wait time variable is Commonwealth Waiting Time. Median Waiting Time is the median (calculated in SAS V9.1.3™) of the appropriate wait time variable for each of the three urgency categories.



# Glossary

**Admission(s)** – refers to the process, using registration procedures, under which a person is accepted by a hospital or an area or district health service facility as an inpatient.

**Elective surgery** – any form of surgery that a patient's doctor believes to be necessary but which can be delayed by at least 24 hours.

**Health Information Exchange (HIE)** – better known by the abbreviation HIE, this is a store of health records and information. Data from the Area HIE are used to populate the Waiting List Collection On-line System (WLCOS), which provides the data for the Bureau's reports.

**Median waiting time (days)** – this is the number of days it took for half of the patients who received elective surgery in the period to be admitted for, and receive, their surgery.

**Patients treated on time** – refers to the percentage of patients who received elective surgery within the recommended timeframe for their urgency category.

**Removal status** – describes the reason for the patient's removal from the waiting list; codes of 1 (routine admit) and 8 (admission contracted to a private hospital) mean that the patient received elective surgery and is therefore included in the analysis.

**Removal date** – the date the patient on the waiting list was admitted to the facility for the planned procedure or was removed from the waiting list.

**Urgency categories** – all patients on the elective surgery waiting list are allocated to an urgency category by the surgeon to whom they were referred. These categories provide a timeframe for how soon the doctor recommends the patient be admitted for their procedure:

Category 1 (A)	Admission within <b>30 days</b> desirable
Category 2 (B)	Admission within <b>90 days</b> desirable
Category 3 (C)	Admission within <b>365 days</b> desirable

**Waiting List Collection On-line System (WLCOS)** – this contains a census of patients waiting for elective surgery and a record of all patients from the waiting list who received elective surgery or were removed from the waiting list.

# About the Bureau

The Bureau of Health Information was established in 2009 as an independent, board-governed organisation established by the NSW Government to be the leading source of information on the performance of the public health system in NSW.

## Our Mission

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The Bureau of Health Information is a statutory health corporation. The conclusions in this report are those of the Bureau of Health Information and no official endorsement by the NSW Minister for Health, the NSW Department of Health or any other NSW statutory health corporation is intended or should be inferred.

## Our Board

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