Introduction

Challenging times ahead for NSW Health to increase elective surgery efficiency

There are increasing pressures on the NSW public health system’s operating theatres to perform more efficiently.

By 2015, NSW Health is to increase the proportion of patients on waiting lists who receive their elective surgery within clinically prescribed times to 100 per cent from between 90 to 94 per cent. This is estimated to be 20,000 (or nine per cent) more patients per year.

There is growing pressure on NSW Health to ensure that patients in the non-urgent category are treated on time as many are coming closer to the limit of 365 days.

National funding is increasingly focused on the numbers and costs of elective surgery procedures undertaken within hospitals. The expectation is that efficiencies will result in many more operations being performed for similar levels of funding. This could result in some hospitals performing less elective surgery unless efficiency can be improved.

1.1 The role of an operating theatre

There are over 270 operating theatres in 99 public hospitals across New South Wales. Most are used to undertake elective (planned) and emergency (unplanned) surgery, and may also be used to undertake simple non-surgical procedures. They are usually located in a suite of theatres and supporting rooms for preparation and waiting, recovery and discharge, and administration. The size of the suite will depend on the location and type of hospital. They will be larger and contain more complex equipment in tertiary teaching hospitals, compared to small rural hospitals with a single theatre.

Forty five per cent of total theatre attendances are for elective surgery, 27 per cent for emergency procedures and 28 per cent for non-surgical procedures such as endoscopies. The audit takes into account emergency and non-surgical admissions and procedures to the extent that they compete for operating theatre capacity and resources.

Emergency surgery operates under a different model of care with separate lists and allocation of clinicians, the use of specifically assigned theatres with significant amounts of surgery undertaken outside usual working hours. As emergency surgery shares the same operating theatre complex, there are shared management and coordination issues, and some of the audit’s recommendations have application to emergency surgery. If emergency surgery demand exceeds allocated resources it can displace scheduled elective surgery.

Who is responsible for the efficient use of operating theatres?

Hospitals and their local health districts (LHDs) are responsible for the efficient management of operating theatres. The fifteen geographical-based LHDs and two specialist health networks (Sydney Children’s Hospitals Network and St Vincent’s Health Network) have boards and chief executives to take on the devolved responsibility and accountability for delivering health services largely via their hospitals. Each chair and chief executive has signed a service agreement with the Director General of the Ministry of Health to meet service obligations and performance requirements, including some relating to surgical activity, waiting lists and hence operating theatres. The Board and Chief Executive of the LHD have corresponding formal agreements with hospital general managers to deliver the services. Within hospitals, those responsible include operating theatre committees, operating theatre unit managers, directors of medical services and heads of surgery and anaesthetics.

The Ministry of Health (previously the NSW Department of Health) and its Director General are responsible for supporting the roles of the Minister for Health, including statewide planning and monitoring the performance of LHDs and hospitals. The Ministry holds monthly meetings with each LHD executive team to review performance against targets/benchmarks and strategies to achieve them.
The Agency for Clinical Innovation and its Surgical Services Taskforce play an important role providing assistance, education and guidance to clinicians to develop improved methods of care and management. Other pillar agencies include the Clinical Excellence Commission that assists with quality and safety of care, and the Bureau of Health Information that provides independent reports on the performance of the NSW public health system.

NSW Health is the umbrella term for public health organisations across the state.

**The elective surgery journey**

To provide elective surgery a long list of activities and people must be co-ordinated within hospitals. These include patients, waiting lists, surgeons, anaesthetists, nurses, radiologists, porters and administrators. For this to occur, the responsible professionals must have capable systems, credible information and effective management structures. The diagram below indicates the level of co-ordination required for a successful elective surgery journey.

**Exhibit 1: Coordinating an elective surgery journey within hospitals**

- Waiting list management
- Booking office scheduling
- Pre-anaesthetic assessment
- Bed management planning
- Operating theatre scheduling
- First case on time
- Operating theatre utilisation
- Time/cost of procedure
- High Volume Short Stay Units
- Discharge by protocol
- Home-based services
- Access to high dependency care

Support Services

- Information systems
- Sterilisation services
- Porter services
- Diagnostic services
- Procurement/finance
- Operating theatre committees
- Waiting-list policy
- Bed management policies
- Models of care and discharge

National targets for treating patients off the waiting list must be met

1.2 Waiting times for elective surgery

**National targets for elective surgery**

An agreement between the Commonwealth, State and Territory governments in August 2011 resulted in the National Elective Surgery Target or NEST. Its aim is to ensure that elective surgical patients are treated within clinically recommended timeframes. There are three related categories: Category 1 patients are to be treated within 30 days, category 2 patients within 90 days and category 3 patients within 365 days. The decision to place a patient on the waiting list and within a category is made by the treating clinician based on NSW Health guidelines. As indicated in Exhibit 2, the targets are gradually being increased to 100 per cent by 30 December 2015. For the financial year 2010-11, approximately 80 per cent of patients were in category 3, 17 per cent in category 2 and three per cent in category 1.

To reach the target of treating 100 per cent of waiting list patients within clinically recommended times, the Audit Office estimates that this equals 20,000 (or nine per cent) more patients per year.
The importance of managing elective surgery waiting times is recognised in the State Plan NSW 2021: A Plan to Make NSW Number One (September 2011). Goal 12 in the plan is to provide world-class clinical services with timely access and effective infrastructure and a target/goal to reduce hospital waiting times for planned surgery.

**Performance against national targets**

The proportion of NSW Health patients treated within the clinically recommended timeframes met national targets for categories 2 and 3 at December 2012 and just fell short of the target for category 1 patients (ending the year one percent below the target of 96 per cent). During the period from June 2008 to December 2012, category 1 improved from 93 to 95 per cent and category 2 from 79 to 91 per cent, with category 3 falling from 95 to 92 per cent. Latest NSW Bureau of Health Information figures for the January to March 2013 quarter indicate that the categories were 99, 94 and 94 per cent respectively.

Over the period from June 2008 to December 2012, the length of time patients are waiting for elective surgery has been fairly static for categories 1 and 2 with median times of 11 and 48 days respectively at June 2012. Category 3 waiting time has increased over the period by 72 days (128 days to 200 days) and is on average longer than other States. Latest NSW Bureau of Health Information figures for the January to March 2013 quarter indicate that the median waiting time for category 3 increased to an average of 230 days.

For the calendar year 2012, the median waiting time for category 3 elective surgery patients in New South Wales was 200 days, almost 100 days longer than reported for Victoria (median of 105 days) and Queensland (median of 109 days). However, it should be noted that there are some differences in the data collection and reporting methodologies across jurisdictions.

As noted above, over the next three years NSW Health is to increase the proportion of patients on waiting lists who receive their elective surgery within prescribed times to 100 per cent. This will require increased efficiency in the elective surgery journey and possibly limiting more surgery through applying ‘appropriateness’ tests.

**Appropriateness of surgical procedures**

There is discussion at an international level about under what circumstances some elective surgery procedures should take place. It is occurring because of the significant increase in some types of elective surgery and the related costs. Examples of such procedures in orthopaedic surgery are hip and knee replacements. Examples in ear/nose/throat surgery include tonsillectomies and insertion of grommets. Cosmetic surgery and circumcision already must meet an identified clinical need to improve the physical health of the patient.

The development of evidence based appropriateness criteria for elective procedures will help prioritise patients and can provide an opportunity for reducing procedures and costs. Studies in the United States applying appropriateness criteria have revealed that many elective procedures are overused.

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**Exhibit 2: National elective surgery targets 2012 to 2015**

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<thead>
<tr>
<th>Category 1</th>
<th>Category 2</th>
<th>Category 3</th>
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<tr>
<td>%</td>
<td>%</td>
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<tr>
<td>By December 2012</td>
<td>96</td>
<td>90</td>
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<tr>
<td>By December 2013</td>
<td>100</td>
<td>93</td>
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<tr>
<td>By December 2014</td>
<td>100</td>
<td>97</td>
</tr>
<tr>
<td>By December 2015</td>
<td>100</td>
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Source: Ministry of Health.
A model of care is currently being trialled for the assessment of hip and knee surgery in seven LHDs across New South Wales. The model is to support ‘rational clinical management and equitable clinical decision-making for better delivery of healthcare, as well as improved health service planning and resource allocation’.

### 1.3 Elective surgery and operating theatre initiatives

Current elective surgery and operating theatre initiatives in NSW Health can be traced back to at least 2003-04. A significant development at the time was the formation of the Surgical Services Taskforce to support strategies and targets to better manage waiting times.

Strategies then were based around similar elective surgery waiting list categories as are in place today and were included in NSW Health’s Clinical Services Redesign Program.

Specific initiatives related to the Clinical Services Redesign Program targeting elective surgery and operating theatres were:

- the development of a surgery dashboard with indicators for utilisation, cancellation rates and numbers of operations (2006)
- Predictable Surgery Program developed by the Surgical Services Taskforce and built around principles to have the right patient, having the right operation, undertaken by the right staff in the right place (2005)
- introduction of extended day only (EDO) wards for surgical services to enable patients requiring a longer stay after some day procedures to still present as a short stay patient by receiving overnight care (2005)
- release of the Pre-Procedure Preparation Toolkit to ensure best practice in pre-procedure preparation (2007)
- design and implementation of Surginet, a statewide operating theatre information system (2007)
- the enhancement of education and training programs for nursing managers (2011)
- support for high volume short stay practices (arising from the Surgical Future Plans sponsored by the Surgical Services Taskforce (2012).

These initiatives were supported through budget funding for increased surgical procedures. From 2003-04 to 2011-12, $325.5 million in additional growth funding was provided for elective surgery enhancement. This was in addition to capital investment in refurbished and new operating theatre complexes.

### 1.4 Move to funding based on activity

Activity based funding is part of recent national agreements and is being introduced to provide more direct funding of public hospital services. Activity based funding allocations are based on the activities or procedures undertaken multiplied by an efficient price calculated on the actual cost of service delivery in a range of hospitals across Australia. The funded surgical procedures are classified using the Australian-Refined Diagnosis Related Groups (AR-DRG).

Activity based funding will put pressure on hospitals to deliver surgical services at or below the ‘funded’ efficient price, or to reduce provision of such services. The aim is to encourage more efficient hospitals, and thus provide more elective surgery overall for the same price.

For management in individual hospitals and LHDs this requires much greater attention to, and information on, the costs of providing specific services, and the components of those costs. For surgical services, this includes all stages of the patient’s journey.

Activity based funding is being implemented and is currently in a transitional stage with a combination of funding based on service activity and bulk allocations for small facilities. NSW Health is making steady progress in implementing activity based funding.
1.5 The audit

In this environment the management of surgical services and operating theatres require comprehensive information about how they are performing, a range of targets focusing on time, costs and surgical procedures, and effective management structures to enforce the strategic directions.

The audit assessed how efficiently public hospital operating theatres are being managed to deliver elective surgery.

The audit focused on efficiency and the management of theatre time, costs and staff to undertake as many elective procedures as possible using the existing levels of resources, or doing a set amount of procedures with a minimum amount of resources. We also acknowledge that other matters such as patient safety, clinical outcomes and equity must be balanced to achieve quality patient care, although these were not a primary focus of the audit. Such factors are important to the effectiveness of surgery and can place constraints on achieving efficiency.

The audit’s approach to assessing operating theatre performance had four elements:

- assessing data used at the State, LHD and hospital levels to manage operating theatre efficiency
- conducting a survey of operating theatre managers across the State (in conjunction with the Ministry)
- visiting hospitals as case studies
- discussions with stakeholders, both within and outside the public health system.