

# SESLHD Surgical, Perioperative and Anaesthetic Services **Clinical Services Plan 2013-2018**

Working together to improve the health  
and wellbeing of our community



South Eastern Sydney Local Health District  
**Surgical, Perioperative and Anaesthetic Clinical Services Plan 2013–2018**

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Website: <http://www.health.nsw.gov.au/seslhn/index.asp>

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# Abbreviations

ABF	Activity Based Funding
ACN	Australian College of Nursing
aIM2010	Acute Inpatient Modelling Tool (2010)
ANZCA	Australian and New Zealand College of Anaesthetists
AOANJRR	Australian Orthopaedic Association National Joint Replacement Registry
CAGR	Cumulative Annual Growth Rate
CHASM	Collaborating Hospitals' Audit of Surgical Mortality
CWTU	Cost Weighted Separations Undiscounted
DOSA	Day of Surgery Admission
DRG	Diagnosis Related Group
EDO	Extended Day Only
ENT	Ear Nose and Throat
ERAS	Enhanced Recovery After Surgery
ESRG	Enhanced Service Related Group
HDU	High Dependency Unit
HITH	Hospital in the Home
HIV	Human Immunodeficiency Virus
HVSS	High Volume Short Stay
ICU	Intensive Care Unit
IHPA	Independent Hospital Pricing Authority
JMO	Junior Medical Officer
LGA	Local Government Area
LHD	Local Health District
NEST	National Elective Surgery Targets
NIAC	New Intervention Assessment Committee
NWAU	National Weighted Activity Unit
OT	Operating Theatre
PAD	Planned Admission Date
PAS	Patient Administration System
PHQ	Patient Health Questionnaire
POWH	Prince of Wales Hospital
RACS	Royal Australasian College of Surgeons
RFA	Recommendation for Admission
RFC	Ready for Care
RHW	Royal Hospital for Women
SCHN	Sydney Children's Hospital Network
SESLHD	South Eastern Sydney Local Health District
SET	Surgical Education and Training program
SMO	Senior Medical Officer
SPaRC	Standard Performance and Reporting Collaboration
SRG	Service Related Group
SSEH	Sydney / Sydney Eye Hospital
STGH	St George Hospital
TSH	Sutherland Hospital
VMO	Visiting Medical Officer
WLCOS	Waiting List Collection On-Line System



# 1. Executive Summary

This plan is one of a suite of clinical service plans which provide strategic directions for the surgical, perioperative and anaesthetic services delivered by the South Eastern Sydney Local Health District. The District's surgical services currently contribute to over a third of all inpatient activity as well as surgery provided to our residents by other hospitals.

This Plan outlines the actions and timeframes required to address priority areas and initiatives identified in the District's *Strategy 2012-2017* and *Health Care Services 2012-2017* Plan.

The Plan has a particular focus on surgical sub-specialities and identifies current and projected surgical capacity and activity. It details a number of new models of care that will potentially streamline our service delivery and improve our capacity to provide effective, patient centred services. The level of clinical input into the plan has been significant with over 300 individual comments provided during the Plan's development.

Key findings and recommendations from the planning process include:

Surgical capacity and activity:

- Currently the District has a shortage of more than 60 surgical beds. By 2022 this shortfall is projected to be more than 120 beds based on current and projected activity, and current models of care.
- The District's Asset Strategic Plan 2012-2017 prioritised three of the top 5 capital projects to build significantly more beds. These substantial building works are subject to Ministerial and Treasury approval and construction takes time.
- In the interim, surgical services must be delivered within existing infrastructure and Activity Based Funding framework as well as meeting performance measures. To achieve this requires improving efficiencies and implementing new models of care.
- Directors of Operations implementation of these changes may require a review of the process of appointing clinicians.
- Clinician's engagement and support of these changes requires activity, utilisation, costing and outcome data that is accessible, relevant, timely, accurate and coherent.

The Plan is not considered a static document rather, as models of care are implemented and assets change, there will be ongoing discussion and debate to refine approaches and priorities with implications for the content and implementation of the plan.

Key models of care:

- Expanding high volume short stay services and streaming planned and emergency surgery are key to managing surgical activity across the District in the short to medium term.
- Specifically in the Southern Sector, St George Hospital will concentrate on trauma, emergency, cardiothoracic and complex cancer surgery, requiring high volume short stay services managed on the Sutherland Hospital campus.
- Consolidating surgery for some rare cancers improves patient's outcomes. The District will continue working with the Agency for Clinical Innovation, and the NSW Cancer Institute to establish designated centres for complex cancers.



Sub specialities:

- A recurring theme in many surgical sub-specialities was differentiation of routine surgery, available close to home, versus specialised and complex surgery requiring consolidated services. Examples of this are:
  - Spinal surgery where across NSW tertiary hospitals routinely manage complex spinal surgery with the exception of spinal cord injury which are triaged to Prince of Wales or Royal North Shore Hospitals.
  - Ophthalmology where planned routine cataract surgery should continue to be available from Sutherland Hospital through a high volume short stay service with complex procedures referred to Sydney Eye Hospital.
- The continued development of a public bariatric service with a full multidisciplinary team is seen as a high funding priority which requires enhancement funding.

*Summary of changes in surgical specialities over the next 5 - 10 years*

	Activity increase by 2022		Increased resources required by 2022			Changes to models of care by 2022						
	Separations (> 300)	Bed days (> 500)	Beds (> 5 by 2022)	Equipment / infrastructure	Staff	HVSS (> 500 seps 2012/13)	Separate planned & emergency	Specialty Centres	Low volume high complexity	Complex cancer	Clinical pathways	Vulnerable peoples access
Orthopaedic	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Spinal surgery								✓	✓			
Ophthalmology	✓	✓		✓		✓		✓			✓	✓
General Surgery	✓					✓	✓					
Urology	✓	✓		✓	✓	✓					✓	
Hand surgery				✓		✓		✓				
Plastic & Reconstructive Surgery					✓	✓				✓	✓	
Colorectal Surgery							✓					
Upper GIT Surgery		✓					✓	✓	✓	✓		
Hepatobiliary surgery									✓	✓		
Bariatric surgery					✓			✓				
Vascular Surgery		✓		✓							✓	✓
Neurosurgery		✓		✓			✓			✓		
ENT						✓		✓				
Endocrine surgery												
Head and Neck								✓		✓		
Maxillofacial surgery					✓			✓	✓			
Gynaecology						✓		✓		✓		
Obstetrics		✓										
Cardiothoracic Surgery		✓	✓				✓			✓	✓	
Paediatric					✓							
Breast Surgery					✓					✓	✓	

## 2. Introduction

### 2.1 Background

SESLHD's Board endorsed the development of the *Surgical, Perioperative and Anaesthetic Clinical Services Plan 2013 - 2018* (referred to in this document as the Plan). This Plan is one of an important suite of plans including the District's *Strategy 2012 - 2017* and the *Health Care Services Plan 2012-2017*<sup>1</sup> as well as other Stream's Clinical Service Plans.

### 2.2 Objective

The objective of the Plan is to provide direction and priorities for the development of the District's surgical, perioperative and anaesthetic services over the next five years. This Plan provides detailed information, data, analysis, implementation and operational planning for surgical services and is underpinned by and consistent with the directions and initiatives outlined in the District's Strategy and Health Care Services Plan.

### 2.3 Scope

For the purpose of this Plan, the scope is the Surgery Peri-Operative Anaesthetic Clinical Stream encompassing clinical and related areas including the following sub specialities:

Anaesthetic services	General surgery	Hepatobiliary surgery
Acute and chronic pain	Plastics surgery	Perioperative services
Ear, nose and throat surgery	Orthopaedic surgery	Sterilising
Endocrine surgery	Maxillofacial surgery	Head and neck surgery
Ophthalmological surgery	Colorectal surgery	Gastrointestinal surgery
Hand surgery	Neurosurgery	Vascular surgery
Reconstructive surgery	Neurovascular surgery	
Urological surgery	Spinal surgery	

In addition, activity from other Clinical Streams has been considered where this activity has an impact on the Surgical Stream (eg anaesthetics, theatres, surgical beds and surgical staff) including:

- Critical Care and Emergency: trauma<sup>2</sup>, intensive care and high dependency units, emergency departments, etc;
- Cardiac and Respiratory: cardiothoracic surgery;
- Women and Children's Health: surgery of children, gynaecology, obstetric surgery;
- Ambulatory and Primary Health Care: endoscopy, outpatient procedures, etc;

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<sup>1</sup> SESLHD, 2012a, *Strategy 2012-2017* and 2012b, *Health Care Services Plan 2012-2017*.  
URL: <http://www.seslhd.health.nsw.gov.au/HealthPlans/default.asp>

<sup>2</sup> Whilst the majority of trauma patients are admitted with the surgical specialties the St George Hospital Major Trauma Service is part of the NSW State Trauma Plan and outside the scope of this plan.

- Cancer Stream: breast surgery; and
- Pathology and Medical Imaging.

Analysis of surgical activity incorporates:

- Residents of SESLHD treated in the District's hospitals, other public hospitals as well as private hospitals;
- Residents from other Local Health Districts treated in SESLHD's hospitals;
- Costs and funding of care including impact of Activity Based Funding; and
- The continuum of care from pre-operative, through inpatient services (including bed management) to outpatient and/or community health.

The timeframe for the Plan is five years from 2013 – 2018 with a view to 2022.

## 2.4 Development process

### Data analysis

The development of this Plan was guided by data analysis by sub-specialty.

Overall clinicians welcomed the detailed data provided.

While every effort was made to use high quality data there were some limitations.

The main data sources for activity and demand<sup>3</sup> used DRG's mapped to ESRGs and SRGs. This resulted in some activity being mapped to different sub specialities. For example some hand surgery as well as some breast surgery DRGs were coded to plastic and reconstructive surgery. This resulted in some double counting and skewing of sub speciality data.

Activity projections were based on:

- trend analysis of inpatient separations;
- population projections of ageing and growth; and
- adjusted for changes in clinical practice.

The actual activity occurring in 2022 will depend on the accuracy of these assumptions.

Costing data was particularly problematic (refer to Section 5.4: Activity Based Funding and costs of care).

Due to these limitations the data included in this Plan should be seen as indicative rather than definitive.

### The Future

Surgeons requested:

- improved transparency and availability of demand and activity data; and
- improved accuracy, relevance, timeliness, coherence and interpretability of cost and pricing data.

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<sup>3</sup> NSW Ministry of Health's *FlowInfo v12.0* and *aIM2012*

A key concern was the use of this data in decision-making without consideration of outcomes data. Surgeons strongly supported improved access to outcomes data such as that provided by Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR) and/or Collaborating Hospitals' Audit of Surgical Mortality (CHASM) in local decision making.

## Consultation

Fundamental to the document's development has been the ongoing guidance and direction from the Surgical/Anaesthetic/Perioperative Clinical Stream Strategy and Access Committee (referred to in this document as the Surgical Stream Committee), surgical and anaesthetic staff and local Clinical Councils (see Appendices).

Broad consultation with other Streams and key external stakeholders (e.g. Agency for Clinical Innovation, Clinical Excellence Commission, Health Education Training Institute) through the Clinical Stream Meetings and other forums and processes has been undertaken as required.

The Plan's development benefited from over 40 individual contributors. In total over 300 comments were received.

This guidance and consultation identified the most significant surgical service needs and gaps now and in the future as well as the proposed future directions and actions articulated in this Plan.

## 3. Planning Context

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### Key points

The development of this Plan has taken into account a range of trends, plans, policies, guidelines and models of care developed by the District as well as those at the international, national and State level.

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### 3.1 South Eastern Sydney Local Health District

SESLHD covers nine NSW Local Government Areas from Sydney's Central Business District to the Royal National Park in the South. The District also provides a key role in assisting residents of Lord Howe Island and Norfolk Island with access to hospital and health services, including state-wide services. The District has a complex mix of highly urbanised areas, industrialised areas and low density suburban development areas in the south. The District supports a culturally and linguistically diverse population of over 840,000 people.

The services provided across the District include hospital inpatient and outpatient services, imaging and pathology, population health programs and services; ambulatory, primary health care and community services among others. Facilities include six public hospitals and associated health services: Prince of Wales Hospital; Royal Hospital for Women; St George Hospital; Sutherland Hospital; Sydney / Sydney Eye Hospital; and Gower Wilson Memorial Hospital on Lord Howe Island. The District also provides one public residential aged care facility (Garrawarra Centre), and oversees two third schedule health facilities: War Memorial Hospital (third schedule with Uniting Care) and Calvary Healthcare (third schedule with Little Company of Mary Health Care).

Other public health facilities that deliver services to the local population within SESLHD's geographical boundaries include Sydney Children's Hospital (Randwick), St Vincent's Hospital (Darlinghurst) and Sacred Heart Hospice. There are a growing number of private health facilities and two Medicare Locals located in the South Eastern Sydney Local Health District.

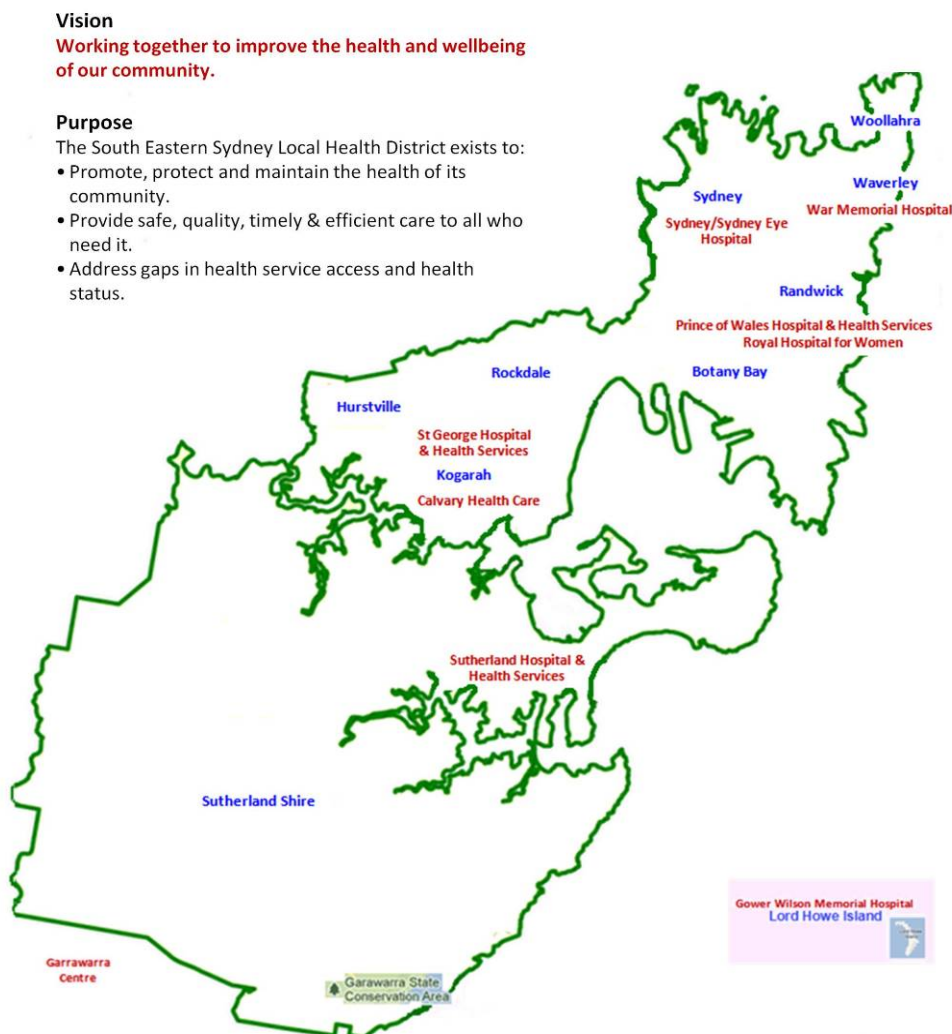
A number of fundamental principles guide our decisions on the directions and actions to take with regard to the development and delivery of health care within the District. These are outlined in the SESLHD *Strategy* and *Health Care Services Plan*.

Despite the great improvements in average life expectancy achieved in recent decades, health gains have not been equally shared across the population of South Eastern Sydney. One of the District's key priorities is to reduce inequities in health service access and health outcomes. Those most at risk of experiencing health inequities are our most vulnerable population groups. Vulnerable populations are those at greater risk for poor health status and access to health care.

As occurs in the rest of Australia, the starkest variation in health status between population groups resident in South Eastern Sydney is between Aboriginal and non-Aboriginal Australians. Other vulnerable populations in South Eastern Sydney include the economically disadvantaged, the homeless, people with disabilities, refugees and many elderly with

chronic health conditions, including severe mental illness. The vulnerability of these individuals is enhanced by ethnicity, culture, English proficiency, age, sex, and factors such as poor access to health care. Their health and healthcare problems intersect with social factors, including housing, poor or no social capital and inadequate education. The numbers within some vulnerable populations in South Eastern Sydney are increasing, particularly as the population ages. Chronic illnesses and the impact of these illnesses are more prevalent among vulnerable populations.

*Figure 1: Map of the geographic area of SESLHD by Local Government Area and major facilities*



Our District health services and facilities aim to provide high quality appropriate prevention and care to all people, including those from vulnerable population groups. To achieve this, the District is guided by a range of state and local key strategies and plans which have been developed to:

- Support national, state and local planning efforts to achieve systems of care that meet the specific needs of vulnerable populations;
- Achieve equity in health care access and quality, and address concerns faced by vulnerable populations; and
- Document and track health care quality for vulnerable populations.



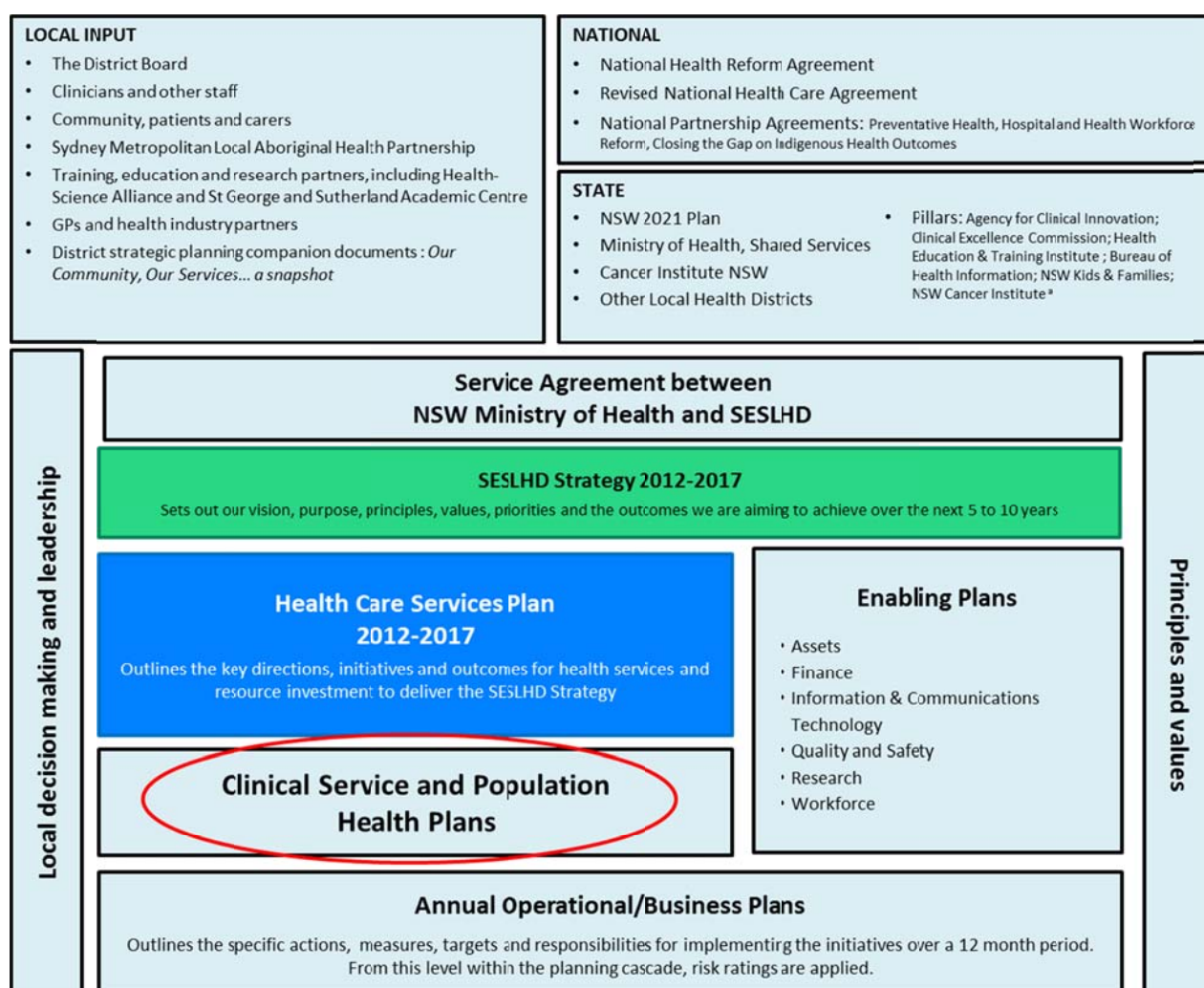
This plan will contribute to the other clinical service plans developed by the District as shown in the SESLHD Planning Framework (Figure 2). Implementation will be coordinated by the Surgical Stream Committee, with input from and partnerships between the other directorates and facilities described herein.

## Our strategic planning framework

All planning within SESLHD is guided by several key strategic planning documents:

- *South Eastern Sydney Local Health District Strategy 2012-2017* providing the overarching vision for the District and espousing our values and principles, high level priorities and desired outcomes for the organisation for the next five years.
- *Health Care Services Plan 2012-2017* detailing how the District's health care services will deliver the District's Strategy, in terms of specific initiatives and outcomes.
- A companion document *Our Community, Our Services: a Snapshot*<sup>4</sup> providing an overview of trends in population health status and risks and patient access, utilisation and experiences of District services.

Figure 2: South Eastern Sydney Local Health District Planning Framework



<sup>4</sup> SESLHD, 2012c, *Our Community, Our Services: a Snapshot*  
 URL: <http://www.seslhd.health.nsw.gov.au/HealthPlans/default.asp>



## 3.2 Major national and international trends

Planning for surgical services over the next 5-10 years requires that the broad national and international context is considered.

Major drivers and trends, as outlined in a background paper developed for the NSW Surgical Futures Project<sup>5</sup> include:

### Increasing and changing profile of demand

Larger numbers of people, particularly older people and people with chronic conditions and/or co-morbidities often require more complex care and longer lengths of stay as well as more complex anaesthesia overall increasing demand for health services.

Demand for some surgery will increase (eg orthopaedics, minimally invasive techniques), while demand for other types of surgery will decline.

### Shortages and changing profile workforce

Workforce shortages are likely to increase as the workforce ages and potentially, as sub specialisation increases. Greater demands for an improved work-life balance will also affect workforce availability.

Important workforce challenges include ensuring adequate 'hands on' clinical training and supervision; and generalist and on-call cover.

Providing fit-for-purpose and state of the art facilities and adequate day-to-day support, can help ensure the attraction and retention of the appropriate workforce for surgery and related services.

### Role delineation and clinical networking

Appropriate clinical streaming facilitated by clear and complementary role delineations and clinical networking can improve access, patient safety and clinical outcomes, while increasing the predictability of rates and types of surgery and potentially workforce supply.

### Changing practice

Changes in practice have and will continue to affect both the volume and mix of surgery and demand for revised configurations of theatres, pre-admission services, recovery and pre-discharge areas.

These changes are, to a large degree, linked to new technologies including those aimed at delivering more precise and less invasive procedures. Overall, changes in practice are likely to include an increased use of:

- Treatment protocols and evidence-based guidelines including clinical pathways and multi-disciplinary reviews;
- Day Only and Extended Day Only (EDO) surgery;

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<sup>5</sup> NSW Health. (2010a). *Surgical Futures: Background Paper for Workshop held on 20 March 2010*. Retrieved March 15, 2013, from <http://www.archi.net.au/documents/resources/hsd/surgery/futures/w1/background.pdf>

- High Volume Short Stay(HVSS);
- Hospital in the Home (HITH);
- Streaming of planned and emergency surgery;
- Hybrid operating/procedure rooms;
- Robotic surgery;
- Post surgical home care;
- Endoluminal, laparoscopic and minimally invasive surgery; and
- Imaging and anaesthetic innovations.

Uptake of these organisational, technological and clinical changes can increase the predictability of rates and types of surgery (planned and emergency) as well as post-operative requirements; reduce 'inappropriate' admissions and procedures; reduce hospital stays (more day only, more ambulatory care, reduced lengths of stay); improve flow and decrease waiting times; and improve clinical outcomes.

SESLHD's New Intervention Assessment Committee (NIAC) must assess all new interventions which have not previously been performed in a specific SESLHD facility. This applies even where the intervention has been performed in other SESLHD facilities but not in the specific facility in question. The approval process involves panel assessment of the intervention according to the evidence of its safety, clinical effectiveness, resources required and education and training of clinical staff.

## 3.3 Commonwealth

### National Clinical Care Standards

Part of the work by the Australian Commission on Safety and Quality in Health Care is to lead and coordinate national improvements in safety and quality in health care across Australia including developing clinical care standards to ensure these are appropriate, reduce variation and improve clinical outcomes and the patient experience. In 2011 they published ten nationally consistent and uniform standards for application across a wide variety of health care services, designed to assist health service organisations to deliver safe and high quality care (refer to Section 10).

### Activity Based Funding

Activity-Based Funding (ABF) is a central feature of recent Council of Australian Governments health care reforms to pursue greater efficiencies in health and hospitals. With ABF, health care organisations are funded on the volume and type of activity they undertake.

The funding classification used in ABF is the Australian-Refined Diagnosis Related Group (DRG) (a classification of patients according to their diagnoses, surgical procedures and other routinely collected data) which is given an National Weighted Activity Unit (NWAU)<sup>6</sup>.

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<sup>6</sup> An NWAU is a measure of health service activity expressed as a common unit, against which the national efficient price is paid. It provides a way of comparing and valuing each public hospital service (whether it is an admission, emergency department presentations or outpatient episode), by weighting it for its clinical complexity. The average hospital service is worth one NWAU – the most intensive and expensive activities are worth multiple NWAUs, the simplest and least expensive are worth fractions of an NWAU.

The Independent Hospital Pricing Authority (IHPA) sets the nationally efficient price and multiplies this by the NWAU to provide the total cost for each DRG class<sup>7</sup>.

## 3.4 NSW Ministry of Health

### NSW Surgical Services Taskforce

This Plan is guided by the work of the NSW Surgical Services Taskforce. Established in 2005 to support change in surgical service across the State, a particular focus of the Taskforce has been to guide reductions in surgery waiting times and to ensure community members have predictable and timely access to appropriate elective and emergency surgical services.

Useful resources developed by the NSW Surgical Services Taskforce include:

- **Surgery Futures:** developed Frameworks describing how elective and emergency public sector surgical services will be developed and delivered through to 2021 in the across NSW. The Greater Sydney Framework<sup>8</sup> maps a path that better utilises the existing surgical infrastructure and workforce to improve services for patients, attract and retain surgeons, anaesthetists and operating room staff, optimise available funding and enhance clinical training.

Three models emerged from broad consultations with clinicians in 2010<sup>9</sup> including:

- **Separating planned and emergency surgery:** this resulted in the development of the *Emergency Surgery Guidelines*<sup>10</sup>. The aim of the Guidelines is to assist specific hospitals redesign the management and delivery of emergency surgery by selecting an appropriate model of emergency surgery redesign; developing a strong business case supported by clinicians and managers; implementing appropriate models of emergency surgery care and identifying referral networks for inter-hospital transfer.
- **Separating high volume short stay surgery:** this model describes the impact of separating out high volume procedures with a length of stay of three days or less. It has led to the development of the *High Volume Short Stay Surgical Model of Care*<sup>11</sup> concentrating suitable planned surgical cases in dedicated high-volume, short stay surgical units.
- **Identifying and developing specialty centres:** this model builds upon existing models whereby major centres are designated as specialty centres and receive the complex surgery across a particular catchment. For some specialties, this may also include the designation of one or two “super specialty” (quaternary) centres.
- **Predictable Surgery Program:** developed by the Surgical Services Taskforce in 2005. This Program provides greater assurance that the right patient has the right operation with the right staff in the right place at the right time producing the right outcome.

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<sup>7</sup> Activity Based Funding and the Independent Hospital Pricing Authority. Australian Government Department of Health and Ageing <http://www.yourhealth.gov.au/internet/yourhealth/publishing.nsf/content/nhra-brief-qa-abf>

<sup>8</sup> NSW Health, Surgical Services Taskforce. (2011a). *Surgery Futures: A Plan for Greater Sydney*. Retrieved March 2013, from <http://www.archi.net.au/documents/resources/hsd/surgery/futures/surgery-plan.pdf>

<sup>9</sup> NSW Health. (2010b). *Surgery Futures Discussion paper for 2nd Workshop on 11 September 2010*. Retrieved March 2013, from <http://www.archi.net.au/documents/resources/hsd/surgery/futures/surgery-plan.pdf>

<sup>10</sup> NSW Health. (2009). *GL2009\_009 Emergency Surgery Guidelines*. Retrieved March 2013, from [http://www0.health.nsw.gov.au/policies/gl/2009/pdf/GL2009\\_009.pdf](http://www0.health.nsw.gov.au/policies/gl/2009/pdf/GL2009_009.pdf)

<sup>11</sup> NSW Ministry of Health. (2012a). *GL2012\_001 High Volume Short Stay Surgical Model Toolkit*. Retrieved March 2013, from URL: [http://www0.health.nsw.gov.au/policies/gl/2012/pdf/GL2012\\_001.pdf](http://www0.health.nsw.gov.au/policies/gl/2012/pdf/GL2012_001.pdf)

- **Elective Surgery Management:** including waiting list management where clinicians and hospital managers work cooperatively to ensure clinically appropriate, consistent and equitable management of elective surgical patients.

## Other key NSW policies and guidelines

The NSW Ministry of Health has a number of key policies and guidelines including:

- Waiting Time and Elective Surgery Policy ( PD2012\_011);
- Advice for Referring and Treating doctors – Waiting Time and Elective Surgery Policy (IB2012\_004);
- High Volume Short Stay Surgical Model Toolkit (GL2012\_001);
- Self-Assessment Checklist for Surgical Services<sup>12</sup>;
- Extended Day Only Admission Policy (PD2011\_045);
- Emergency Surgery Guidelines (GL2009\_009);
- Pre-Procedure Preparation Toolkit (GL2007\_018);
- Correct Patient, Correct Procedure and Correct Site (PD2007\_079);
- Clinical Practice - Model Policy for Safe Introduction of New Interventional Procedures (PD2005\_333);
- Surgical Activity During Christmas/New Year Policy (PD2012\_038);
- NSW Pain Management Plan 2012-2016: NSW Government Response to the Pain Management Taskforce Report<sup>13</sup>;
- Selected Specialty and Statewide Service Plans No. 6: NSW Trauma Services<sup>14</sup>.

In addition, New South Wales Auditor-General released a performance audit report in 2013, *Managing operating theatre efficiency for elective surgery*.

## 3.5 Professional Groups

Professional groups also guide best practice and assist in the management of surgical services through a variety of position statements, policies and guidelines of surgical services. These groups include:

- Royal Australasian College of Surgeons (RACS)
- Australian and New Zealand College of Anaesthetists (ANZCA)
- Australian College of Nursing (ACN)
- Various allied health and sub speciality groups.

<sup>12</sup> URL: <http://www.archi.net.au/resources/delivery/surgery/predictable-surgery/7>

<sup>13</sup> URL: [http://www0.health.nsw.gov.au/pubs/2012/nsw\\_pain\\_management\\_plan\\_.html](http://www0.health.nsw.gov.au/pubs/2012/nsw_pain_management_plan_.html)

<sup>14</sup> URL: [http://www0.health.nsw.gov.au/pubs/2009/trauma\\_services.html](http://www0.health.nsw.gov.au/pubs/2009/trauma_services.html)

## 4. Surgical Services Catchment

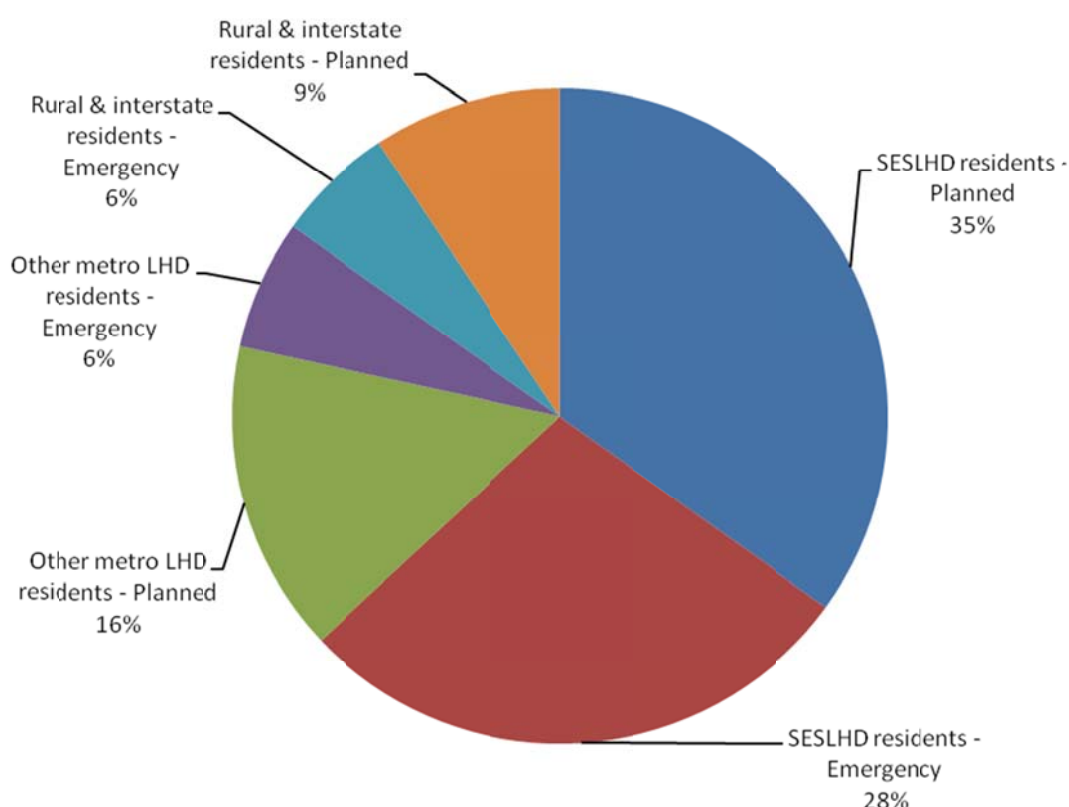
### Key points

Most people having surgery in SESLHD's hospitals are residents of the District. By 2022 the number of residents in the District will have increased and there will be a higher proportion of older people.

### 4.1 Service Catchment

The catchment for SESLHD's surgical services is mainly residents of the District (63% or more than 21,000 separations) with some surgical patients travelling from other parts of Sydney (22%) or NSW (15%).

Figure 3: Where SESLHD's surgical patients come from, 2011/12



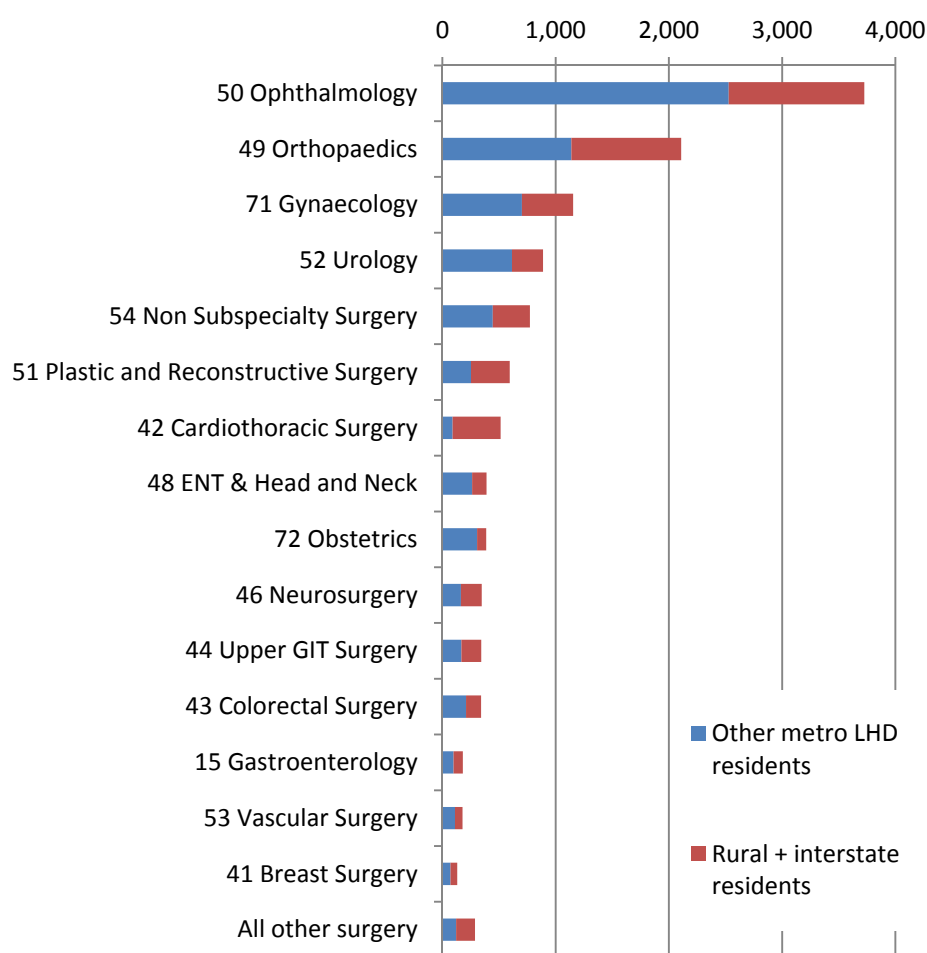
**Source:** FlowInfo v 12. **Inclusions:** SESLHD hospitals; Clinical Category: Surgery/procedural; Age: all age groups. **Exclusions:** non-SESLHD public and private hospitals; SRG: Interventional cardiology, Diagnostic GI Endoscopy, qualified neonate, unqualified neonate, perinatology; ESRG: Non procedural gynaecology, ante natal admission, post natal admission; DRG: O60A Vaginal Delivery W Catastrophic or Severe CC, O60B Vaginal Delivery W/O Catastrophic or Severe CC, O60C Vaginal Delivery Single Uncomplicated W/O Other Condition. **Notes:** Prince of Wales and Sutherland Hospital's data includes associated collaborative care (ie public patients treated in private hospitals)

Of the non-SESLHD residents having their surgery in SESLHD hospitals:

- 55% (nearly 7,000 separations) were for planned day only procedures or had DRGs considered suitable for high volume short stay service, more than 2,500 of these separations were for ophthalmology;
- 30% (more than 3,500 separations) were classified as emergency with an average National Weighted Activity Unit (NWAU) of 1.59;
- 8% (more than 1,000) separations were either planned or emergency admissions and spent time in intensive care so had a very high NWAU of 10.21; and
- 7% (nearly 900 separations) were planned with an overnight stay with a high NWAU of 3.75.

By Service Related Groups it is apparent non-SESLHD residents are predominantly having ophthalmic, orthopaedic and gynaecological surgery (also see Section 7.3 regarding discussion of speciality centres).

*Figure 4: Non-SESLHD residents having surgery in SESLHD hospitals, by SRG, 2011/12*



Source, inclusions, exclusions and notes refer to Figure 3

## 4.2 Current and projected population

Surgical services are predominantly provided to residents of South Eastern Sydney.

In 2011, nearly 860,000 people lived within the SESLHD boundaries<sup>15</sup>. About 45% live in the Northern Sector<sup>16</sup> catchment (more than 380,000) and 55% in the Southern Sector<sup>17</sup> (more than 470,000).

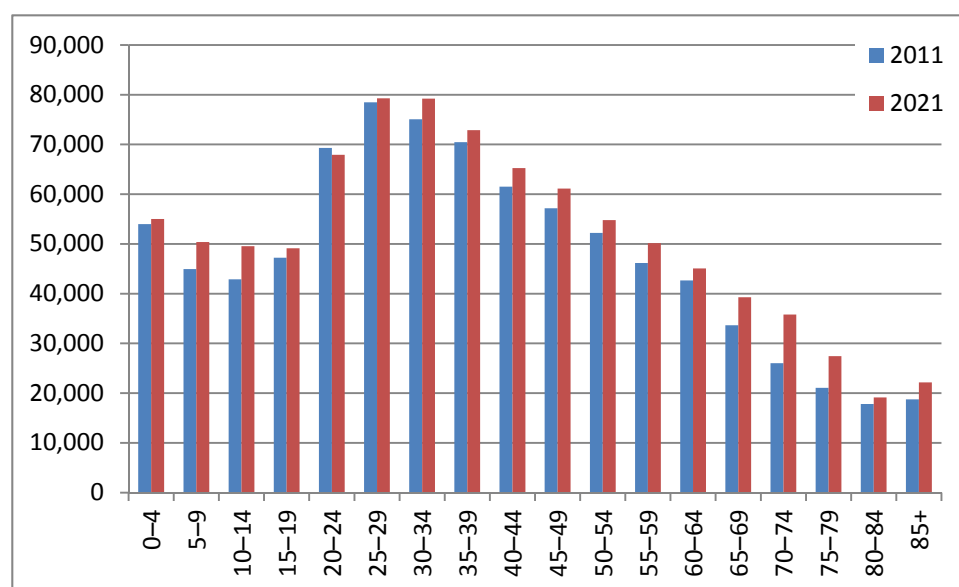
Between 2011 and 2021, the SESLHD population is projected to increase by 6.9% to nearly 919,000 residents (or approximately 59,000 additional people). This represents a slightly higher growth rate than the NSW average (+6.4%).

The Northern Sector will account for 52% (about 31,000 people) and Southern Sector 48% (approximately 28,000 people) of the expected increase in SESLHD population.

### Age distribution

The greatest increase in the number of people in a specific age group is the 65 - 79 year age group increasing by more than 21,000 people, followed by children (aged 0 - 14 years) increasing by more than 13,000. Of note are 85 year olds or older increasing by more than 3,000 people.

Figure 5: Current and projected residents of the SESLHD, by age group, 2011 and 2021



**Source:** NSW Department of Planning and Infrastructure.

<sup>15</sup> NSW Department of Planning and Infrastructure, 2011, *New South Wales Local Government Area Population Projections: 2010 interim revision*

<sup>16</sup> Northern Sector's geographic boundary includes Sydney Inner + East Statistical Local Areas (SLA) and Botany Bay, Randwick, Waverley and Woollahra Local Government Areas (LGA)

<sup>17</sup> Southern Sector includes Hurstville, Kogarah, Rockdale and Sutherland LGAs



## Aboriginal peoples

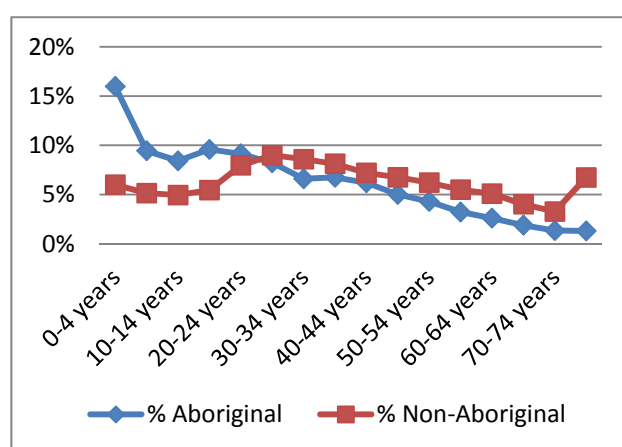
*\*When referring to Aboriginal peoples this includes Torres Strait Islander peoples.*

In 2011, SESLHD's total Aboriginal resident population was 6,319 people – 0.8% of the District's total population<sup>18</sup>.

The District's largest Aboriginal populations live in the Randwick and Sutherland Local Government Areas. Of all SESLHD Local Government Areas, Botany has the highest proportion of Aboriginal people (1.6%).

Compared to the non-Aboriginal population, the Aboriginal population is much younger.

*Figure 6: Proportion of Aboriginal & non Aboriginal populations by age group, SESLHD, 2011*



**Source:** ABS, 2011

## Cultural and Linguistic Diversity

SESLHD has a large population who were born overseas.

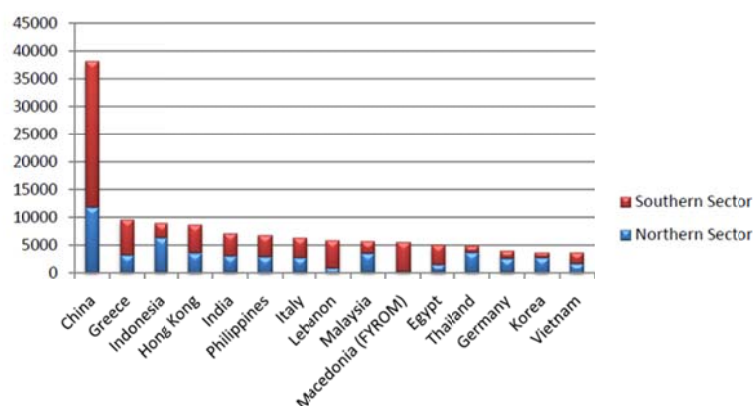
In 2011, more than 206,000 people (26% of the District's population) were born in a non-English speaking country, an increase of 5% from 2006. Almost half (42%) of these residents live in the St George area.

More than a third (37%) of our residents speak another language at home, an increase of 13% from 2006.

People born in China make up by far the largest SESLHD population from a non English speaking country, followed by Greece and Indonesia.

<sup>18</sup> Australian Bureau of Statistics, 2011, Census of Population and Housing

Figure 7: Top 20 non English speaking countries of birth for Northern and Southern Sector residents, 2011



**Source:** SESLHD, 2011, Community Profile; URL:

[http://seslhnintranet/Multicultural\\_Health/Documents/SESLHD\\_Population\\_Profile\\_2011\\_census.pdf](http://seslhnintranet/Multicultural_Health/Documents/SESLHD_Population_Profile_2011_census.pdf)

## Other vulnerable population groups

As occurs in the rest of Australia, the starkest variation in health status between population groups living in SESLHD is between Aboriginal and non-Aboriginal Australians. Other vulnerable populations in the District include the economically disadvantaged, the homeless, people with disabilities, refugees, those with human immunodeficiency virus (HIV) and those with other chronic health conditions, including severe mental illness. The vulnerability of these individuals may be increased by culture, ethnicity, English proficiency, age, gender and factors such as poor access to health care. In addition, their health and health care problems intersect with social factors, including housing, poor or no social capital and inadequate education.

The numbers within some of these vulnerable populations in the District are increasing, particularly as the population ages, such as people living with diabetes and HIV.

# 5. SESLHD's Surgical Capacity

## Key points

SESLHD's surgical capacity is constrained in part by

- a lack of surgical beds and a need for hybrid operating theatres
- workforce shortages and an ageing workforce and
- fiscal constraints

## 5.1 Capital infrastructure

SESLHD's Asset Strategic Plan<sup>19</sup> details the District's capital infrastructure requirements. It provides the long-term approach for managing the District's land, buildings, infrastructure, plant and equipment to support implementation of health care priorities and initiatives outlined in the Strategy and Health Care Services Plan 2012-2017.

It includes planning, acquisition, maintenance and asset disposal as well as identifying the District's capital priorities.

### Surgical beds

In 2011/12, there were more than 400 average available designated surgical beds<sup>20</sup> across the District, predominantly overnight beds.

The majority of these surgical beds were located at St George and Prince of Wales Hospitals each having about one third of beds, with Sutherland Hospital having nearly one fifth and the remainder split between Sydney/Sydney Eye Hospital and Royal Hospital for Women.

Table 1: Surgical beds by hospital, occupancy and availability 2011/12

Hospital	Occupied bed days	Available bed days	Bed occupancy rate	Average bed availability
SSEH	15,547	16,244	96%	45
POWH	42,167	46,325	91%	127
RHW	6,564	9,855	67%	27
STGH	44,302	49,318	90%	135
TSH	19,408	25,305	77%	69
SESLHD Total	127,988	147,047	87%	403

**Source:** SES SPaRC Report B3000 Bed Occupancy, HIE Available beds. **Inclusions:** designated surgical beds.

**Note:** Discrepancies between SPaRC and FlowInfo data reflect differences between counts of patients versus separations, surgery rates, differences in versions and groupings of DRGs, etc.

<sup>19</sup> SESLHD, 2013, Asset Strategic Plan 2012-2017

<sup>20</sup> Admitted Patient Data Dictionary - Bed type (Admitted Patient Beds code and descriptor): 47 Surgical Overnight, 82 Extended Short Stay Surgical (< 24 hrs), 81 Same Day Surgical.

The surgical bed occupancy rates<sup>21</sup> at all SESLHD hospitals are high resulting in shortages of surgical beds at peak times (Table 1). Compounding these shortages are medical, aged care and sub-acute patients accommodated in surgical beds particularly in winter due to increased emergency department activity.

### The Future

The District's Asset Strategic Plan demonstrated a shortage of surgical beds (there are currently 403 surgical beds), and 2011/12 data confirms a requirement for more than 460 surgical beds (assuming bed occupancy at 85%) across the District (Table 2). By 2022, demand for surgical beds in the District will have increased to more than 530 beds, a shortfall of more than 120 beds.

Comparing occupied and available bed days (Table 1) with activity data (Table 6) and projected activity (Table 7) and assuming current flows it is indicative that:

- Sydney / Sydney Eye Hospital has and will continue to have sufficient surgical bed capacity;
- Prince of Wales Hospital currently has a shortage of approximately 20 surgical beds increasing to 50 by 2022;
- Royal Hospital for Women has a shortfall of approximately 14 surgical beds;
- St George Hospital has a shortage of approximately 40 surgical beds increasing to nearly 60 by 2022; and
- Sutherland Hospital appears to have sufficient surgical and EDO beds.

However, while Sutherland Hospital appears to have sufficient surgical beds, closer examination of the 2011/12 data indicated non-surgical patients occupied up to 11 surgical beds impacting on the total bed availability. Hospital staff indicated this limited efficient use of their operating theatres.

*Table 2: Surgical bed availability versus current and projected requirements by hospital*

Hospital	Bed availability at 30 June 12 (A)	Surgical beds required 2011/12	Projected bed requirements 2022 (B)	Projected shortfall (B-A)
SSEH	45	39	46	1
POWH	127	147	178	51
RHW	27	41	42	15
STGH	135	176	192	57
TSH*	69	62	71	2
SESLHD Total	403	465	530	127

*Notes: Bed availability from Table 1. Beds required 2011/12 from Table 6 (bed days and assumes availability of 365 days at 85% occupancy). Projected requirements 2022 from Table 8.*

*\* If a high volume short stay unit is established at TSH and patient groups are transferred from STGH, then the projected bed requirement will significantly change.*

<sup>21</sup> Occupancy rate = Sum of occupied bed days during the period / Sum of available bed days in the period.  
NSW Ministry of Health endorsed benchmarks are routinely 85% occupancy.

In response to this critical bed shortage the Asset Strategic Plan identifies three of the District's "top five" capital priorities as:

- Sutherland Hospital and Health Service Campus: Expand inpatient accommodation and the emergency department (estimate \$62 million);
- St George Hospital and Health Service Campus: Rebuild 7 floors above the new emergency department to expand intensive care, high dependency, cardiac intensive care to a built-for-purpose critical care floor and theatre expansion and inpatient accommodation (estimate \$282 million); and
- Randwick Hospitals and Health Service Campus: Reconfigure inpatient accommodation including emergency department and relocate Helipad (estimate \$420 million).

Construction of this additional capacity is subject to Ministerial support, Treasury approval and has lengthy timeframes.

In the interim, surgical services must continue to be delivered from the existing bed base.

## Operating theatres

There are more than 40 operating theatres in SESLHD hospitals.

Theatre utilisation rates for elective surgery indicate some spare capacity across the District. However, an accurate account of theatre utilisation and capacity across SESLHD is limited by:

- the accuracy, reliability and validity of this data;
- the ability to run concurrent theatres;
- the efficient use of surgeons time by running concurrent theatres;
- the comparability of the physical versus funded capacity of operating theatre; and
- the impact of emergency surgery and non-surgical procedures on planned sessions.

The NSW Auditor-General<sup>22</sup> highlighted these issues recommending:

*"LHDs and their hospitals should, by 30 June 2014, improve their monitoring of the extent that the physical capacity of operating theatres is used and the constraints on greater use. Measures should allow comparison by theatre of actual hours used, booked hours and funded hours, and allow monitoring of the number of surgical procedures planned and undertaken."*

And in relation to non-surgical procedures recommended:

*LHDs supported by the Ministry and the Agency for Clinical Innovation should, by 30 June 2014:*

- *regularly monitor the extent to which theatres are used for non-surgical procedures*
- *establish plans for minimising the use of operating theatres for non-surgical procedures, based on considerations such as patient safety, availability of staff and equipment, the co-location of services and benefit cost analysis.*<sup>23</sup>

<sup>22</sup> New South Wales Auditor-General, 2013, New South Wales Auditor-General's Report Performance Audit: Managing operating theatre efficiency for elective surgery

<sup>23</sup> New South Wales Auditor-General

Table 3: Theatre cases and utilisation by hospital, 2012

Facility	Theatre Cases			Theatre Utilisation for Elective Sessions		
	Elective Cases	Emergency Cases	All Cases	Utilised minutes	Scheduled minutes	Utilisation Rate <sup>24</sup>
SSEH	4,848	3,631	8,479	285,633	408,315	70.0%
POWH	7,432	4,697	12,129	1,067,882	1,527,330	69.9%
SCH	3,372	2,771	6,143			
RHW	2,347	1,521	3,868	170,433	230,435	74.0%
STGH	4,423	5,707	10,130	526,136	661,215	79.6%
TSH	4,800	3,099	7,899	210,182	272,515	77.1%
Total	27,222	21,426	48,648	2,260,266	3,099,810	72.9%

Source: SES SPaRC Report C2014 Theatre Operations per Operating Room

Notes:

1. Utilisation figures for Prince of Wales include Sydney Children's number as the two facilities share the same theatres.
2. Prince of Wales Hospital utilisation data includes cardiac and urology theatres
3. Discrepancies between theatre cases and theatre utilisation (SPaRC data) and Count of MRN and Room Duration (Table 7 using HIE data) may reflect a number of factors including separate years of data collection, single patients having multiple operations, differing data sources, etc.

## The Future

SESLHD's Asset Strategic Plan notes the impact of projected increases in surgical separations on operating theatres needs investigation and detailed planning. However, it is apparent that some theatres may need to be built or reconfigured to provide hybrid theatres (equipped with advanced medical imaging devices such as fixed C-Arms, CT scanners or MRI scanners).

The Surgical Stream Committee highlighted the urgent need for hybrid operating theatres to further enable minimally-invasive surgery. Prince of Wales Hospital's surgeons emphasised the importance of this type of theatre for vascular surgery as well as other types of surgeries.

In addition, Prince of Wales Hospital's surgeons note the Randwick campus submitted a proposal in 2010 for the Da Vinci robot to be funded through NSW Health with a view to its use by the specialty surgical teams in Prince of Wales, Royal Women's and Sydney Children's Hospitals. Although the application was unsuccessful, surgeons consider Randwick Campus is an ideal site and re-submitting the proposal to the Ministry of Health on behalf of the three hospitals remains a high priority.

St George Hospital's surgeons report the theatres are currently operating at or over capacity, due in part to the trauma load and specifically the:

- rising trauma load on casemix of neurosurgery inpatients;
- requirement for adequate operating time to perform work and maintain accreditation by Royal Australian College of Surgeons (based on caseload and casemix) and maintain the viability of St George Hospital remaining a trauma centre;
- collateral changes in referral patterns from country hospitals historically linked to teaching hospitals in other Local Health Districts; and
- demands of the Peritonectomy service (a lengthy and complex procedure).

<sup>24</sup> The target for Theatre Utilisation For Elective Sessions is 80% (NSW Ministry of Health (2012e) *Surgery Dashboard Indicators 2011/12 Version 3.1*)

The impact of these combined factors limits elective operating capacity at St George Hospital. For the Hospital to meet current and projected demand requires:

- moving high volume short stay surgical activity to Sutherland Hospital; and
- increasing space requiring significant capital expenditure.

While Sutherland Hospital surgical staff indicated they have some operating theatre capacity, they lacked inpatients beds to accommodate additional surgical load. Without additional beds the Hospital is unable to efficiently use operating theatre capacity or cope with the redirection of activity from St George Hospital.

### **Support services for operating theatres**

Supporting operating theatres are sterilising units and recovery wards.

Sterile Services Departments are located at Sydney/Sydney Eye, Prince of Wales, St George and Sutherland Hospitals with the majority of services provided to operating theatres. Hours of operation vary between hospitals.

Each hospital has a recovery unit servicing the needs of the operating suites.

Key issues affecting support services for operating theatres over the next five years include:

- operating hours of Sterile Services Departments including weekend cover for Prince of Wales and St George Hospitals, on-call at Sutherland Hospital and determining need for 24/7 cover;
- workload processing and the turnaround time of sterilising equipment including substantial Sterile Services Department processing, processing of loan sets and the impact of late arrival of loan sets (may be up to 30 trays);
- reviewing the instrument base; and
- maintaining flexibility of recovery units to respond to demand of operating theatres

## **Outpatient clinics**

Public and private outpatient services support the District's surgical services.

Currently activity and utilisation data for outpatient services is unreliable. However, the implementation of Activity Based Funding for non-admitted patients will improve data collection allowing improved analysis of activity, utilisation and infrastructure requirements.

### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

*"3.1.e. Develop centres of excellence in surgical specialties (i.e. providing leadership, best practices, research, support and training) ... Develop a RAPTOR hybrid operating model at St George Hospital that will enhance the level 1 trauma department, neurosurgery, cardiothoracic, vascular and gynaecology service."*

#### **Actions**

- In 2013/14 the Director Operations St George and Sutherland will develop a Business Case to seek funding for developing a hybrid vascular suite

*"3.4.d: Develop a hybrid operating theatre model at Prince of Wales Hospital, which leverages the relationship between vascular surgery and interventional radiology."*

#### **Actions**



- In 2013/14 the Director Operations Prince of Wales & Sydney/Sydney Eye Hospitals will develop a Business Case to seek funding from the Prince of Wales Hospital Foundation for developing a hybrid operating theatre
- From 2013/14 onwards planning, construction and commissioning of the hybrid operating theatre will be undertaken, subject to fundraising

*“3.4.e: Develop a robotic operating theatre at Prince of Wales Hospital to provide the opportunity for more minimally-invasive procedures which reduce the risk of complications and allow earlier recovery.”*

#### Actions

- Throughout the life of this Plan if funding for a robotic theatre becomes available the Director Operations Prince of Wales and Sydney/Sydney Eye Hospital will develop a business case.

*“4.3.f: Review and determine priorities for [capital] investment in surgical services across SESLHD, in line with the surgical services plan.”*

#### Actions

- In 2013/14, the Director Operations, St George and Sutherland Hospitals and Health Services and local Clinical Council will guide local decision making, with assistance from Surgical Stream Committee as required, by conducting an urgent review of surgical capacity in the Southern Sector including a
  - review of bed, operating theatre, critical care and support services capacity
  - differentiate activity to be performed at St George and Sutherland Hospitals including high volume short stay
  - develop a range of options for managing Southern Sector's surgical services in the short to mid-term (1 – 5 years) including consideration of:
    - opportunities for improved management of non- surgical patients occupying designated surgical beds
    - effective management of non-SESLHD patient flows
    - management of surgical activity at other hospitals within the Sector and/or District
    - transfer of some surgical streams to collaborative care arrangements (where public patients are treated in private hospitals)
  - implement preferred option(s)
- Throughout the life of this Plan the Surgical Stream Committee will provide assistance as required to the Directors of Operations to analyse surgical activity, capacity, costs and outcomes data to determine the appropriate distribution of this activity and if future redirection is required
- Throughout the life of this Plan the Surgical Stream Committee will provide assistance as required to the Directors of Operations in capital planning for
  - additional surgical, ICU and/or HDU beds
  - reconfiguration and/or construction of operating theatres
  - procuring high cost equipment
- In 2013/14 Nursing Co-Directors and Directors of Operations will review the instrument base of operating theatres to determine capital investment priorities

Refer to other Key Initiatives and Actions in Sections on:

- Workforce (Key Initiative 5.2.a)

## 5.2 Workforce

The NSW Ministry of Health's - Health Professionals Workforce Plan Taskforce has released Health Professionals Workforce Plan 2012-2022<sup>25</sup>. It identifies:

- changing patterns of disease from acute to chronic requiring “... *greater collaboration between the primary, acute and subacute clinicians*;
- *impending workforce shortages, with the ageing of the population, mean that it will not be possible to meet forecast workforce growth based on current health service patterns and models of care; and*
- *specialisation of healthcare professionals has been increasing steadily, yet chronic and complex patient presentation is requiring more holistic and generalist models of care.*”

SESLHD recognises “the District’s workforce is one of its largest assets and ongoing investments and, as such, there is an obligation and a business imperative to plan it effectively”<sup>26</sup>. In preparatory planning work it is noted the current workforce environment is one characterised by:

- continuing chronic skills shortages across different occupational groupings;
- an ageing workforce;
- a competitive labour market (particularly in key skill areas);
- a tightening fiscal environment; and
- increasing demands and expectations to improve delivery of existing services.

### The Future

The District is developing the Workforce Services Plan 2013-2017 (due for release in August 2013) to address the current and future workforce service needs of the District.

#### Key Initiatives for 2012-2017 from SESLHD’s Health Care Services Plan

*“5.2.a: Assure well coordinated multi-campus health services are available to optimise patient outcomes and service efficiencies through guidance and direction from Clinical Streams.”*

#### Actions

- In 2013/14, the Nursing Co-Directors and Directors of Operations will review Sterile Services Departments including
  - a District-wide approach to staff education, policies and procedures and occupational health and safety
  - hours of operation of Sterile Services Department
  - workload processing and turnaround times
- During the life of this Plan Workforce Development and the Directors of Operations will review:
  - reasonable / safe working hours
  - staffing to patient ratios
  - identify support for frontline staff eg educators, CNC’s managers
- Throughout the life of this Plan the Directors of Operations need to ensure new initiatives are adequately resourced in terms of workforce and funding as well as

<sup>25</sup> NSW Ministry of Health, 2012d, Health Professionals Workforce Plan 2012-2022, URL: <http://www0.health.nsw.gov.au/pubs/2012/hprofworkforceplan201222.html>

<sup>26</sup> SESLHD presentation, February 2013, Workforce Services Plan: Alignment, Scope and Process

being within the Activity Based Funding framework

- In 2013/14, Workforce Development and the Directors of Operations, with assistance from Streams if required, will review the process of appointing clinicians with a view to investigating the merit of:
  - District appointments with peer review
  - cross appointments between hospitals with adequate allocation of junior medical staff, then managed locally
  - clinicians providing trauma cover provided with adequate elective operating time to ensure effective functioning of the unit
  - clinicians seeking to provide high complexity services having their appointments reviewed by a specialist committee with accreditation and peer support (for high complexity services) to relevant sites
  - fostering District collegiality

## 5.3 Teaching and research

Teaching and research aims to educate the District's staff, trainees and students to develop new and better methods of caring for patients and improve patient outcomes. As such, teaching and research are fundamental to the provision of surgical care.

The District factors teaching and research into all work and undertakes it

- in consultation with Health Education and Training Institute (HETI);
- in partnership with universities, colleges and professional associations; and
- across all professional disciplines including medical, nursing and allied health.

All of SESLHD's facilities have training programs for health professionals including in the fields of medicine, nursing and allied health (refer to SESLHD's Health Care Services Plan 2012-2017).

### The Future

Specifically for surgical services the District will continue to

- explore new models of care including minimally invasive procedures and enhanced recovery after surgery<sup>27</sup>;
- develop simulation-based training and laboratories resulting in skills transfer to the operating setting<sup>28</sup>; and
- ensure trainees have appropriately qualified supervisors and learning opportunities to meet their training pathway requirements (eg Surgical Education & Training Program with the RACS).

### Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

*"5.5.f: Consolidate expertise in surgical skills training, simulation centre, clinical skills centre offering training in advanced life support and Detecting Deterioration, Evaluation,*

<sup>27</sup> Waxman, B. (2013). Smoothing out the ride for surgical patients. *Medical Journal of Australia* , 407

<sup>28</sup> "Overall the current evidence demonstrates that simulation-based training, as part of a surgical skills training program and incorporating the achievement of reaching predetermined proficiency levels, results in skills transfer to the operating setting." ASERNIP-S, 2012, *Report no 80: Surgical simulation for training: skills transfer to operating room*

*Treatment, Escalation and Communication in Teams (DETECT) at St George.”*

Actions

- Throughout the life of the Plan the Prince of Wales Hospital’s simulation centre will be assessed for its ability to continue providing expertise in surgical skills training, simulation centre and clinical skills to meet the needs of all clinicians across the campus.
- The St George Hospital Surgical Skills Centre will be established in November 2013 and throughout the life of the Plan will provide expertise in surgical skills training, simulation centre and clinical skills.

*“5.5.g: Implement anaesthetic training initiatives such as workplace based training tools for anaesthetics.”*

Actions

- Throughout the life of this Plan the Prince of Wales Hospital anaesthesia department will continue working to develop resources in this area in combination with the simulation centre on the Randwick campus
- Throughout the life of this Plan the Anaesthetic Directors Meeting, in consultation and with advice from anaesthesia across SESLHD and with the support of the Surgical Stream Committee will review and implement training initiatives

## 5.4 Activity Based Funding and cost of care

Since the introduction of Activity Based Funding SESLHD has and will continue to review the implications on activity and funding.

The clinicians’ role is to ensure good clinical documentation. Recording the full complexity of care through documentation of individual patient treatment will ensure the correct level of funding is allocated. For example updating provisional diagnosis and documenting all comorbidities, interventions and any complications.

Further, the Royal Australasian College of Surgeons<sup>29</sup> notes:

*“Central to any pricing framework is the principle of comparative effectiveness. An understanding of comparative effectiveness casts light on which procedures and treatments work, which don’t and which are most cost-effective. It is about more than cost alone; other considerations must include the patient experience and other aspects of healthcare quality.”*

Comparing Activity Based Funding pricing with the actual cost of care is problematic.

Detailed analysis highlighted significant concerns with costing data including it being an amalgam of various data sources (cost centres and activity data) requiring matching of data sets resulting in variability due to the structure of cost centres and accounts and compounded by the application of program fractions (by individual units and cost centres).

<sup>29</sup> Royal Australasian College of Surgeons. (2012). *Submission to Independent Hospital Pricing Authority: Response to the discussion paper Activity based funding for Australian public hospitals: Towards a Pricing Framework*. Retrieved March 14, 2013, from Royal Australasian College of Surgeons: [http://www.surgeons.org/media/387827/sbm\\_2012-02-21\\_submission\\_to\\_the\\_independent\\_hospital\\_pricing\\_authority.pdf](http://www.surgeons.org/media/387827/sbm_2012-02-21_submission_to_the_independent_hospital_pricing_authority.pdf)

The NSW Auditor-General<sup>30</sup> highlighted this issue in relation to operating theatres recommending:

*“LHDs supported by the Ministry should, by 30 June 2014:*

- improve the reliability of capturing cost information for surgical procedures, including the cost of operating theatre units as a key component;*
- complete an initial analysis of variations in the costs of procedures, both within and between hospitals and LHDs, to identify and address drivers of inefficiencies;*
- incorporate cost benchmarks and measures into the revised suite of efficiency indicators”.*

As the District refines the matching of costs and activity and improves its accuracy, transparency, validity and comparability there will be opportunity for managers and clinicians across all surgical services to investigate differences in cost of surgical care and identify opportunities presented by Activity Based Funding.

*Table 4: Average cost of surgery for select SRGs in SESLHD, 2011/12*

SRG	SSEH	POWH	RHW	STGH	TSH	SESLHD
Surgical Stream	\$3,164	\$10,101	\$9,266	\$11,893	\$7,533	\$7,853
All other Streams	\$3,329	\$14,354	\$5,513	\$15,029	\$9,908	\$12,029
Total	\$3,166	\$11,659	\$5,700	\$13,213	\$8,287	\$9,269

**Source:** HIE (File 12) Inpatient and cost 2011-12 UAR Inpatient data. **Inclusions:** ABF Group: Acute inpatients; Clinical Groups: planned surgical, other surgical, procedural. **Exclusions:** ED status: Episode entirely in ED

## The Future

There is significant opportunity to gain efficiencies of funding allocation through:

- participating in clinical coding audits;
- identifying complex Statewide speciality DRGs;
- maximising efficiencies in processes (such as bed management practices), surgical procedures (eg minimally invasive procedures), etc;
- refining the matching of costs and activity and improving the data's accuracy, transparency, validity and comparability;
- reviewing comparative effectiveness including cost disparities between hospitals' DRGs to achieve savings and/or match funding; and
- supporting implementation of Activity Based Funding for non-admitted patients.

### Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

*“4.2.a Implement and monitor implementation, of Activity Based Funding (ABF) in accord with established timeframes, which will involve a range of strategies including ..... equip clinical leaders with improved resource management capability through: provision of relevant data; increased business support; targeted education, e.g. ABF funding model, utilising data to improve service delivery.”*

#### Actions

- Throughout the life of this Plan the Surgical Stream Committee will continue to actively encourage clinicians to participate in clinical coding audits

<sup>30</sup> New South Wales Auditor-General

- Throughout the life of this Plan the Surgical Stream Committee will support Budget / ABF Implementation Committee and Directors of Operations in identifying complex Statewide specialty DRGs
- Throughout the life of this Plan the Associate Director, Business Intelligence & Efficiency Unit will provide activity and costing data to the Surgical Stream Committee to allow timely and responsive management of surgical activity
- From 2013/14 onwards the Surgical Stream Committee will support the Directors of Operations develop a methodology for determining comparative effectiveness of these DRGs and if further action needs to be taken
- Throughout the life of this Plan the Surgical Stream Committee will work with the ABF Steering Committee and Directors of Operations to review and meet activity targets for surgical inpatient and non admitted patient services
- In 2013/14 the Surgical Stream Committee will support the Budget / ABF Implementation Committee and Directors of Operations to meet the Auditor General's recommendations detailed above

*“4.3.h: Develop local District procurement strategies and participate in the whole of Health and Government procurement strategies.”*

#### Actions

- In 2013/14 Surgical Stream Committee and Directors of Operations will consider cost differences between hospitals for prosthesis, etc
- If considered clinically appropriate the purchase of prosthesis and other equipment will be undertaken through a single contract by the District.

## 6. SESLHD's Surgical Activity

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### Key points

SESLHD provides a comprehensive range of surgical services, from five hospitals and supported by outpatients and ambulatory health services.

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### 6.1 Overview of surgical services by hospital

The role delineation of surgical services in each hospital are summarised in SESLHD's Health Care Services Plan<sup>31</sup>. The tertiary facilities (Prince of Wales, Royal Hospital for Women, St George Hospital) tend to provide more complex surgery. Also evident is the interaction with and configuration of other services, such as cancer, anaesthesia, intensive care and emergency services, as well as other areas such as pathology and diagnostic endoscopic services.

#### Sydney / Sydney Eye Hospital

Sydney/Sydney Eye Hospital provides specialist statewide adult ophthalmology and complex hand surgery and will be the highly specialised ophthalmology teaching and referral service for NSW, in collaboration with Sydney University.

#### The Future

Ophthalmology and complex hand surgery at the Hospital will be further developed as Centres of Excellence.

#### Prince of Wales Hospital

Prince of Wales Hospital is the State centre for:

- Acute spinal injury services and rehabilitation
- Bone marrow transplant
- Cancer treatment and care
- Complex neuroscience (including Interventional Neuroradiology (INR))
- Magnetic Resonance Imaging
- Lithotripsy (only NSW service)
- Renal transplantation
- Rural outreach ophthalmology services

In addition, it provides tertiary surgical services in:

- General Surgery
- Cardiothoracic Surgery
- Ear, Nose & Throat
- Neurosurgery
- Ophthalmology
- Orthopaedics
- Plastic Surgery
- Urology
- Vascular Surgery

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<sup>31</sup> SESLHD, 2012b



### The Future

The Prince of Wales Hospital will continue as a tertiary referral hospital and further develop its teaching and research capacity. Priorities identified in SESLHD's Health Care Services Plan for major strategic developments at Prince of Wales which will impact on surgical services include:

- Expansion and reconfiguration of the inpatient accommodation including emergency department;
- A Positron Emission Tomography scanner;
- A new hybrid operating theatre; and
- Reconfiguration of infrastructure to provide robotic surgery.

## Royal Hospital for Women

The Hospital's surgical services include gynaecology, gynaecological oncology and breast services as well as some maternity and neonatology services.

### The Future

The Royal Hospital for Women will continue to strengthen its role as a tertiary referral centre for women and babies in the District, and will continue to provide specialist statewide services in high risk obstetrics, neonatal intensive care and gynaecological oncology.

Complex gynaecology will be consolidated at this hospital and this service will be further developed as a Centre of Excellence.

## St George Hospital

St George Hospital has several Centres of Excellence associated with surgery including:

- Clinical and Academic medical and surgical oncology services, including:
  - Prostate Cancer Institute,
  - Brachytherapy service extending to breast brachytherapy service, and
  - Peritonectomy service.
- Major Trauma Service<sup>32</sup>
- Major St George Cardiac and Cardiothoracic Regional Surgery

In addition, the Hospital provides tertiary services in:

- General Surgery
- Cardiothoracic Surgery
- Ear, Nose & Throat
- Gynaecology
- Neurosurgery
- Orthopaedics
- Plastic Surgery
- Urology
- Vascular Surgery
- Maternity
- Paediatric surgery

St George Hospital's surgeons highlighted the need to preserve essential functions of the Units that comprise the Surgical Department. It was noted surgical units cannot run without experienced staff and these staff need caseload and a presence within the Hospital in order to remain functional. They considered artificial management of caseload by moving local services to other locations can be inefficient and detrimental to patient care in a major

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<sup>32</sup> The St George Hospital Major Trauma Service – the majority of trauma patients are admitted within the surgical specialties and utilise the surgical capacity of St George Hospital. However, the NSW Trauma Plan incorporates planning for Major Trauma Centres and as such the St George Hospital Major Trauma Service is not included in the scope of this Plan.

trauma unit that is expected to have these services readily available to manage complex trauma patients and tertiary level referrals.

### **The Future**

A key strategy for the next five years is to strengthen the St George Hospital's role as a tertiary referral centre, as a leading teaching and research hospital and to strengthen ties with Sutherland Hospital through The St George and Sutherland Academic Health Centre, and closer integration with the Surgery Department.

Priorities identified in SESLHD's Health Care Services Plan for major strategic developments impacting on surgical services include:

- A new emergency department to provide new models of emergency care, increased emergency capacity, improved patient flow and improved relationships to other hospital functions;
- Redeveloping and expanding critical care and operating suites. A purpose built critical care 'hot floor' to facilitate a number of key hospital endeavours; including those concerned with ensuring patient safety, improving flow across services, maintaining infection control and occupational health and safety standards, and facilitating implementation of 'surge' plans. The expansion of operating theatres and inpatient beds is essential to increasing the capacity of the hospital; and
- Enhance Surgical Skills training including establishing a surgical skills training centre specialising in blended learning for multidisciplinary teams.

Additional advice from the St George/Sutherland Hospitals and Health Services supports trauma, cardiothoracic, peritonectomy and other high end cancer surgery at St George Hospital, with a heavy slant to emergency surgery access for orthopaedics, ear, nose and throat, plastics, maxillofacial, breast and endocrine surgery (all being essential to support trauma service by maintaining acute on-call for smaller specialties). To ensure these surgical services have ongoing access to theatre time and sufficient training numbers will require high volume short stay services to be managed on the Sutherland Hospital campus. The seamless transition of high volume low complexity surgical patients between St George and Sutherland Hospitals is essential to the success of the Surgical Clinical Services Plan for the Sector.

## **Sutherland Hospital**

Sutherland Hospital has a Centre of Excellence in Joint Replacement Unit.

In addition, its surgical services include:

- |                      |                      |
|----------------------|----------------------|
| • General Surgery    | • Orthopaedics       |
| • Burns              | • Urology            |
| • Day Surgery        | • Vascular Surgery   |
| • Ear, Nose & Throat | • Maternity          |
| • Gynaecology        | • Neonatology        |
| • Neurosurgery       | • Paediatric Surgery |
| • Ophthalmology      |                      |

### **The Future**

Priorities identified in SESLHD's Health Care Services Plan for strategic development of the roles and functions of Sutherland Hospital campus include:

- Establishing High Volume Short Stay Surgery, intended to be an efficient consultant led program to manage waiting lists for Southern Sector and reduce bed occupancy

(theatre space and reconfigured perioperative area available but currently there is inadequate funding);

- Establishing the bariatric (weight management) program as a permanent service; and
- Expand inpatient accommodation and emergency department as a matter of urgency.

Additional advice from the St George/Sutherland Hospitals and Health Services advises to ensure St George Hospital's trauma and complex surgical services have ongoing access to theatre time requires high volume short stay model at Sutherland Hospital for ear, nose and throat, plastics, maxillofacial, breast, endocrine (the general surgery arm), upper gastro intestinal, urology, ophthalmology, etc.

## 6.2 Overview of current surgical activity and recent trends

In 2011/12 surgical inpatient activity in SESLHD hospitals accounted for approximately one third of all inpatient activity. There were more than 33,000 separations, 144,000 bed days, a requirement for more than 460 surgical beds, with an average length of stay of 4.3 days and an average NWAU of 2.00 (see Table 5).

Between 2006/07 to 2011/12 across the District surgical inpatient activity shows:

- separations have been variable with an overall upward trend in the past four years (+11,674 separations or 1.0% per year);
- the average length of stay has had an overall downward trend (-0.3 days) resulting in total bed days trending down (-3,239 or -0.4% per year equivalent to 10 less beds required across the District);
- and the average NWAU has been variable.

*Table 5: Trends in surgical inpatient activity in SESLHD, 2005/06 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	31,704	30,867	31,041	32,422	32,819	33,378	1,674	1.0%
CWTU Separations	76,840	73,549	74,363	76,546	75,881	77,404	564	0.1%
NWAU	65,381	63,032	64,079	65,883	65,353	66,719	1,338	0.4%
Bed days	147,383	145,153	142,071	144,035	138,766	144,144	-3,239	-0.4%
ALoS	4.6	4.7	4.6	4.4	4.2	4.3	-0.3	-1.5%
Av CWTU	2.42	2.38	2.40	2.36	2.31	2.32	-0.10	-0.9%
Av NWAU	2.06	2.04	2.06	2.03	1.99	2.00	-0.06	-0.6%

*Source, inclusions, exclusions and notes refer to Figure 3*

This activity was spread across SESLHD's five acute hospitals each with distinct roles in providing surgical services (see Table 6 and Figure 8).

In 2010/11 surgical activity by hospital showed:

- separations were highest for St George, Prince of Wales and Sydney/Sydney Eye Hospital, however;

- cost weighted separations and National Weighted Activity Units were significantly higher than separations at St George and Prince of Wales Hospitals indicating the high relative weights of clinical complexity for these hospitals as a result; and
- bed days and average length of stay are also highest at St George; and Prince of Wales Hospitals.

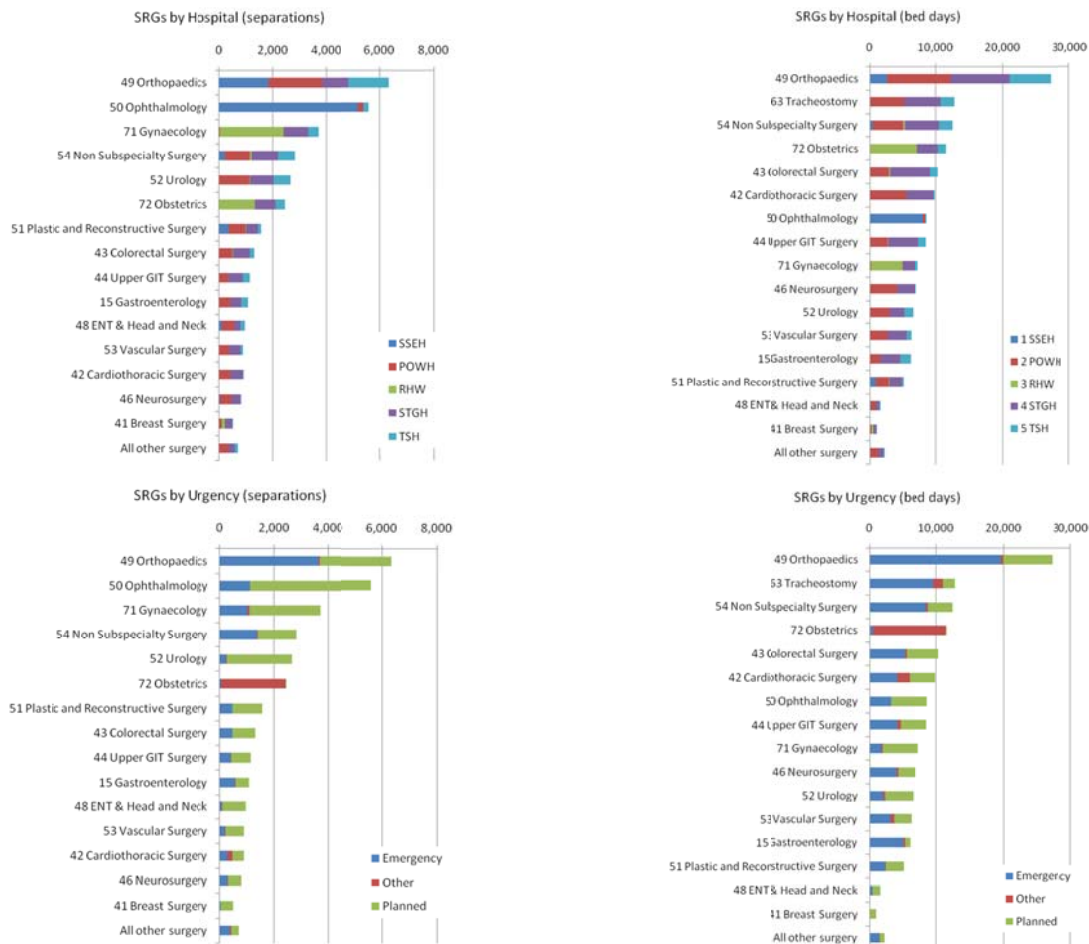
More detailed activity is included in the following Sections of this Plan.

*Table 6: Surgical inpatient activity in SESLHD by hospital, 2011/12*

Values	SSEH	POWH	RHW	STGH	TSH	Total
Separations	7,747	8,306	3,962	8,520	4,843	33,378
CWTU Separations	7,691	25,035	5,669	28,146	10,862	77,404
NWAU	6,214	21,724	5,463	24,158	9,161	66,719
Bed days	12,032	45,561	12,730	54,691	19,130	144,144
ALoS	1.6	5.5	3.2	6.4	4.0	4.3
Av CWTU	0.99	3.01	1.43	3.30	2.24	2.32
Av NWAU	0.80	2.62	1.38	2.84	1.89	2.00

Source, inclusions, exclusions and notes refer to Figure 3

*Figure 8: Surgical separations and bed days by Service Related Groups, by hospital and urgency of admission, 2010/11*



Source, inclusions, exclusions and notes refer to Table 5.

## 6.3 Operating theatre activity

Patterns of operating theatre activity are similar to inpatient surgical activity. The highest number of surgical cases were at St George and Prince of Wales Hospitals, both having longer average room duration and requiring more sessions per week than the District's other hospitals reflecting the complexity of surgery performed (see Table 7).

In 2012 more than 50% of weekly theatre sessions were used by five Service Related Groups: Orthopaedics, Ophthalmology, Non sub-speciality surgery, Gynaecology and Cardiothoracic.

*Table 7: Theatre room use in SESLHD by hospital, 2012*

	SSEH	POWH	RHW	STGH	TSH	Total
Cases (number)						
Elective	4,843	5,545	2,287	4,705	3,231	20,611
Emergency	3,630	4,545	1,519	6,285	2,885	18,864
Total	8,473	10,090	3,806	10,990	6,116	39,475
Room Duration (minutes)						
Elective	262,478	616,894	190,566	491,413	236,926	1,798,277
Emergency	226,713	507,781	86,401	552,557	202,460	1,575,912
Total	489,191	1,124,675	276,967	1,043,970	439,386	3,374,189
Av Room Duration (minutes)						
Elective	54	111	83	104	73	87
Emergency	62	112	57	88	70	84
Total	58	111	73	95	72	85
Sessions per week (estimate)						
Elective	23	54	17	43	21	156
Emergency	20	44	8	48	18	137
Total	42	98	24	91	38	293

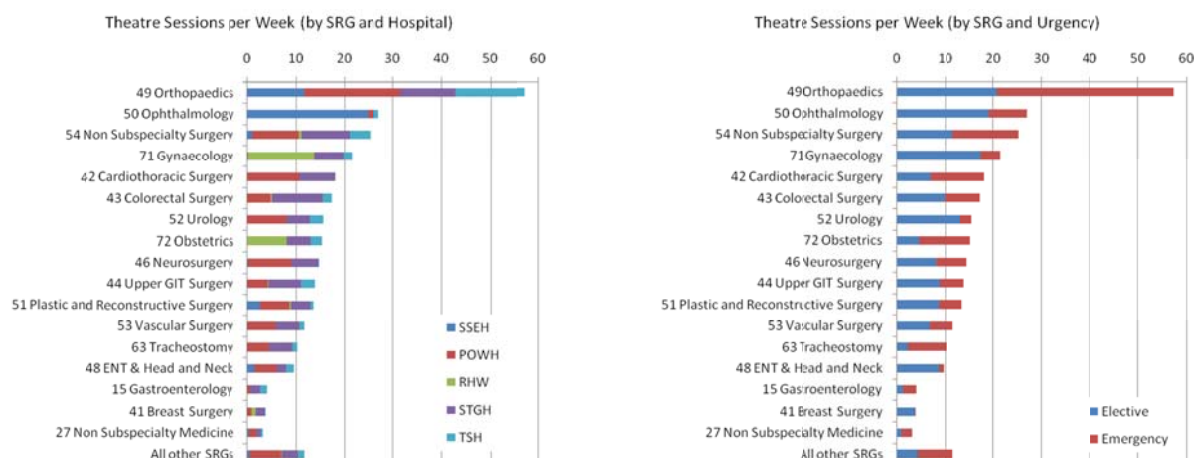
**Source:** HIE. **Inclusions:** All age groups. **Exclusions:** Hospitals: Sydney Children's Hospital patients, SRG: Interventional cardiology, Diagnostic GI Endoscopy, qualified neonate, unqualified neonate, perinatology; ESRG: Non procedural gynaecology, ante natal admission, post natal admission.

**Notes:**

1. Rounding explains discrepancies between sub totals and totals. Discrepancies between HIE and FlowInfo data reflect differences between separations versus counts of patients having operation(s), surgery rates, differences in versions and groupings of DRGs, etc.

2. Sessions per week based on Room Duration and assumes 240 minute (4 hour) sessions for 48 weeks pa

Figure 9: Theatre sessions per week by Service Related Groups, by hospital and urgency of admission, 2012

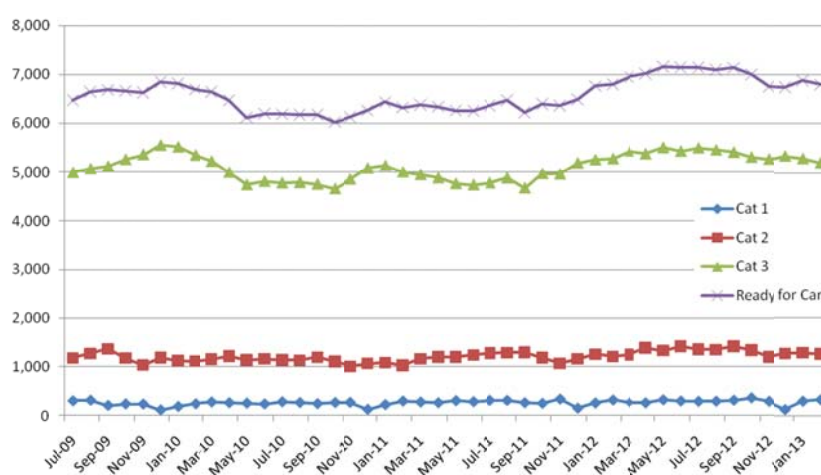


Source, inclusions, exclusions and notes see Table 6

## 6.4 Waiting activity for elective surgery

Overall the number of elective surgical patients on the District's waiting lists remained relatively stable between 2009/10 to February 2013.

Figure 10: Count of patients on elective surgery wait list, July 2009 – February 2013



Source: SES SPaRC Report B2005 Overdue patients on list

In addition, there are a number of key measures for elective surgery waiting times.

The National Elective Surgery Targets (NEST) aims to ensure that elective surgical patients are treated within their recommended clinical priority timeframe (Category 1 patients are treated within 30 days, Category 2 within 90 days and Category 3 within 365 days)<sup>33</sup>. NEST

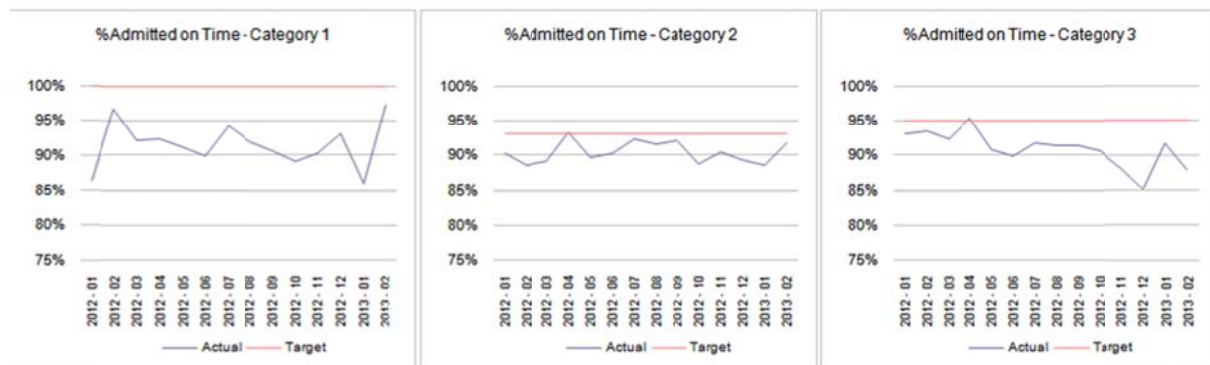
<sup>33</sup> URL: [http://www.archi.net.au/documents/resources/hsd/surgery/predictable\\_surgery/NEST-facts.pdf](http://www.archi.net.au/documents/resources/hsd/surgery/predictable_surgery/NEST-facts.pdf)



counts the number of patients removed from the waiting list at the end of each month who have waited longer than the applicable clinical priority time frame.

SESLHD's data indicates it will be challenging to meet NEST targets.

*Figure 11: Elective surgery patients admitted within clinically appropriate time, SSES LHD, January 2012 – February 2013*



Source: SES SPaRC Report B2004 Elective surgery patients admitted within clinically appropriate time

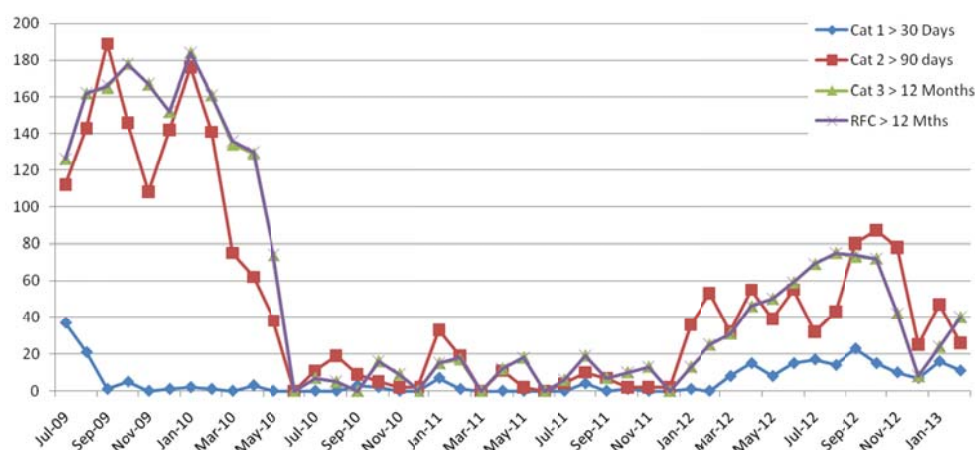
Overdue elective surgery patients “Triple Zero” is the number of elective surgery patients whose waiting time exceeded the time recommended in the clinical priority category they were assigned remaining on the waiting list at the end of each month.

From 2009/10 to February 2013 the number of patients who waited longer than the recommended clinical priority timeframe has seen significant change:

- Prior to January 2010 data indicates more than 250 patients remained on the waiting list at the end of each month who had not been treated within the clinically recommended time. However, analysis showed this was not necessarily an accurate figure.
- From January 2010 there were targeted program to reduce surgical waiting times.
- Between June 2010 and December 2011 the average number of overdue patients was 16 at the end of each month.
- Since January 2012 the number of patients not being treated within the clinically recommended time has increased and appears to be predominantly attributable to St George Hospital.



Figure 12: Count of overdue patients on elective surgery wait list, July 2009 – February 2013



Source: SES SPaRC Report B2005 Overdue patients on list

### The Future

The Australian Institute of Health and Welfare working with the RACS has provided advice on how to improve the consistency of urgency categorisation for elective surgery across Australia<sup>34</sup>. They include: simplified, time-based urgency category definitions, 'treat in turn' as a principle for elective surgery management and clarified approaches for patients who are not ready for surgery, because of clinical or personal reasons.

SESLHD will work with NSW Ministry of Health to meet the Proposal's timeframe of full implemented of the urgency category definitions package by 1 January 2014.

## 6.5 Outpatients activity

All hospitals provide surgical outpatients services.

However, it is recognised there are significant problems with non-admitted patient data and while the accuracy of the data has been improving in recent years, there remain problems. Central to these problems is data entry errors, a lack of definitions leading to inconsistent data coding, incomplete data from prior years limiting ability to analyse trends and a lack of differentiation of activity captured in the data set. It is expected the implementation of Activity Based Funding for non-admitted patients will improve the reporting of activity data.

Nevertheless, the available data suggests that in 2010/11 Prince of Wales Hospital undertook the majority of surgical outpatient activity, followed by Sydney/Sydney Eye Hospitals, then St George Hospital with limited activity at Royal Hospital for Women and Sutherland Hospital.

<sup>34</sup> AIHW, 2013, *National definitions for elective surgery urgency categories: proposal for the Standing Council on Health*

## 6.6 Projected surgical activity by 2022

Between 2011/12 and 2022, SESLHD's surgical inpatient activity is projected to increase:

- separations by nearly 5,400 or 1.5% per year;
- cost weighted separations and National Weighted Activity Units reflecting higher cost and complexity of patients; and
- bed days by more than 21,000 or 1.3% per year.

These increases in surgical activity will be spread across the District's five hospitals currently providing surgical services.

The highest numbers of separations are projected to remain orthopaedics, ophthalmology and gynaecology with the most bed days occupied by orthopaedics, tracheostomy (includes procedures such as peritonectomy, etc), non subspecialty surgery and obstetrics.

*Table 8: Projected surgical inpatient activity in SESLHD by hospital, 2022*

Data	SSEH	POWH	RHW	STGH	TSH	Total
Separations	9,161	10,238	4,198	9,301	5,254	38,152
CWTU Separations	8,955	32,245	6,230	32,846	13,004	93,280
NWAU	7,188	27,752	5,881	27,739	11,073	79,631
Bed days	14,145	55,333	13,172	59,613	22,099	164,362
Beds required	46	178	42	192	71	530
ALoS	1.5	5.4	3.1	6.4	4.2	4.3
Av CWTU	0.98	3.15	1.48	3.53	2.48	2.44
Av NWAU	0.78	2.71	1.40	2.98	2.11	2.09

**Source:** aIM2012 v2.1. **Inclusions:** all age groups. **Exclusions:** SRG - Interventional cardiology, Diagnostic GI Endoscopy, qualified neonate, unqualified neonate, perinatology. ESRG - Non procedural gynaecology, ante natal admission, post natal admission. **Notes:** Beds Required calculated by using bed days divided by 365 days divided by 85% occupancy

The increase in the number of separations will have a flow-on effect to beds (see Section 5.1), operating theatres, support services such as Sterile Services Departments and recovery wards and outpatient clinics. At the same time, patients on elective surgery waiting lists will need ongoing management in a clinically appropriate, consistent and equitable manner.

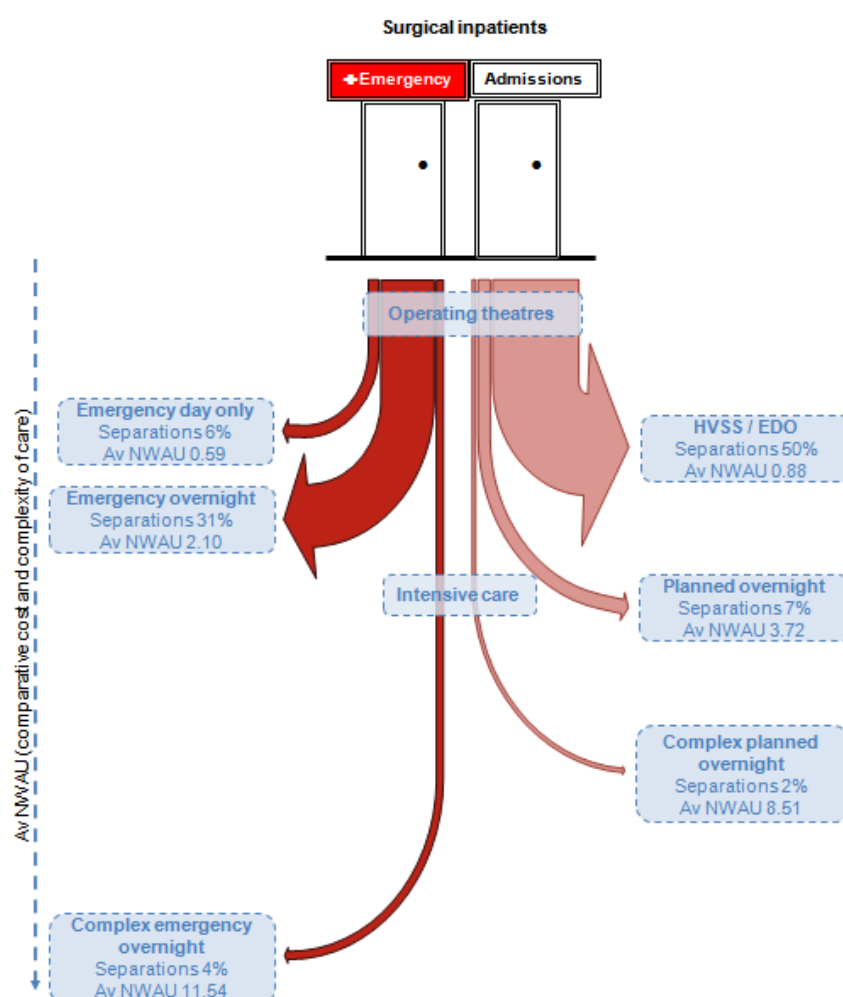
## 7. Surgical Models of Care

### Key points

To meet increasing demand for surgical services requires significant capital development, dependent on substantial investment and a lengthy timeframe. In the interim surgical services must be delivered using existing resources, within the Activity Based Funding model, while meeting a range of performance measures (refer to Section 10).

Work by the NSW Surgical Services Taskforce has developed models of care so people have predictable and timely access to appropriate elective and emergency surgical services. It has mapped a path that better utilises the existing surgical infrastructure and workforce to improve services for patients, attract and retain surgeons, anaesthetists and operating room staff, optimise available funding and enhance clinical training<sup>35</sup>.

Figure 13: Streaming of SESLHD's surgical activity, 2011/12



<sup>35</sup> NSW Health, Surgical Services Taskforce, 2011a

## 7.1 Separating high volume short stay surgery

*“The aim of [high volume short stay services] is to concentrate suitable planned surgical cases in dedicated high-volume short stay surgical units. There is considerable evidence that this model has a number of benefits including improved access to planned surgical services and improved service efficiency in terms of both operating theatre and bed utilisation.*

*[These Units] manage planned surgery/procedures requiring admission up to 72 hours. It includes both Day Only and Extended Day Only (up to 28 hours) surgery and is expected to attract patients from surrounding Local Health Districts as well as locally.”<sup>36</sup>*

Of all the planned surgical separations from hospitals in SESLHD more than 74% have DRGs considered suitable for a high volume short stay model of care. Currently all five acute hospitals in the District treat these patients and Sydney/Sydney Eye Hospitals and Royal Hospital for Women have established high volume short stay services for their specialities.

In 2011/12 SESLHD had potential to stream nearly 15,000 planned surgical patients through high volume short stay units. This volume of patients could justify a total requirement across the District for:

- 54 dedicated high volume short stay beds;
- 11 dedicated high volume short stay theatres; or
- 110 dedicated high volume short stay theatre sessions<sup>37</sup>.

*Table 9: Activity and resource requirements for planned high volume short stay surgery in SESLHD, 2011/12*

	Planned - DRGs suitable for HVSS	Planned - DRGs not suitable for HVSS	Emergency	Total
Separations	14,687	5,244	13,469	33,378
CWTU Separations	15,720	18,207	43,496	77,404
NWAU	13,836	16,454	36,453	66,719
Bed days	22,300	29,927	91,976	144,144
ALoS	1.5	5.7	6.8	4.3
Av CWTU	1.07	3.47	3.23	2.32
Av NWAU	0.94	3.14	2.71	2.00

*Source, inclusions, exclusions and notes see Figure 3.*

<sup>36</sup> NSW Ministry of Health, 2011a

<sup>37</sup> Calculation of dedicated HVSS beds and operating theatres based on NSW Ministry of Health, 2012a, GL2012\_01 High Volume Short Stay Surgical Model Toolkit.  
[http://www0.health.nsw.gov.au/pubs/2011/hi\\_vol\\_short\\_stay\\_surgery.html](http://www0.health.nsw.gov.au/pubs/2011/hi_vol_short_stay_surgery.html)

## Extended day only surgery

Extended day only surgery shares many key elements with high volume short stay. However, there are two major differences:

- timeframe for patient discharge with extended day only providing up to 28 hours care whereas high volume short stay accommodates patients for up to 72 hours;
- Diagnosis Related Groups identified as being suitable for extended day only are not as extensive as the list for high volume short stay.

### The Future

Given the benefits of high volume short stay units combined with the current and likely increase of high volume short stay activity there is a need to investigate establishing another dedicated high volume short stay surgical unit at Prince of Wales Hospital (in accordance with the Surgical Futures Plan).

The Surgical Stream Committee acknowledged the high occupancy of St George Hospital's operating theatres. To increase capacity the Committee strongly support the transfer of high volume short stay and extended day only activity from St George to Sutherland Hospital. It was considered activity based funding will provide a financial incentive for establishing the service. However, this transfer of activity would require registrar and resident support and improved access to surgical beds at Sutherland Hospital.

### Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

*"1.4.c: Further develop the high volume short stay surgical model to help improve access to planned surgery and improve efficiency in terms of operating theatre and bed utilisation."*

#### Actions

- Of all planned surgical activity more than 70% of patients have DRGs considered suitable for high volume short stay surgical model
- Sydney/Sydney Eye Hospital and Royal Hospital for Women have and will continue to maintain their established high volume short stay services
- In 2012/13 the Surgical Stream Committee
  - acknowledged the high usage of St George Hospital's operating theatres and
  - supported the transfer of high volume short stay and extended day only activity from St George to Sutherland Hospital
- In 2013/14 the Surgical Stream Committee will support the Director Operations St George and Sutherland Hospitals and Health Services to implement the transfer of surgical activity to Sutherland Hospital to increase capacity at St George Hospital.
- A High Volume Short Stay and/or Extended Day Only service is to be established at Sutherland Hospital to accommodate the patients transferred from St. George Hospital
- In 2013/14 the Surgical Stream Committee and Directors of Operations will investigate (in accordance with the Surgical Futures Plan) the impact of establishing a High Volume Short Stay Unit at Prince of Wales Hospital
- Throughout 2014-2015 the Prince of Wales Unit will be developed and implemented using the Ministry of Health Toolkit.

Also refer to other Key Initiatives and Actions in Sections on:

- Capital Infrastructure (Key Initiative 4.3.f)
- Workforce (Key Initiative 5.2.a)

## 7.2 Streaming planned and emergency surgery

The NSW Surgical Taskforce's Emergency Surgery Guidelines encourage hospitals to plan for the predictable surgical workload for all specialities, to allocate the necessary operating theatre time and to plan for immediate access to operating theatres for the most urgent emergency surgery patients.

Adding to this the Surgery Futures paper highlighted a key direction should be *“separation of the process of emergency and planned surgery – but not forcing separation to separate sites, recognising the need to maintain on call rosters and to provide a mix of clinical work attracting and retaining surgeons, anaesthetists and operating room nurses”*.

Across the District emergency surgery requires more resources than planned surgical activity (including a greater number of beds due to a longer average length of stay, relatively higher average NWAU and more patients having ICU/HDU involvement).

*Table 10: Overview of activity and resource requirements for emergency and planned surgery in SESLHD, 2011/12*

Values	Emergency + Other	Planned	Total
Separations	13,469	19,909	33,378
CWTU Separations	43,496	33,908	77,404
NWAU	36,453	30,266	66,719
Bed days	91,976	52,168	144,144
ALoS	6.8	2.6	4.3
Av CWTU	3.23	1.70	2.32
Av NWAU	2.71	1.52	2.00
Spent Time in ICU	1,192	885	2,077
Spent Time in HDU	1,250	776	2,026

*Source, inclusions, exclusions and notes see Figure 3.*

In 2011/12, emergency surgery in the District's hospitals accounted for 40% of surgical separations and 64% of bed days. It is mainly performed at:

- St George (31% of the District's emergency surgical separations);
- Sydney / Sydney Eye Hospital (21%);
- Prince of Wales Hospital (18%);
- Sutherland Hospital (15%); and
- Royal Hospital for Women (15%).

St George and Prince of Wales Hospitals have a longer average length of stay and a higher average NWAU than other hospitals.

Planned surgery accounted for 60% of surgical separations and 36% of bed days. In 2011/12 it was mainly performed at:

- Prince of Wales Hospital (29% of all planned surgical separations);
- Sydney / Sydney Eye Hospital (25%);
- St George (22%);
- Sutherland Hospital (14%); and

- Royal Hospital for Women (10%).

Again St George and Prince of Wales Hospitals having a longer average length of stay and a higher average NWAU than the other hospitals. Sydney / Sydney Eye Hospital had a significantly shorter average length of stay and lower average NWAU reflecting the specialised work of the Hospital.

*Table 11: Surgical inpatient activity in SESLHD by hospital, urgency of admission, 2011/12*

Hospital	Urgency of Admission	Separations	CWTU Seps	NWAU	Bed days	ALoS	Av CWTU	Av NWAU
SSEH	Emergency	2,807	3,501	2,697	6,014	2.1	1.25	0.96
	Planned	4,940	4,191	3,517	6,018	1.2	0.85	0.71
	Sub Total	7,747	7,691	6,214	12,032	1.6	0.99	0.80
POWH	Emergency	2,459	12,032	9,955	25,268	10.3	4.89	4.05
	Planned	5,847	13,003	11,768	20,293	3.5	2.22	2.01
	Sub Total	8,306	25,035	21,724	45,561	5.5	3.01	2.62
RHW	Emergency	1,998	3,071	3,236	8,421	4.2	1.54	1.62
	Planned	1,964	2,599	2,227	4,309	2.2	1.32	1.13
	Sub Total	3,962	5,669	5,463	12,730	3.2	1.43	1.38
STGH	Emergency	4,175	18,287	15,386	38,956	9.3	4.38	3.69
	Planned	4,345	9,859	8,772	15,735	3.6	2.27	2.02
	Sub Total	8,520	28,146	24,158	54,691	6.4	3.30	2.84
TSH	Emergency	2,030	6,606	5,178	13,317	6.6	3.25	2.55
	Planned	2,813	4,256	3,982	5,813	2.1	1.51	1.42
	Sub Total	4,843	10,862	9,161	19,130	4.0	2.24	1.89
SESLHD	Total	33,378	77,404	66,719	144,144	4.3	2.32	2.00

*Source, inclusions, exclusions and notes see Figure 3. Note: "Emergency" admission includes "Other" admission*

The Surgery Futures paper acknowledges the challenges of separating emergency and planned surgery and identifies the Acute Surgery Program at Prince of Wales Hospital as an initiative for consideration for wider implementation. This program continues at Prince of Wales and has been supported by the addition of an emergency orthopaedic theatre sessions with the implementation of an orthogeriatric model.

Prince of Wales has a designated Surgical Assessment Unit to stream patients from the Emergency Department plus designated theatre sessions, and is incorporated as a part of the acute surgery program supported by an acute surgery Clinical Nurse Consultant.

St George Hospital has designated theatre sessions with separate operating theatre lists for elective and emergency surgery.

### **The Future**

There will be ongoing demand for emergency surgery with its higher use of resources competing with increasing demand for planned surgery. Therefore, there appears to be



sufficient activity across the District to investigate opportunities for further separating planned and emergency surgery.

### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

*"3.2.c: Further develop appropriate acute care and emergency surgical models to reduce the impact on elective surgery"*

#### **Actions**

- In 2013/14 the Surgical Stream Committee and Directors of Operations will discuss opportunities for further separating emergency and planned surgical activity in SESLHD
- Throughout 2014/15 this project will be developed by the relevant Director of Operations, with support of the Surgical Stream, following the process for emergency surgery redesign detailed in the Emergency Surgery Guidelines

Also refer to Key Initiatives and Actions in Sections on

- Capital Infrastructure (Key Initiative 4.3.f)
- Separating high volume short stay surgery (Key Initiative 1.4.c)

## **7.3 Identifying and developing specialty centres**

In recognition of the high cost and complexity of some surgical services, internationally there has been an increasing movement towards speciality centres<sup>38</sup>. These units feature strong clinical leadership, multidisciplinary decision-making, a coordinated surgical program, substantial physical resources and expertise of many specialised clinicians. They are seen to improve patient outcomes and clinician satisfaction, increase efficiency and decrease costs.

The Surgery Futures paper notes SESLHD has or is developing a number of specialist surgical centres including:

- complicated eye surgery provided at Sydney Eye Hospital;
- complex hand surgery provided at Sydney/Sydney Eye Hospital;
- spinal cord injury surgery provided by Prince of Wales Hospital (as one of the two State centres);
- renal transplantation provided at Prince of Wales Hospital;
- Interventional Neuroradiology (INR) provided at Prince of Wales Hospital;
- joint arthroplasty centre has been developed at Sutherland Hospital;
- bariatric surgery has commenced at Sutherland Hospital; and
- neurosurgery services need to be developed consistent with a role for the network which supports specialist centres but does not duplicate specialist surgery services. Spinal (cord injury) neurosurgical services should remain at the Prince of Wales campus consistent with its role as one of the two state spinal injury centres.

Other speciality services impacting on the District's surgical services include:

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<sup>38</sup> NSW Ministry of Health, 2011a

- Major trauma at St George Hospital (as one of six major trauma services in NSW;
- Peritonectomy Services provided at St George Hospital;
- Brachytherapy at St George Hospital including prostate and breast;
- Cardiac and cardiothoracic regional surgery service at both St George and Prince of Wales Hospital;
- Hyperbaric Medicine Services at Prince of Wales Hospital involving necrotising soft-tissue infections occurring in the State are transferred for surgical care. These are often quite resource-intensive patients who make multiple trips to the theatres; and
- Complex gynaecology (including oncology) services at Royal Hospital for Women.

These specialist surgical centres are reflected in inflow data that is residents of other Local Health Districts travelling to a SESLHD hospital for surgery.

While most surgical patients in SESLHD facilities are residents of the District (63%), 22% were from other metropolitan Districts and the remainder were from rural Districts, interstate or overseas:

- Patients from other metropolitan LHDs tended to reside in those bordering SESLHD, which suggests the choice to access SESLHD facilities is largely based on convenience of location or pre-existing local general practitioners' referral patterns; and
- Patients from rural areas, interstate or from overseas have a longer average length of stay and higher average NWAUs suggesting these patients require more complex care that cannot be provided locally therefore warranting the need to travel to SESLHD's major metropolitan hospitals.

Not surprisingly patients travelling to SESLHD for their surgery are doing so for the District's statewide and/or specialty services. The highest volume of inflows in 2010/11 were:

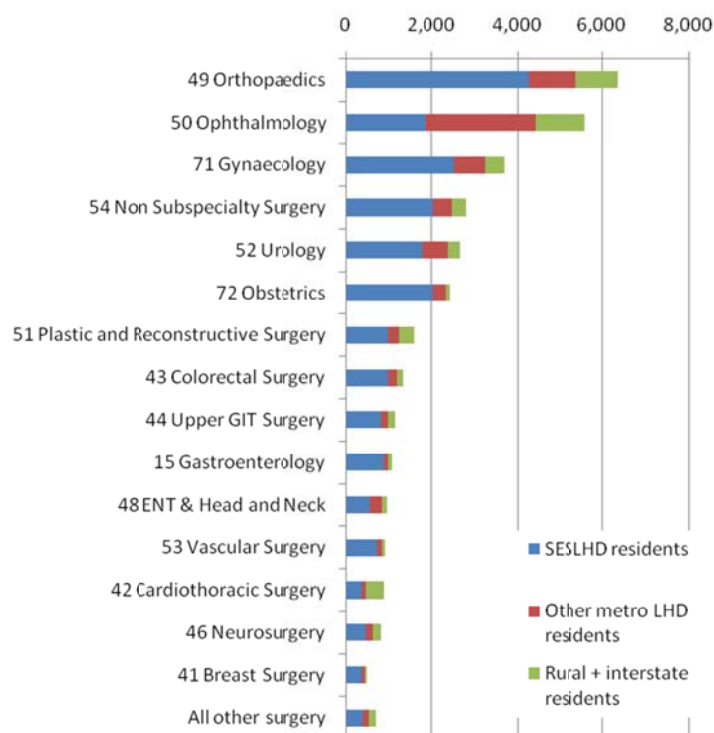
- Ophthalmology more than 3,700 separations (predominantly at Sydney/Sydney Eye Hospital);
- Orthopaedics more than 2,100 separations (predominantly for Other Orthopaedics – Surgical and Wrist and Hand Procedures); and
- Gynaecology more than 1,100 separations (predominantly at Royal Hospital for Women).

*Table 12: Inflows – Activity of patients treated in SESLHD hospitals, by LHD of residents, 2011/12*

Data	SESLHD residents	Other metro LHD residents	Rural LHDs + interstate residents	Total
Separations	21,033	7,283	5,062	33,378
CWTU Separations	48,490	13,043	15,871	77,404
NWAU	41,510	11,270	13,939	66,719
Bed days	94,793	22,754	26,597	144,144
ALoS	4.5	3.1	5.3	4.3
Av CWTU	2.31	1.79	3.14	2.32
Av NWAU	1.97	1.55	2.75	2.00

*Source, inclusions, exclusions and notes see Figure 3.*

Figure 14: Inflows – Separations of patients treated in SESLHD hospitals, by LHD of residents, Service Related Group, 2011/12



Source, inclusions, exclusions and notes see Figure 3.

## The Future

SESLHD recognises its speciality centres have resulted in better provision of care, and longer healthier lives for many. Further development of the District's clinical, research and education leadership will be strategically important over the coming decades.

### Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

Refer to Key Initiatives and Actions in Sections on

- Complex cancer surgery (Key Initiative 3.1.e)
- Orthopaedic surgery (Key Initiative 3.1.e)
- Hand surgery (Key Initiative 3.1.e)
- Ophthalmology (Key Initiative 3.1.e)
- Gyneacology (Key Initiative 3.1.e)
- Upper gastrointestinal surgery (Key Initiative 3.1.e)
- Ear, nose and throat surgery (Key Initiative 3.1.e)
- Head and neck surgery (Key Initiative 3.1.e)

## 7.4 Consolidating low-volume high-complexity procedures

A sub set of some speciality centres are low volume high complexity interventions. These are rare procedures which are very costly and/or requiring lengthy hospitalisations. Examples include traumatic spinal cord injury surgery, procedures for complex and rare cancers such as peritonectomies or brachytherapy.

Key features of these services should include:

- Strong clinical leadership and multidisciplinary team based decision making;
- Strong depth and breadth across both inpatient and outpatient care with access to the highest quality and experienced subspecialists;
- Clinical services in a dedicated unit;
- Provision of a full complement of services ensuring high quality, multidisciplinary care;
- Adopting new technology early;
- Strong focus on clinical training, through accredited training programs; and
- The conduct of specialty research<sup>39</sup>.

### Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

*"3.2.a: Review evidence related to clinical outcomes associated with treatment volume of selected specialised services to inform future consolidation of low volume services in centres where patient health outcomes will be improved."*

#### Actions

- In 2013/14 the Surgical Stream Committee will work with the District's Clinical and Quality Council and the Budget / Activity Based Funding Steering Committee to conduct an audit of low volume high complexity procedures
- In 2013/14 the Surgical Stream Committee and Cancer Stream will work with the Directors of Operations to respond to the proposed NSW Cancer Institute's Expressions of Interest for sites to perform low volume high complexity cancers procedures

## 7.5 Complex cancer surgery (including peritonectomy service)

NSW's Surgical Services Taskforce has identified one of its five priorities for 2013 will be complex cancer surgery such as upper gastrointestinal, oesophageal and pancreatic cancers.

Published research evidence cited by NSW Cancer Institute<sup>40</sup> shows that for some rare cancers, patient outcomes are improved when surgery is consolidated into facilities with

<sup>39</sup> Source: NSW Health, *Surgical Futures Taskforce, 2010, Surgery Futures Discussion Paper for 2nd Workshop on Saturday 11th September 2010*  
URL: <http://www.archi.net.au/documents/resources/hsd/surgery/futures/workshop-discussion-sept10.pdf>

caseloads above certain thresholds, that is, institutional volumes drive differences in outcomes. For example, international data shows that there is an inverse relationship between pancreatic cancer surgery volume and mortality, hospital stay / hospital costs and post-surgical complications, and long-term survival.

Accordingly, in 2013 sites are being selected by NSW Health to become 'focal surgery sites' for certain cancer procedures. The aim is to redistribute low volume specialty cancer surgery services to specific sites which will be centres of excellence.

Supporting these priorities and research is the Agency for Clinical Innovation's Reducing Unwarranted Clinical Variation Taskforce. The Taskforce has identified four priority areas of variation<sup>41</sup> to examine mainly arising from variation in mortality rates including low volume, complex cancer surgeries (Pancreas and Oesophagus). The Taskforce has identified the need for health system clinicians to be actively involved in identifying, analysing and ultimately developing solutions to reduce unwarranted clinical variation.

In 2011/12, surgery for patients with a Cancer Flag<sup>42</sup> and classified as High Cost Complex Casemix<sup>43</sup> typically had:

- a small number of separations (745 separations);
- more than double the average length of stay;
- relatively high use of resources (average NWAU of 5.58 compared to 2.05 for all other cancer surgery);
- patient flows reflecting the specialised nature of the surgery with more than 50% of separations being for people residing in other Local Health Districts; and
- concentrated at one or two sites.

*Table 13: High Cost complex casemix cancer surgery in SESLHD, 2011/12*

Activity	High Cost Complex	Not High Cost Complex	Total
Separations	745	4,287	5,032
Cost Wt Seps Undiscounted	4,643	10,303	14,945
National Weighted Activity Unit	4,156	8,802	12,958
Bed days	9,184	22,132	31,316
ALoS	12.3	5.2	6.2
Av CWTU	6.23	2.40	2.97
Av NWAU	5.58	2.05	2.58

Source, inclusions, exclusions and notes see Figure 3. **Additional Inclusion:** Cancer Flag: all patients whose primary reason for admission was the treatment and identification of cancer. **Additional Note:** High Cost Complex Casemix separations are defined according to a selection of Diagnosis Related Groups, which are ranked by Teaching Hospital, Flows to Metropolitan Hospitals and Mean Cost Weight ranks

<sup>40</sup> Andren- Sandberg A et al. Pancreatology 2002;2 (5):431-439 cited in NSW Cancer Institute presentation "Variations in cancer surgical outcomes in NSW: How do we make great cancer outcomes even better?"

<sup>41</sup> Clinical variation occurs across all disciplines and practices and arises for a range of reasons including complexity of a patient's illness; burden of illness in different populations; local innovations; administrative variation such as inconsistent coding; and local explanations such as workforce issues. Unwarranted Clinical Variation (UCV) is defined as "variation that cannot be explained by the condition or the preference of the patient; it is variation that can only be explained by differences in health system performance" (NSW ACI, 2013)

<sup>42</sup> Cancer Flag: all patients whose primary reason for admission was the treatment and identification of cancer.

<sup>43</sup> High Cost Complex Casemix separations are defined according to a selection of Diagnosis Related Groups, which are ranked by Teaching Hospital, Flows to Metropolitan Hospitals and Mean Cost Weight ranks.

*Table 14: High Cost Complex Casemix cancer surgery in SESLHD, by SRG and hospital, 2011/12*

Service Related Group	Sydney / Sydney Eye Hospital	Prince of Wales Hospital	Royal Hospital for Women	St George Hospital
Upper GIT surgery		✓		✓
Neurosurgery		✓		✓
Cardiothoracic surgery		✓		✓
Gynaecology			✓	✓
Non subspecialty surgery		✓		✓
Ophthalmology	✓			
Plastic and reconstructive surgery		✓		
ENT and Head and Neck		✓		✓
Orthopaedics		✓		✓

*Source, inclusions, exclusions and notes refer to Table 13*

### **The Future**

Complex cancer surgery will continue to be provided by SESLHD.

SESLHD's Surgical and Cancer Streams will continue working with the Agency for Clinical Innovation (in particular the Surgical Services Taskforce) and the NSW Cancer Institute to:

- establish designated centres for complex cancer in environments that have all the support structures available, maximise the team approach and cross appointments and offer the opportunity for hub and spoke models of care;
- continue improving the multidisciplinary team approach to management of the complex cases; and
- develop agreed protocols, pathways, management, reporting of outcomes data with the aim of improving patient outcomes, streamlining services, reduced times to surgery and better coordinated care.

The Royal Hospital for Women has indicated future planning should incorporate all complex gynaecology oncology surgery be delivered at the Royal Hospital for Women in line with the Hospital's strategic planning (currently being undertaken).

## **Peritonectomy service**

A significant concern in relation to complex cancer surgery for the District is the St George Hospital's Statewide peritonectomy service due to:

- the Hospital's operating theatres, ICU/HDU and inpatient beds currently operating at or over capacity;
- peritonectomies require an intensive use of resources (operating theatre time, intensive care, total parental nutrition, etc); and
- there is limited succession planning to ensure the future of the service.

### **The Future**

Surgeons from St George Hospital note:

- The peritonectomy service at St George has been a national service taking patients not only from NSW but also from interstate and overseas;
- There are capacity issues within the hospital that need to be addressed around operating time, ICU facilities and high acuity surgical ward care provision;

- Peritonectomy demand is likely to continue to increase despite the fact that other centres have been established in Victoria, South Australia and Queensland; and
- The increasing understanding of outcomes are likely to drive demand.

In addition, Palliative Care Services from St George Hospital suggested consideration be given to a funding request to the Federal Government for access to improved psychosocial care.

For St George Hospital to meet surgical demand now and into the future including expanding the range of surgical services offered by the Hospital requires:

- moving high volume short stay surgical activity to Sutherland Hospital; and
- increasing space requiring significant capital expenditure

### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

*2.4.f Further establish cancer research links, via the Translational Cancer Research Network, clinical trials and UNSW grants.*

#### **Actions**

- In 2013/14, the Surgical Stream Committee and Cancer Stream will work with the Directors of Operations and in consultation with the Agency of Clinical Innovation and NSW Cancer Institute to determine the process and resource requirements for the collection of specimens for the Lowy Cancer Research Centre's Biorepository (tumour bank)

*"3.1.e: Develop dedicated centres of excellence in surgical specialties (i.e. provide leadership, best practices, research, support and training) ... as part of the preparation of a District Surgical Services Plan and in conjunction with clinicians, appropriate Clinical Stream Directors and in consultation with the Agency of Clinical Innovation and NSW Cancer Institute, consider and establish designated centres for complex upper gastrointestinal and other cancers within the District.*

#### **Actions**

- In 2011/12, 15% of separations with a "cancer flag" (ie patients whose primary reason for admission was the treatment and identification of cancer), was classified as High Cost Complex Casemix
- In 2012/13 the Surgical Stream Committee agreed complex cancer surgery should not be performed at Sutherland Hospital requiring
  - an expansion of services including sufficient operating theatre sessions and critical care beds at St George Hospital to accommodate Sutherland's activity
  - access by Sutherland Hospital's surgeons to St George Hospital's operating theatres, registrars and residents
- In 2013/14, the Surgical Stream Committee and Cancer Stream will work with the Directors of Operations and in consultation with the Agency of Clinical Innovation and NSW Cancer Institute to analyse complex cancer surgery (including upper gastrointestinal) outcomes, document models of care and assess hospital capacity to determine the distribution of this activity and if future redirection is required
- In 2013/14, the Royal Hospital for Women's Director of Operations will work with the Director Operations St George and Sutherland Hospitals and Health Services to determine the distribution of complex gynaecology oncology surgery activity, assess the Royal Hospital for Women's capacity to undertake this activity and its future redirection to Royal Hospital for Women.



*“3.2.j Further develop cancer care services at Prince of Wales Hospital in accordance with NSW and SESLHD strategic plans for cancer care, including: ... Specialist cancer surgery.”*

**Actions**

- Through the life of this Plan the Surgical Stream Committee and Cancer Stream will work with the Northern Sector's Directors of Operations to further develop specialist cancer care services at the Hospital

*“3.2.k Further develop services provided from the Comprehensive Cancer Centre at St George Hospital in line with NSW and SESLHD strategic cancer plans ... Integrating and developing multidisciplinary teams of cancer services with surgical support from upper gastrointestinal, colorectal, breast, endocrine and gynaecological surgeons.”*

**Actions**

- In 2013/14, the Surgical Stream Committee and Cancer Stream will work with the Directors Operations St George and Sutherland Hospitals and Health Services and in consultation with the Agency of Clinical Innovation and NSW Cancer Institute to analyse complex cancer surgery at St George Hospital and assess hospital capacity to determine the distribution of this activity and if future redirection is required
- Where it is deemed appropriate that complex cancer surgery should continue at St George Hospital the Surgical Stream Committee and Cancer Stream will work with the Directors of Operations St George and Sutherland Hospitals and Health Services to further develop these specialist cancer care services and multidisciplinary teams

*“3.4.g Further develop services provided from the Comprehensive Cancer Centre at St George Hospital campus in accordance with NSW and SESLHD strategic plans for cancer care, including .... Consolidate the brachytherapy suite”*

**Actions**

- Through the life of this Plan the Surgical Stream Committee and Cancer Stream will work with the Director Operations St George and Sutherland Hospitals and Health Services to consolidate the brachytherapy suite at the Hospital

*“3.5.d Continue the statewide brachytherapy service at St George Hospital campus”.*

**Actions**

- In 2010/11 St George Hospital provided brachytherapy
- Through the life of this Plan it is expected brachytherapy will be continued at St George Hospital

Also refer to Key Initiatives and Actions in Sections on

- Upper gastrointestinal surgery (Key Initiative 3.1.e and 3.2.k)
- Gynaecology (Key Initiative 3.1.e and 3.5.c)

## 7.6 Improving the patient journey

Improving the journey for surgical patients can be difficult. These patients can be critically ill requiring complex emergency surgery through to those who are fit and well requiring minimally invasive day surgery.

Waxman advocates “whether a patient is having an elective or emergency procedure, ideally their journey will follow a pathway that has been mapped out from the time of entering the hospital until their discharge summary is generated”<sup>44</sup>. He outlines the ideal scenario, in which elective patients have:

- multidisciplinary preoperative assessment;
- an “enhanced recovery after surgery” (ERAS) pathway; and
- a “preflight” checklist in the operating theatre.

benefiting patients postoperatively including reduced morbidity and a shorter length of stay.

He notes “[s]imilar principles apply to patients who undergo emergency surgery, although the planning cannot be so strategic”.

Preoperative assessment should refer to Pre-Procedure Preparation Toolkit<sup>45</sup> and recognise:

*“Tobacco smoking is an identifiable major risk factor relating to surgery and the perioperative period. Patients who smoke should be encouraged to stop smoking at least six to eight weeks before surgery. In the short term, smoking should not be permitted 12 hours before surgery.”*<sup>46</sup> More recently, the Australian and New Zealand College of Anaesthetists are revising these guidelines to “recommend that all elective surgery patients are asked if they smoke and given referrals to help them quit if they do”<sup>47</sup>.

In addition:

*“Overweight and obesity are associated with a wide range of other conditions, particularly cardiovascular disease, type 2 diabetes and some cancers. The risk of comorbidity appears to rise with increasing BMI.”*<sup>48</sup> Further, “... obesity was related to a higher risk of mortality after certain procedures, including colorectal resection, colostomy formation, cholecystectomy, hernia repair, mastectomy and wound debridement”<sup>49</sup>.

<sup>44</sup> Waxman, B., 2013, Smoothing out the ride for surgical patients, MJA 198 (8), 6 May 2013, p 407

<sup>45</sup> NSW Department of Health, 2007, GL2007\_018 Pre-Procedure Preparation Toolkit

<sup>46</sup> Australian and New Zealand College of Anaesthetists, 2007, PS12 Statement on Smoking as Related to the Perioperative Period, <http://www.anzca.edu.au/resources/professional-documents/documents/professional-standards/professional-standards-12.html>

<sup>47</sup> Australian and New Zealand College of Anaesthetists, 2013, President interviewed on smoking <http://www.anzca.edu.au/communications/Other%20publications/front-page-announcements/front-page-news/president-interviewed-on-smoking-guidelines/?searchterm=smoking>

<sup>48</sup> NHMRC, 2013, Clinical practice guidelines for the management of overweight and obesity in adults, adolescents and children in Australia

<sup>49</sup> Bryan, A, 2011, Surgery risks for obese overplayed, MJA, 28 November, 2011

### Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

*"3.6.a Further develop and embed prevention, early detection and intervention initiatives across the continuum of prevention and care within clinical ... settings ."*

#### Actions

- Throughout the life of this Plan the Surgical Stream Committee will work with the Directors of Operation and Agency for Clinical innovation to develop ERAS pathways
- Throughout the life of this Plan clinicians will identify patients' smoking status at the pre-admission (planned procedure) or patients presenting at the emergency department enabling nursing staff to
  - assess all patients admitted to SESLHD hospitals for nicotine dependence using the Management of Inpatients with Nicotine Dependence (MIND) tool and offer Nicotine Replacement Therapy (NRT) to patients as appropriate.
  - offer cessation support and Short Term Nicotine Dependence Management is offered to in-patients as part of the SESLHD Nurse Initiated NRT Procedure.
  - referred to Smoking Cessation Services/Programs (if available) or to NSW Quitline (137 848).
- Throughout the life of this Plan clinicians will identify overweight or obese patients and refer patients to the *Get Healthy Information and Coaching Service* (1300 806 258)

## 7.7 Implementing clinical pathways (including undertaking multidisciplinary reviews)

Clinical care pathways detail the steps for patients with a specific clinical problem using an evidence based approach.

### National Clinical Care Standards

The clinical care standards developed by the Australian Commission on Safety and Quality in Health Care consist of a small number of quality statements that describe the key components of clinical care that a patient should be offered for a specific clinical condition or defined part of a clinical pathway, along with derived quality measures and national indicators<sup>50</sup>.

The current standards cover:

- Governance for Safety and Quality in Health Service Organisations
- Partnering with Consumers
- Preventing and Controlling Healthcare Associated Infections
- Medication Safety
- Patient Identification and Procedure Matching
- Clinical Handover
- Blood and Blood Products
- Preventing and Managing Pressure Injuries

<sup>50</sup> Australian Commission on Safety and Quality in Health Care URL:  
<http://www.safetyandquality.gov.au/national-priorities/goals/#>

- Recognising and Responding to Clinical Deterioration in Acute Health Care
- Preventing Falls and Harm from Falls

## Integrated Service Models

The Surgical Futures Background Paper notes:

*“Integrated Service Models are being established across Australia and other countries in an effort to concentrate highly specialised resources whilst also ensuring that those services that can be safely and effectively delivered locally are supported to do so. Cancer services have preceded down this path reasonably well, seeking to provide a network of services that are connected around the patient’s needs. This reorganisation and associated changes in governance will have an impact for cancer surgical services.”<sup>51</sup>*

Refer to the Section - Complex cancer surgery.

## Older patients having surgery

People aged 75 years and older:

- make up 7% of the District’s population;
- account for 20% of all surgical separations; and
- account for 30% of surgical bed days.

Table 15: Surgical activity by age group in SESLHD, 2011/12

Activity	00 to 15 years	16 to 44 years	45 to 64 years	65 to 74 years	75 years + older	Total
Separations	625	11,881	8,721	5,582	6,569	33,378
Cost Wt Seps Undiscounted	706	20,602	21,168	15,124	19,804	77,404
National Weighted Activity Unit	547	18,779	18,131	12,847	16,415	66,719
Bed days	981	37,419	36,764	26,732	42,248	144,144
ALoS	1.6	3.1	4.2	4.8	6.4	4.3
Av CWTU	1.13	1.73	2.43	2.71	3.01	2.32
Av NWAU	0.88	1.58	2.08	2.30	2.50	2.00

Source, inclusions, exclusions and notes see Figure 3.

This cohort of patients present challenges for surgical services in terms of increases in demand, greater likelihood of comorbidities resulting in more complex care and leading to longer lengths of stay and higher cost.

### Increased likelihood of comorbidities

The 65 years and older cohort is more likely to have one or more chronic diseases, including diabetes, renal failure and cardiac and respiratory disease. Although these conditions can be stabilised prior to surgery, surgical patients with these problems remain at increased risk of delayed recovery and adverse events.

<sup>51</sup> NSW Health, 2010a

### **Increased risk of falls**

Older people are at increased risk of falls in the community so more likely to require particular types of orthopaedic surgery. For these patients SESLHD has a well established orthogeriatric service where medical care for older patients with orthopaedic disorders is provided collaboratively by orthopaedic services and, aged care or rehabilitation services.

Older patients are also at increased risk of a fall while in hospital. Approximately four falls occur per 1,000 bed days in SESLHD facilities. Between four and seven patients died from falls each year in SESLHD facilities since 2007/08.

There is good evidence of the effectiveness of multifactorial interventions tailored to individuals<sup>52</sup>. SESLHD's *Falls Prevention and Management for Older Patients in Acute and Subacute Facilities (PD 248)* (2010) mandates falls risk screening for people all people aged 65 and over, and from the earlier age of 45 for Aboriginal people. Other interventions could include screening and an individualised package of interventions such as medication review, toileting, footwear advice, prevention and management of delirium, use or removal of bed rails, low-low beds, etc.

### **More prone to acute delirium**

Older surgical patients are also at increased risk of developing delirium due to a range of factors including pre-existing dementia and/or visual impairment, greater susceptibility to adverse consequences of anaesthetics and/or analgesics, etc.

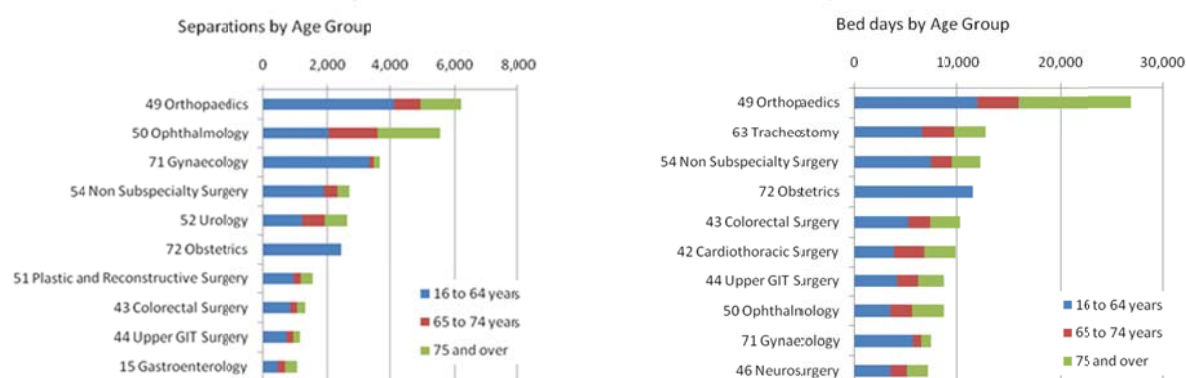
Based on this increased prevalence SESLHD's Aged Care and Rehabilitation Stream is working with the Surgical Streams to implement a Delirium Care Pathway. It is anticipated pre-operative cognitive screening of elective patients over a set age will:

- provide a baseline for patient's cognitive functioning;
- identify patients at risk of developing delirium earlier;
- give the opportunity to advise and educate staff regarding the patient's management;
- enable medication review and management;
- expedite transfers to aged care wards if required; and
- minimise risk.

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<sup>52</sup> Australian Commission on Safety and Quality in Health Care. *Safety and Quality Improvement Guide Standard 10: Preventing Falls and Harm from Falls* (October 2012). Sydney. ACSQHC, 2012 and NSW Ministry of Health, 2011b, Prevention of Falls and Harm from Falls among Older People: 2011-2015 (PD2011\_029)

Figure 15: “Top 10” SRGs by age group, separations and bed days, 2011/12



Source, inclusions, exclusions and notes see Figure 3. Additional notes: “Top 10 SRGs” by highest number of separations and largest number of bed days

## The Future

Anaesthetists from Prince of Wales Hospital have highlighted older people having surgery as an important factor in planning the future of surgical services. They recommend consideration of appropriate methods for improving the delivery of anaesthetic services to this group of patients, particularly in respect to:

- improved efficiency in identifying important co-morbidities and modifying the risks associated with older patients;
- implementing appropriate care guidelines and policies to minimise the incidence and impact of post-operative cognitive decline and delirium.

### Key Initiatives for 2012-2017 from SESLHD’s Health Care Services Plan

*“2.1.b: Establish processes to engage effectively with patients, clinicians, Local Lead Clinicians groups, Medicare Locals and other stakeholders to optimise service integration and coordination:*

- *Develop coordinated clinical pathways to improve access to and connectedness between Primary, Secondary and Tertiary Health care services*
- *Enhance communication with General Practice via improved access to surgical patient discharge summaries and other relevant information.”*

#### Actions

- In 2013/14 the Surgical Stream Committee will identify the top three - five surgical DRGs associated with increased risks for older persons
- In 2013/14 the Surgical Stream Committee will develop clinical pathways for these DRG’s and conduct an audit against these pathways. Many of these guidelines already exist under the National Standards.

*“3.2.b: Identify and implement initiatives to enhance access, maximise patient flow, support the continuum of care and support integration between emergency, critical care and other hospital and community based services.”*

#### Actions

- In 2012/13 the Planning and Population Health Directorate will lead the development of a Falls Prevention Plan
- For the life of this Plan the Directors of Operation will continue implementing the

national guidelines and State policy to assist prevention of and harm from falls and the consequent morbidity and mortality for older people.

- In 2013/14 the Surgical Stream Committee will work with the Aged Care and Rehabilitation Stream to develop and implement Delirium Care Pathways for older patients
- In 2013/14 the Anaesthetic Directors will recommend to the Surgical Stream Committee appropriate methods for improving the delivery of anaesthetic services including
  - improved efficiency in identifying important co-morbidities and modifying the risks associated with older patients
  - implementing care guidelines and policies to minimise the incidence and impact of post-operative cognitive decline and delirium

## 7.8 Improving access to surgical services

### Access to surgical services by Aboriginal people

The Health of Aboriginal People of NSW: Report of the Chief Health Officer 2012<sup>53</sup> identified:

*“Aboriginal people have higher rates of hospitalisation and higher rates of many diseases but are less likely than non-Aboriginal people to access common surgical procedures to treat or manage a range of conditions.”*

In terms of lower rates for surgical procedures, the Report noted this was the case for:

- cataract procedures even though Aboriginal people experience a higher burden of eye disease than the general population; and
- elective orthopaedic surgery includes total hip replacement and total knee replacement, which are operations most commonly used to address joint failure due to arthritis despite Aboriginal people having a similar prevalence of osteoarthritis to non-Aboriginal people.

Further, the Report noted the estimated level of correct reporting for Aboriginal people in the Admitted Patients Data Collection in SESLHD in 2008 was 72.9%<sup>54</sup>.

For SESLHD residents who identify as Aboriginal people procedure rates<sup>55</sup> are:

- 40% less likely to have cataract surgery than other SESLHD residents; and
- 60% less likely to have hip or knee replacement than other SESLHD residents.

The lower procedure rates for cataracts and joint replacements may be due to a number of factors including poor access for Aboriginal people requiring planned surgery, Aboriginal people choosing not to identify as Aboriginals and/or SESLHD staff not asking patients if they are Aboriginal, etc.

This has implications in terms of accessibility to surgical services for SESLHD's Aboriginal people, non-identification of Aboriginal people and Activity Based Funding.

<sup>53</sup> NSW Health, 2012, The Health of Aboriginal People of NSW: Report of the Chief Health Officer <http://www.health.nsw.gov.au/publications/Publications/Aboriginal-Health-CHO-report.pdf>

<sup>54</sup> *ibid*, Section 5.5 (page 92-3)

<sup>55</sup> Source: FlowInfo. Note: used 5 years consolidated data 2006/07 – 2010/11 and calculated using aged standardised separation ratio



Therefore there appears to be an opportunity for clinicians to confirm identification of Aboriginal people is correct.

## People of non-English speaking background access to surgical services

An estimated 28,000 or 12% of residents born in a Non English speaking country do not speak English well or at all therefore, interpreter services are essential to communicate effectively with many of our patients.

In 2011/12, more than 46,000 occasions of service were provided for interpreting in the District's hospitals. However, demand is increasing and has outstripped the capacity of health care interpreters to supply their services resulting in:

- Patients often have to wait up to a week until they can be seen with a free health care interpreter present;
- Facilities often have to purchase additional services through the fee for service national Telephone Interpreter Service; and
- File audits have shown that, contrary to health policy, family and friends are often used to interpret, even for seeking consent.

Reasons for increasing and unmet demand for interpreter services include:

- Large cohorts of ethnic communities are ageing and accessing more health services;
- English language proficiency among post war immigrants is relatively low (e.g. lower than for those who arrived later);
- Diversity is increasing – more different languages are spoken among more diverse communities; and
- Interpreters are increasingly required to interpret while patients undergo lengthy procedures.

## Vulnerable populations access to surgery

One of the District's key priorities is to reduce inequities in health service access and health outcomes. Those most at risk of experiencing health inequities are our most vulnerable population groups. Vulnerable populations are those at greater risk for poor health status and healthcare access.

The health and non health service needs of these populations are important, with social disadvantage likely compounded by poorer general health than the more advantaged and vice versa. Chronic illnesses and the impact of these illnesses are more prevalent among vulnerable populations.

SESLHD aims to provide high quality appropriate prevention and care to all people, including those from vulnerable population groups. To achieve this, it is guided by a range of state and local key strategies and plans, which have been developed to:

- Support national, state and local planning efforts to achieve systems of care that meet the specific needs of vulnerable populations;
- Achieve equity in health care access and quality and address concerns faced by vulnerable populations; and
- Document and track health care quality for vulnerable populations.

## Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

*"1.4: Ensure timely and equitable access to prevention, treatment and care, so that irrespective of health literacy, place of residence, mobility, transport and other health and socioeconomic circumstances, individuals have the same opportunity to access and effectively navigate health services when they need them."*

### Actions

- Throughout the life of the Plan the Director Operations Primary and Ambulatory Health Care with support from the Directors of Operations will improve:
  - Identification and accurate data collection of vulnerable patients and their complex needs
  - Preadmission / admission processes to identify carers
  - Involve carers and supports in assessment, planning, delivery and review of services
  - Improve access to and understanding of health information for vulnerable groups for example translated health materials, range of communication mediums, involvement of interpreters, carers, etc
  - Provide effective consent processes for example professional interpreters, cognitive impairment considerations, age of consent (14 years), etc

*"2.1.b: Establish processes to engage effectively with patients, clinicians, Local Lead Clinicians groups, Medicare Locals and other stakeholders to optimise service integration and coordination:*

- *Develop coordinated clinical pathways to improve access to and connectedness between Primary, Secondary and Tertiary Health care services*
- *Enhance communication with General Practice via improved access to surgical patient discharge summaries and other relevant information."*

### Actions

- Throughout the life of the Plan the Director Operations Ambulatory and Primary Health Care with support from other Directors of Operations will:
  - Identify potential for linkages and pathways involving Medicare Locals
  - Ensure linkages and partnerships with appropriate supports and services on discharge eg follow up care for refugees, young people, homeless people, those with a disability
  - Have discharge planning procedures in place which incorporate referral to community services, NGOs, other providers as required eg "no exit to homelessness"
  - Provide information / referrals for carers to care support services

*"3.2.b Identify and implement initiatives to enhance access, maximise patient flow, support the continuum of care and support integration between emergency, critical care and other hospital and community based services."*

### Actions

- Throughout the life of the Plan the Director Operations Ambulatory and Primary Health Care with support from other Directors of Operations will:
  - Ensure preadmission, admission and discharge planning processes / pathways adequately identify and address the needs of vulnerable populations
  - Ensure identification of vulnerable patients with special needs, chronic

- conditions and co morbidities
- Use appropriate assessment tools to promote consistency in assessing vulnerable patients
- Involve carers and supports as partners in care throughout the continuum of care

*“4.4.e: Develop, implement and evaluate strategies to improve recording and coding accuracy in priority areas, with a focus on .... Aboriginality of patients / clients.”*

#### Actions

- In 2012/13 SESLHD District Executive Team and the District Clinical and Quality Council endorsed distribution of Aboriginal Healthy Lifestyle posters to improve identification of Aboriginal people
- From 2012/13 onwards Directors of Operations will monitor recording of Aboriginality
- From 2014/15 onwards Surgical Stream Committee will monitor rates of hip or knee replacement as well as ophthalmic surgery for Aboriginal people

## 7.9 Innovation and surgery

Central to SESLHD's role in providing Statewide and quaternary surgical services is the need for innovation. Many of the models of care advocated by the Surgical Services Taskforce and the Agency for Clinical Innovation, being implemented across the District involve innovation, predominantly around processes aimed at better patient outcomes as well as improved efficiency and productivity.

Innovation also extends to:

- expanding models of care to for example the multidisciplinary management of public sector bariatric patients;
- refining interventions such as the growing field of minimally invasive surgery;
- changing technology for instance robotic surgery or the Electronic Medical Record; and
- accessing data for example integration of cost of care and patient data.

All allow improvement in the delivery of surgical services.

Responsible development of innovation is required. For example the District's New Interventions Assessment Committee assists:

*“... clinicians to introduce new interventional procedures so that patients, clinicians and managers may be confident that all new interventional procedures introduced into SESLHD facilities are supported by evidence of efficacy, safety, effective resource utilisation and assurance of an agreed process for monitoring outcomes.”<sup>56</sup>*

Implementation of innovations such as high volume short stay should be expedited.

<sup>56</sup> SESLHD's New Interventions Assessment Committee, 2013, Committee Charter

## 8. Surgical Sub Specialities

### Key Points

A summary of future changes for sub specialities outlined in this Section is provided in the Table below

This Section should be read in conjunction with the previous sections as some Key Initiatives and corresponding Actions are relevant to various sub specialities. The Surgical Stream's specialties are presented in order of the volume of separations.

*Summary of changes in surgery over the next 5 - 10 years*

	Activity increase by 2022		Increased resources required by 2022			Changes to models of care by 2022						
	Separations (> 300)	Bed days (> 500)	Beds (> 5 by 2022)	Equipment / infrastructure	Staff	HVSS (> 500 seps 2012/13)	Separate planned & emergency	Speciality Centres	Low volume high complexity	Complex cancer	Clinical pathways	Vulnerable peoples access
Orthopaedic	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Spinal surgery								✓	✓			
Ophthalmology	✓	✓		✓		✓		✓			✓	✓
General Surgery	✓					✓	✓					
Urology	✓	✓		✓	✓	✓					✓	
Hand surgery				✓		✓		✓				
Plastic & Reconstructive Surgery					✓	✓				✓	✓	
Colorectal Surgery							✓					
Upper GIT Surgery		✓					✓	✓	✓	✓		
Hepatobiliary surgery									✓	✓		
Bariatric surgery					✓			✓				
Vascular Surgery		✓	✓	✓							✓	✓
Neurosurgery		✓		✓			✓			✓		
ENT						✓		✓				
Endocrine surgery												
Head and Neck								✓		✓		
Maxillofacial surgery					✓			✓	✓			
Gynaecology						✓		✓		✓		
Obstetrics		✓										
Cardiothoracic Surgery		✓	✓				✓			✓	✓	
Paediatric					✓							
Breast Surgery					✓					✓	✓	

## 8.1 Orthopaedic surgery (including spinal surgery)

**Note: activity in this Section excludes hand and wrist surgery, this sub speciality has a separate section in this Plan.**

Between 2006/07 to 2011/12, orthopaedic surgery across SESLHD showed:

- inpatient separations had an overall increase (more than 600 separations or 3.1% per year);
- average length of stay varied with an overall downward trend;
- inpatient bed days varied but with an overall increase (1,026 bed days, 0.9% per year or 3 additional beds required across SESLHD); and
- average NWAU has been variable but with an overall decrease.

Most recently in 2011/12 for SESLHD:

- total separations were 4,309;
- bed days totalled 24,600 equal to 79 beds;
- average NWAU was 2.50.

*Table 16: Trends in orthopaedic surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	3,707	3,715	3,835	4,027	4,200	4,309	602	3.1%
CWTU Seps	10,526	10,676	10,890	11,109	11,388	11,839	1,313	2.4%
NWAU	9,661	9,698	9,936	10,203	10,500	10,767	1,107	2.2%
Bed days	23,574	25,779	24,838	22,646	23,763	24,600	1,026	0.9%
ALoS	6.4	6.9	6.5	5.6	5.7	5.7	-0.7	-2.1%
Av CWT	2.84	2.87	2.84	2.76	2.71	2.75	-0.09	-0.7%
Av NWAU	2.61	2.61	2.59	2.53	2.50	2.50	-0.11	-0.8%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 49 Orthopaedics. Additional Exclusions: ESRG: 492 Wrist and Hand Procedures, Age: 0 – 15 years*

According to role delineation for orthopaedic surgery in SESLHD's Health Care Services Plan:

- Prince of Wales, Sydney / Sydney Eye (hand surgery) and St George Hospitals are able to manage complex major diagnostic and treatment procedures in association with other specialties; and
- Sutherland Hospital is able to provide a full range of major diagnostic and treatment procedures on low, moderate and high risk patients.

These role delineations are reflected in the 2011/12 inpatient activity data where Prince of Wales Hospital provides most orthopaedic surgery (37%), at Sutherland Hospital (31%), at St George Hospital (21%) and the remainder at Sydney / Sydney Eye Hospital (albeit predominantly hand procedures but coded to ESRG 495 Other Orthopaedics – Surgical).

Residents from other Local Health Districts treated in SESLHD hospitals (inflows), account for 28% of patients (more than 1,200 separations).

Approximately 46% of separations were for planned surgery of which 66% (nearly 3,000 separations in 2011/12) had DRGs considered suitable for High Volume Short Stay.

Emergency surgery had a significantly longer average length of stay (7.7 days versus 3.3 days for planned) and a higher average cost weight (2.62 against 2.35 for planned).

Patients aged 75 years or older account for 26% of activity across the District (1,134 separations in 2011/12).

Between 2009/10 and 2011/12 the average number of people on the wait list has been 3,215 with an overall increase of 242 patients or an increase of 3.9% per annum.

### **The Future**

Projected activity for orthopaedic surgery by 2022:

- total separations are projected to increase to 4,978 (669 additional separations or 1.5% per year);
- bed days to increase to 29,762 (5,162 additional bed days, 1.7% per year or 17 additional beds).

It is expected the distribution of orthopaedic surgery will remain unchanged but, with an increasing number and proportion of patients aged 75 years and older across all hospitals requiring ongoing implementation of a range of clinical pathways for example management of older patients requiring surgery for a fractured hip<sup>57</sup>.

Surgeons at Prince of Wales Hospital note the orthopaedic department is cohesive and presently provides an excellent balance of skills to service and training. All subspecialty areas of orthopaedics are covered and the need to transfer patients elsewhere is very rare. The department is conscious of costs and has made significant savings by negotiating better prices with implant suppliers. They do not envisage major changes in the provision of services over the next five years. However, have some suggestions, which they believe would improve the service including additional surgical appointments, increased access to operating theatre time for trauma surgery, additional equipment and consolidation of beds.

Aboriginal residents of SESLHD have lower procedure rates for joint replacement surgery than other SESLHD residents. This has implications in terms of accessibility of SESLHD's Aboriginal people to orthopaedic surgery, non-identification of Aboriginal patients and Activity Based Funding.

### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

*"3.1.e. Develop centres of excellence in surgical specialties (i.e. providing leadership, best practices, research, support and training ...*

- *Evaluate major joint arthroplasty at Sutherland and Prince of Wales Hospitals to improve and enhance patient outcomes.*

#### **Actions**

- In 2011/12, hip and knee replacement / revision were performed at Sutherland

<sup>57</sup> The NSW Clinical Excellence Commission's report 'Fractured Hip Surgery in the Elderly' identified a number of key care elements that are necessary to improve patient management and reduce 30 day mortality. The NSW Agency for Clinical Innovation determined the management of patients with fractured hips is a priority for 2013. The Fractured Neck of Femur - Minimum Standards project aims to improve the outcomes for patients requiring fractured hip surgery and management in NSW and is scheduled for implementation in 2013

- Hospital (50%) Prince of Wales Hospital (39%) and St George Hospital (11%)
- In 2013/14, the Surgical Stream Committee will support the Directors of Operations develop a methodology for determining comparative effectiveness of major joint arthroplasty and determine a means to improve and enhance patient outcomes

Refer to other Key Initiatives and Actions in Sections on

- Capital infrastructure (Key Initiative 4.3.f)
- High Volume Short Stay (Key Initiative 1.4.c)
- Separating planned and emergency surgery (Key Initiative 3.2.c)
- Clinical Pathways (Key Initiative 3.2.b)

## Spinal surgery

Between 2006/07 to 2011/12, spinal surgery across SESLHD showed inpatient separations, and bed days have varied but with an upward trend in since 2008/09, while the average length of stay and average NWAU have varied but with no significant trends.

Most recently in 2011/12 for SESLHD:

- total separations were 387;
- bed days totalled 3,239 equal to 10 beds;
- average length of stay of 8.4 days; and
- average NWAU was 4.49.

*Table 17: Trends in spinal surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	344	321	298	337	386	387	43	2.4%
CWTU Seps	1,604	1,426	1,254	1,588	1,766	1,828	224	2.6%
NWAU	1,512	1,415	1,189	1,501	1,782	1,736	224	2.8%
Bed days	2,719	2,992	2,252	2,704	2,911	3,239	520	3.6%
ALoS	7.9	9.3	7.6	8.0	7.5	8.4	0.5	1.2%
Av CWT	4.66	4.44	4.21	4.71	4.58	4.72	0.06	0.3%
Av NWAU	4.40	4.41	3.99	4.45	4.62	4.49	0.09	0.4%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Diagnosis Related Groups: B03A Spinal Procedures W Catastrophic or Severe CC, B03B Spinal Procedures W/O Catastrophic or Severe CC, B82A Chronic and Unspecified Paraplegia/Quadriplegia W or W/O OR Procs W Cat CC, B82B Chronic and Unspecified Paraplegia/Quadriplegia W or W/O OR Procs W Severe CC, I06Z Spinal Fusion W Deformity, I09A Spinal Fusion W Catastrophic CC, I09B Spinal Fusion W/O Catastrophic CC, I10A Other Back and Neck Procedures W Catastrophic or Severe CC, I10B Other Back and Neck Procedures W/O Catastrophic or Severe CC. Additional Exclusions: Age: 0 – 15 years*

Projected activity for spinal surgery is problematic as the aIM2012 tool used for inpatient projections uses ESRGs (ESRGs are an aggregation of DRGs and there are no ESRGs used predominantly by spinal surgery). However, based on recent trends it seems reasonable to assume spinal surgery activity will remain relatively constant.

Inpatient data indicates spinal surgery is performed at both Prince of Wales and St George Hospitals reflecting the spinal cord versus the spinal column aspects.



Prince of Wales Hospital provides southern NSW's Spinal Cord Injury Service with spinal surgery (both orthopaedic and neurosurgery). In addition, orthopaedic surgeons also perform complex spine surgery, including the treatment of degenerative conditions, tumour and deformity. Sixty two percent of patients travel from other Local Health Districts to Prince of Wales Hospital for their surgery.

St George Hospital triages all patients with a spinal cord injury to Prince of Wales or Royal North Shore Hospitals in accordance with State protocols (NSW Health, 2010, Selected Specialty and Statewide Service Plans: Spinal Cord Injury). However, the hospital does perform spinal surgery where there is no spinal cord involvement. This is predominantly neurosurgical work including trauma (where there are changes to structure and stability of the spine only without cord compression) as well as degenerative and malignant conditions. A significant leadership, research and training centre exists at St George Campus that has been built over the past 13 years with a public -private-university partnership.

### The Future

Matters identified in relation to future activity include:

- Congenital spinal deformities: patients with congenital spinal deformities routinely had their operation during their early teenage years so were treated in a paediatric hospital. Recently there has been a change in the model of care where the surgery is delayed until late teens requiring management in an adult hospital. This change is not evident in trend data between 2006/07 to 2011/12 although the number of separations was small, regardless the impact will need to be monitored in future years. The high cost of this surgery is related to prostheses.
- St George Hospital's Head of Neurosurgery supports spinal surgery including instrumented / "complex" surgery performed by neurosurgeons being continued at St George Hospital as a critical element of running a trauma service. He notes spinal cord injuries are a small minority of this surgery and are triaged to Prince of Wales or Royal North Shore Hospitals whereas almost all other spine injuries involving changes to the structure and stability of the spine only are treated outside those two facilities.
- The preponderance of Spinal Fusion and Spinal Procedures without catastrophic comorbidity and complications (DRGs 109B B03B, 106Z) and related to spinal stabilization cases are performed in private hospitals. It may be worthwhile streaming these cases to the private hospital.

### Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

*"3.1.e: Develop dedicated centres of excellence in surgical specialties (i.e. provide leadership, best practices, research, support and training) ... Consolidate orthopaedic spinal surgery at Prince of Wales"*

#### Actions

- In 2013/14, the Surgical Stream Committee supported
  - all spinal cord injuries continuing to be triaged to Prince of Wales or Royal North Shore Hospitals in accordance with State protocols
  - other spinal surgery (with no spinal cord injury) being treated at either St George or Prince of Wales Hospital in line with other NSW tertiary hospitals

Also refer to Key Initiatives and Actions in sections on

- Activity Based Funding (Key Initiative 4.2.a)
- Capital Infrastructure (Key Initiative 4.3.f and 4.3.h)

## 8.2 Ophthalmic surgery

Between 2006/07 to 2011/12 ophthalmic surgery across SESLHD showed:

- inpatient separations were variable with an overall increase (+250 separations or 0.9% per year);
- average length of stay trended down leading to inpatient bed days being variable with an overall decrease (-927 bed days, -2.0% per year or 3 less beds required across SESLHD);
- average NWAU has been variable but with an overall decrease.

Most recently in 2011/12 for SESLHD:

- total separations were 5,542.
- bed days totalled 8,559 equal to 28 beds;
- average NWAU is 0.75.

*Table 18: Trends in ophthalmological surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	5,292	5,058	5,160	5,324	5,512	5,542	250	0.9%
CWTU Seps	5,244	5,114	5,002	4,956	5,105	5,187	-57	-0.2%
NWAU	4,036	3,895	3,899	3,901	4,031	4,134	99	0.5%
Bed days	9,486	9,119	8,545	8,183	8,117	8,559	-927	-2.0%
ALoS	1.8	1.8	1.7	1.5	1.5	1.5	-0.2	-2.9%
Av CWT	0.99	1.01	0.97	0.93	0.93	0.94	-0.06	-1.1%
Av NWAU	0.76	0.77	0.76	0.73	0.73	0.75	-0.02	-0.4%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 50 Ophthalmology. Additional Exclusions: Age: 0 – 15 years*

According to role delineation for ophthalmology in SESLHD's Health Care Services Plan:

- Sydney/Sydney Eye Hospital is able to deal with complex major diagnostic and treatment procedures except where a patient's co-morbidities exceed the capacity of Sydney/Sydney Eye Hospital to perform the procedure.
- St George and Sutherland Hospitals should only be providing intermediate surgical procedures on low or moderate risk patients.
- In the future Prince of Wales Hospital will only provide intermediate surgical procedures on low or moderate risk patients and especially in line with clinical protocols where the patient's co-morbidities exceed the capacity of Sydney/Sydney Eye Hospital to perform the procedure.

These role delineations are largely reflected in the inpatient activity data where three hospitals provide most of the ophthalmic surgery. The data shows that:

- Sydney/Sydney Eye Hospital provides 93% all separations, with 70% of these patients travelling from other Local Health Districts for their surgery;
- Prince of Wales Hospital has had a declining role (from 13% in 2006/07 to 4% in 2011/12);
- Sutherland Hospital has had a slight but gradual increase in activity (4% between 2005/06 to 2010/11);
- St George Hospital provided very limited ophthalmic surgery which appears to be associated with emergency trauma (10 separations in 2011/12).

Planned ophthalmology surgery is mainly performed at Sydney/Sydney Eye Hospital (91% of all planned activity or 4,051 separations) with the remainder performed at either Prince of Wales or Sutherland Hospitals.

All planned ophthalmic surgery DRGs are considered suitable for a high volume short stay service. Sydney/Sydney Eye Hospital already provides a high volume short stay service. The remaining planned ophthalmic surgery being performed at Prince of Wales and Sutherland Hospitals could be combined with other high volume short stay activity to justify high volume short stay and/or EDO beds and theatres at one or more locations within the District.

Emergency ophthalmology surgery accounts for 20% of all separations but has a longer average length of stay, a higher average NWAU and is predominantly performed at Sydney/Sydney Eye Hospital (98%).

Ophthalmology surgery tends to be performed on older patients. In 2012/13, 35% of patients were aged 75 years or older.

### **The Future**

Projected activity for ophthalmic surgery by 2022:

- total separations are projected to increase to 6,933 (1,391 additional separations or 2.3% per year);
- bed days to increase to 9,693 (1,134 additional bed days, 1.1 % per year or 4 additional bed).

Matters identified in relation to future activity include:

- Ophthalmologists
  - supported Sydney Eye Hospital's statewide role in complex ophthalmology, *"[t]here is no doubt highly specialised services need to be managed through few highly specialised centres [such as Sydney/Sydney Eye Hospital], most notably for ophthalmic surgery corneal, retinal and complex oculoplastic procedures."*
  - Identified the need for cataract surgery to be *"delivered in specially set up day stay units, and not a subspecialty level Eye Hospital ... There is a need for a range of eye care services for inpatients and outpatients in local hospitals and such services can and should be linked with efficient, elective cataract surgery conducted in local High Volume Short Stay surgical units ... There is an overwhelming need for a pathway where patients without health insurance can access public sector cataract surgery that is part of a range of other public hospital eye care services in a local public hospital eye clinic, rather than only in the Sydney CBD."*
- St George/Sutherland Hospitals and Health Services recommend that St George Hospital's trauma and complex surgical services have ongoing access to theatre time and supports a high volume short stay model including ophthalmology at Sutherland Hospital.
- Sydney Eye Hospital identified the need to review and revise the existing memorandum of understanding for intra-District flows on a regular basis (at least every 2 years).
- Outpatient clinics: Outpatient eye clinics run predominantly from Sydney/Sydney Eye and Prince of Wales Hospitals, with St George Hospital's clinic managed by Sydney/Sydney Eye Hospital. Sutherland Hospital has a small but growing outpatient service however, enhancing the outpatient services would require additional consulting space, diagnostic equipment and staffing.

- Aboriginal peoples' access: SESLHD residents who identify as Aboriginal account for 0.2% of all ophthalmic surgery separations yet, Aboriginal residents account for 0.6% SESLHD population and cataracts are 12 times more common to Aboriginal adults compared to the general population. This has implications in terms of accessibility of ophthalmology services to SESLHD's Aboriginal people, non-identification of Aboriginal patients and Activity Based Funding.

### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

*"3.1.e: Develop dedicated centres of excellence in surgical specialties (i.e. provide leadership, best practices, research, support and training) ... Consolidate routine planned adult eye surgery at Sydney/Sydney Eye Hospital (Clinical protocols for the management of complex cases (where a patient's co-morbidities exceed the capacity of Sydney/Sydney Eye Hospital to perform the procedure) will continue to be managed by Prince of Wales Hospital. Eye outpatient departments will continue to be provided at Sydney Eye, Prince of Wales and St George Hospitals, and an eye outpatient service will be established at Sutherland Hospital)."*

#### **Actions**

- In 2011/12, Sydney/Sydney Eye Hospital performed 91% of planned adult eye surgery, with the remainder at Prince of Wales and Sutherland Hospitals
- Throughout the life of this Plan it is expected planned adult surgery will be retained at Sydney/Sydney Eye Hospital with Prince of Wales Hospital continuing to treat patients whose co-morbidities exceed the capacity of Sydney/Sydney Eye Hospital to perform the procedure
- In 2012/13, the Surgical Steering Committee supported eye services such as routine cataract surgery being performed at Sutherland Hospital in a high volume short stay service
- In 2011/12, ophthalmic outpatient services were provided at Sydney/Sydney Eye Hospital, Prince of Wales and St George Hospitals with limited activity at Sutherland Hospital
- From 2013 onwards Sutherland Hospital's eye outpatient service will continue being expanded and the Directors Operation St George and Sutherland Hospitals and Health Services will undertake planning to determine additional requirements for this expansion.

Also refer to other Key Initiatives and Actions in Sections on:

- High Volume Short Stay (Key Initiative 1.4.c)
- Capital Infrastructure (Key Initiative 4.3.f and 4.3.h)
- Improving access to surgical services (Key Initiative 4.4.e)
- Clinical Pathways (Key Initiative 3.2.b)
- Workforce (Key Initiative 5.2.a)

## **8.3 General surgery**

Between 2006/07 to 2011/12, general surgery across SESLHD showed inpatient separations and bed days were variable with an overall upward trend (+362 separations or 2.9% per year and + 1,159 bed days, 2.0% each year or 4 additional beds).

Most recently in 2011/12 for SESLHD:

- total separations were 2,682;
- bed days totalled 12,238 equal to 39 beds;
- average NWAU is 1.77.

*Table 19: Trends in general surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	2,320	2,234	2,414	2,572	2,700	2,682	362	2.9%
CWTU Seps	5,272	5,222	5,244	5,733	5,917	5,926	654	2.4%
NWAU	4,304	4,282	4,302	4,669	4,841	4,753	448	2.0%
Bed days	11,079	11,166	11,232	12,711	12,446	12,238	1,159	2.0%
ALoS	4.8	5.0	4.7	4.9	4.6	4.6	-0.2	-0.9%
Av CWT	2.27	2.34	2.17	2.23	2.19	2.21	-0.06	-0.6%
Av NWAU	1.86	1.92	1.78	1.82	1.79	1.77	-0.08	-0.9%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 54 Non-subspecialty Surgery. Additional Exclusions: Age: 0 – 15 years*

According to role delineation for general surgery in SESLHD's Health Care Services Plan:

- Prince of Wales, Royal Hospital for Women and St George Hospitals are able to deal with complex major diagnostic and treatment procedures in association with other specialties; while
- Sutherland Hospital is able to deal with major surgical procedures on low or moderate risk patients performed regularly by Specialist Surgeons.

These role delineations are partially reflected in the inpatient activity data where Prince of Wales Hospital provided 35% of activity in 2011/12, St George 34%, with 21% at Sutherland Hospital. However, Sydney / Sydney Eye Hospital provides 8% despite not having a role delineation for general surgery although this activity appears to be mainly related to hand surgery.

Planned surgery separations were 51% of which 76% of the activity (1,067 separations in 2011/12) has DRGs considered suitable for High Volume Short Stay service.

Emergency surgery accounted for the other half of separations however these patients have more than double the average length of stay (6.5 days versus 2.7 days for planned) and a higher average NWAU (2.10 against 1.46 for planned).

Older patients aged 75 years or older account for 14% of all activity (377 separations in 2011/12).

Of patients having general surgery 17% had a cancer flag (444 separations in 2011/12) with 56 of these patients classified as High Cost Complex Casemix.

Between 2009/10 and 2011/12, the number of people on the wait list has averaged 3,793 and has been trending up with an overall increase of 213 patients or an increase of 2.9% per annum.

## The Future

Projected activity for general surgery by 2022:

- total separations are projected to increase to 3,195 (513 additional separations or 1.8% per year);
- bed days are projected to increase to 13,146 (908 additional bed days, 0.7% per year or 3 additional bed).

It is expected the delivery of general surgical services will remain unchanged throughout the life of this Plan.

### Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

Refer to Key Initiatives and Actions in sections on

- High Volume Short Stay (Key Initiative 1.4.c)
- Separating planned and emergency surgery (Key Initiative 3.2.c)
- Complex cancer surgery (Key Initiative 2.4.f)

## 8.4 Urological surgery

Between 2006/07 to 2011/12, urological surgery inpatient separations have varied with an overall increase (more than 300 separations or 2.7% per year) while average length of stay, inpatient bed days and average NWAU varied with no distinct trends.

Most recently in 2011/12 for SESLHD:

- total separations were 2,618;
- bed days totalled 6,372 equal to 21 beds;
- average NWAU is 1.07.

Table 20: Trends in urological surgery in SESLHD hospitals, 2006/07 to 2011/12

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	2,294	2,206	2,292	2,478	2,538	2,618	324	2.7%
CWTU Seps	2,835	2,708	2,962	3,167	3,155	3,277	442	2.9%
NWAU	2,393	2,324	2,483	2,676	2,686	2,808	414	3.2%
Bed days	5,873	5,654	6,062	6,613	5,876	6,372	499	1.6%
ALoS	2.6	2.6	2.6	2.7	2.3	2.4	-0.1	-1.0%
Av CWT	1.24	1.23	1.29	1.28	1.24	1.25	0.02	0.3%
Av NWAU	1.04	1.05	1.08	1.08	1.06	1.07	0.03	0.6%

Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 52 Urology. Additional Exclusions: Age: 0 – 15 years

According to role delineation for urology in SESLHD's Health Care Services Plan:

- Prince of Wales and St George Hospitals are able to deal with complex major diagnostic and treatment procedures in association with other specialties;
- By 2017 Sutherland Hospital will be able to deal with full range of major diagnostic and treatment procedures on low, moderate and high risk patients;

- Royal Hospital for Women should not be providing a service however, there is opportunity for the Hospital to partner with Prince of Wales and/or St George Hospitals in urology services and more specifically uro-gynaecology.

These role delineations are reflected in the 2011/12 inpatient activity data. The data shows:

- Prince of Wales Hospital provides 43% all separations;
- St George Hospital provides 33% of all separations;
- Sutherland Hospital has had a slight but gradual increase in activity (6% between 2006/07 to 2011/12);
- Royal Hospital for Women Hospital provided very limited urological surgery likely to be associated with Urogyneacology (13 separations in 2011/12).

Planned surgery separations were 90% of which 44% (1,052 separations) has DRGs considered suitable for High Volume Short Stay service.

A significant amount of urology surgery is performed on older patients with 27% of patients aged 75 years or older (704 separations) in 2011/12.

Of patients having urology surgery 28% have a cancer flag (746 separations in 2011/12).

### **The Future**

Projected activity for urological surgery by 2022:

- total separations are projected to increase to 2,919 (301 additional separations or 1.1% per year);
- bed days are projected to increase to 7,027 (655 additional bed days , 1.1% per year or 2 additional beds across the District).

In the next five years Prince of Wales Hospital's urology services expect increases in the diversity and complexity of services including:

- Laser service;
- Functional bladder issues both adult and paediatric;
- Saturation Prostate Cancer with stepper;
- Laparoscopic renal surgery and donor nephrectomy; and
- Laparoscopic Assist Robotic Surgery –“ Da Vinci”.

Sutherland Hospital provides a consultant led service to the community providing general urology, and the recent acquisition of a laser has resulted in the expansion of the service managing renal stones and treating by Percutaneous Nephrolithotomy as required. The Head of Department notes the growth and ageing of the Sutherland Shire population requires careful consideration of non-inpatient services and has led to a considerable increase in demand for urological service by the gerontologists. In addition, increasingly overweight adults brings with it demands to treat increasing numbers of patients with problems of voiding dysfunction, urinary calculi and urological cancers. In order to provide the required services into the future the Department is working towards establishing an outpatient urology service at Sutherland Hospital (currently in planning) requiring additional staffing and equipment.

### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

*“3.5.c Promote further development of tertiary and quaternary level services at Royal Hospital for Women, including ... encourage a SESLHD service in Urogyneacology.”*



#### Actions

- In 2013/14, the Surgical Stream Committee will work with the Royal Hospital for Women's Directors of Operations to analyse urogynaecology surgery using International Procedure Codes to determine the distribution of this activity and if future redirection of this activity is required.

Also refer to Key Initiatives and Actions in sections on

- High Volume Short Stay (Key Initiative 1.4.c)
- Capital infrastructure (Key Initiative 4.3.f)
- Clinical Pathways (Key Initiative 3.2.b)
- Complex cancer surgery (Key Initiative 2.4.f)
- Workforce (Key Initiative 5.2.a)

## 8.5 Hand surgery

**Note: Some hand surgery procedures are coded to other ESRGs within orthopaedic surgery while other hand surgery activity is also coded under Plastic and Reconstructive Surgery.**

Between 2006/07 to 2011/12, hand surgery (as a subset of orthopaedic surgery) across SESLHD showed inpatient separations have predominantly been trending upwards, bed days have varied but with no significant trends while the average NWAU has seen a downward trend.

Most recently in 2011/12 for SESLHD:

- total separations were 1,877;
- bed days totalled 2324 equal to 7beds;
- average length of stay of 1.2 days; and
- average NWAU was 0.72.

*Table 21: Trends in hand surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	1,650	1,709	1,739	1,796	1,774	1,877	227	2.6%
CWTU Seps	1,514	1,514	1,520	1,511	1,524	1,571	57	0.7%
NWAU	1,353	1,331	1,318	1,309	1,327	1,351	-2	0.0%
Bed days	2,371	2,243	2,350	2,236	2,257	2,324	-47	-0.4%
ALoS	1.4	1.3	1.4	1.2	1.3	1.2	-0.2	-2.9%
Av CWT	0.92	0.89	0.87	0.84	0.86	0.84	-0.08	-1.8%
Av NWAU	0.82	0.78	0.76	0.73	0.75	0.72	-0.10	-2.6%

Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Enhanced Service Related Group: 492 Wrist and Hand Procedures incl Carpal Tunnel. Additional Exclusions: Age: 0 – 15 years

SESLHD has achieved its goal of building a statewide centre of excellence in hand surgery at Sydney /Sydney Eye Hospital.

In 2011/12, two hospitals provided the bulk of hand surgery: Sydney /Sydney Eye Hospital (73%) and Prince of Wales Hospital (22%) with a minimal amount of surgery provided at St George and Sutherland Hospitals.

All planned hand surgery DRGs are considered suitable for a high volume short stay service.

### **The Future**

Projected activity for hand surgery by 2022:

- total separations are projected to increase to 2,038 (161 additional separations or 0.8% per year);
- bed days are projected to increase to 2,605 (281 additional bed days, 1.0% per year or 1 additional bed).

Matters identified in relation to future activity include:

- Sydney /Sydney Eye Hospital's Hand Unit is a premier service providing tertiary and quaternary services. The service has identified the steady expansion of trauma services due to slowing of services in other Local Health Districts most notably Westmead Hospital. This has been to the detriment of planned tertiary surgery requirements. To meet its statewide role the Hospital must:
  - Divest minor trauma hand surgery;
  - Develop a memorandum of understanding for inter-Sector and intra-District flows and review and revise on a regular basis (at least every 2 years);
  - Increase operating theatre sessions to accommodate tertiary and quaternary activity in a timely manner;
  - Reconfigure existing infrastructure by converting existing bed space to meet the growing demand of the existing crowded hand clinic; and
  - Continue to provide hand surgery to St George Hospital trauma patients in a timely manner.
- Prince of Wales Hospital's orthopaedic surgeons consider simple hand surgery such as fractures of fingers, metacarpals and the wrists are part of basic orthopaedic services along with hand injuries, including nail bed injuries, severed tendons and nerves. They note patients with hand injuries and co-morbidities have often been transferred to Prince of Wales Hospital. In addition, patients in the Correctional Services Ward requiring hand surgery must remain on site. Therefore, they consider it logical that expertise in hand surgery should remain at Prince of Wales Hospital.
- Prince of Wales Hospital surgical services also suggested consideration being made to keeping hand services that are not tertiary referral cases at either St George or Sutherland. It is not appropriate to send non complex cases to Sydney /Sydney Eye or Prince of Wales Hospitals.
- St George Hospital Surgical Heads of Department have expressed interest in re-establishing a limited hand service at St George to support their role as a trauma centre and for patients with co-morbidities. The Surgical Stream Committee supports hand surgery at St George Hospital on select patients. However, the Hospital's operating theatres, ICU/HDU and inpatient beds are currently operating at or over capacity so there is a need for the Sector to weigh the viability of a hand surgery service against other clinical demands and funding. In the interim the Sector will regularly review and revise the existing memorandum of understanding for the provision of a hand service at St George Hospital by Sydney / Sydney Eye Hospital's surgeons. It is imperative the Sydney/Sydney Eye Hospital's Hand Unit responds effectively to the St George Hospital requirements for emergency assessment and treatment of trauma patients.

### Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

*"3.1.e: Develop dedicated centres of excellence in surgical specialties (i.e. provide leadership, best practices, research, support and training) ... Consolidate complex hand surgery at Sydney/Sydney Eye Hospital."*

#### Actions

- Through the life of this Plan it is expected Sydney/Sydney Eye Hospital will continue to provide a statewide role in hand trauma surgery
- In 2011/12, Sydney/Sydney Eye Hospital performed 74% of the District's adult hand surgery, with the remainder at Prince of Wales, St George and Sutherland Hospitals, however the data did not identify the complexity of the surgery performed
- In 2012/13, the Surgical Stream Committee supported
  - routine hand surgery being performed on select patients at Prince of Wales, St George and/or Sutherland Hospitals
  - the continuance of the use of the Memorandum of Understanding for Sydney / Sydney Eye Hospital's specialists to travel to St George Hospital to perform surgery on patients too sick to transfer (for example multiple trauma patients)
- In 2013/14, Sydney/Sydney Eye Hospital and the Surgical Stream Committee will
  - clarify responsibilities of providing a quaternary service including balance of surgery (both trauma and planned, patient flows from other Districts and from with SESLHD) versus teaching
  - analyse hand surgery data using International Procedure Codes to identify routine and complex procedures, the current distribution of these procedures and if future resources and/or redirection of this activity is required
  - analyse hand surgery data using International Diagnosis Codes to patient's complexity and suitability for treatment at Sydney / Sydney Eye Hospital
- Following this analysis in 2013/14 if:
  - additional resources are required Sydney/Sydney Eye Hospital will work with the Northern Sector's Directors of Operations to develop a business case to seek those resources
  - redirection is required Sydney/Sydney Eye Hospital will work with the Directors of Operations and other Local Health Districts to develop a memorandum of understanding and clinical protocols for the management of hand surgery patients

Refer to other Key Initiatives and Actions in Sections on

- Capital infrastructure (Key Initiative 4.3.f)
- High Volume Short Stay (Key Initiative 1.4.c)
- Separating planned and emergency surgery (Key Initiative 3.2.c)

## 8.6 Plastics and reconstructive surgery

**Note: Some plastic and reconstructive surgery is mapped to other Service Related Groups such as Breast Surgery depending on the coding of the patient. Activity in this Section excludes maxillofacial surgery, this sub speciality has a separate section in this Plan.**

Between 2006/07 to 2011/12 plastic and reconstructive surgical activity (inpatient separations and bed days) across SESLHD were variable showing an overall small upwards trend, while the average length of stay has shown a slight overall downward trend and average NWAU has varied with no distinct trends.

Most recently in 2011/12 for SESLHD:

- total separations were 1397;
- bed days totalled 4,673 equal to 15 beds;
- average NWAU is 1.28.

*Table 22: Trends in plastic and reconstructive surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	1,226	1,216	1,223	1,229	1,402	1,397	171	2.6%
CWTU Seps	1,886	1,910	1,824	1,768	2,152	2,168	282	2.8%
NWAU	1,546	1,621	1,487	1,432	1,734	1,794	247	3.0%
Bed days	4,406	4,543	4,321	4,260	4,889	4,673	267	1.2%
ALoS	3.6	3.7	3.5	3.5	3.5	3.3	-0.2	-1.4%
Av CWT	1.54	1.57	1.49	1.44	1.54	1.55	0.01	0.2%
Av NWAU	1.26	1.33	1.22	1.17	1.24	1.28	0.02	0.4%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 51 Plastic and reconstructive surgery. Additional Exclusions: ESRG: Maxillofacial Surgery, Age: 0 – 15 years*

According to role delineation for plastic and reconstructive in SESLHD's Health Care Services Plan:

- Prince of Wales and St George Hospitals are able to deal with complex major diagnostic and treatment procedures in association with other specialties;
- Royal Hospital for Women should only be providing intermediate surgical procedures on low or moderate risk patient. However the Randwick Campus Breast Services review undertaken in 2012 indicates that all Breast Services should be consolidated at the Royal Hospital for Women. Therefore all risk breast patients are operated on at the Hospital.
- Sydney / Sydney Eye and Sutherland Hospitals should not be providing a service.

These role delineations are in part reflected in the inpatient activity data. This data shows:

- Prince of Wales Hospital provides 41% all separations;
- St George Hospital provides 25% of all separations;
- Sydney / Sydney Eye Hospital provides 24% of activity and all associated with hand surgery;
- Sutherland Hospital provides 8% of activity (predominantly J11Z Other Skin, Subcutaneous Tissue and Breast Procedures);
- Royal Hospital for Women Hospital provided very limited surgery all related to breast surgery (21 separations in 2011/12).

Planned surgery separations were 72% of which 92% of this activity (1,290 separations in 2011/12) has DRGs considered suitable for High Volume Short Stay service.

Older patients aged 75 years or older account for 26% of all activity (365 separations in 2011/12).

Of patients having plastic and reconstructive surgery 52% have a cancer flag (731 separations in 2011/12) and surgeons at Prince of Wales Hospital and Royal Hospital for Women highlighted the need for ongoing involvement in multidisciplinary clinics for cancer services.

Between 2009/10 and 2011/12, the number of people on the wait list has been variable with an overall increase of 56 patients or an increase of 3.6% per annum.

### **The Future**

Projected activity for plastic and reconstructive surgery by 2022:

- total separations are projected to have a slight decrease to 1,318 (-79 fewer separations or -0.6% per year);
- bed days are projected to have a very slight decrease to 4,816 (-18 bed days across the District).

Plastic and Reconstructive surgeons at Prince of Wales Hospital and Royal Hospital for Women note the existing services will remain largely unchanged for the next five years with the exceptions of:

- Continued general reconstructive service to surgical oncology specialties including head and neck surgery and breast surgery (including reconstructions) requiring increased access to operating theatre time (also refer to Section on Breast Surgery).
- Expansion of the tertiary microsurgical reconstructive service requiring transfer of patients from out of area where reconstructive services are inadequate.
- If there is an expansion in surgical oncology services within Prince of Wales Hospital and Royal Hospital for Women further VMO and registrar or fellow appointments may be sought.

Surgical services at Prince of Wales Hospital note

*“With regard to Otolaryngology the combined Head and Neck Cancer Service between ENT and Plastic Surgery will continue providing both a local and a tertiary referral service which integrates with Medical and Radiation Oncology. The view of the department is that both Head and Neck Cancer surgery and base of skull surgery should continue on this campus.”*

Surgeons from St George Hospital note the impact of Wollongong Hospital's plastic surgeons not working after hours leads to patients requiring urgent work being transferred to St George Hospital impacting on costs, theatre capacity, etc

### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

Refer to Key Initiatives and Actions in Sections on

- High Volume Short Stay (Key Initiative 1.4.c)
- Clinical Pathways (Key Initiative 3.2.b)
- Complex cancer surgery (Key Initiative 2.4.f)
- Workforce (Key Initiative 5.2.a)

## 8.7 Colorectal surgery

Between 2006/07 to 2011/12, colorectal surgery across SESLHD showed:

- inpatient separations varied with an overall increase (+208 separations or 3.5% per year);
- average length of stay had a slight decrease whereas inpatient bed days have had an overall increase (+970 bed days, 2.0% per year or 3 additional beds required across SESLHD);
- average NWAU has been variable with no significant trend.

Most recently in 2011/12 for SESLHD:

- total separations were 1,304;
- bed days totalled 10,269 equal to 33 beds;
- average NWAU is 2.99.

*Table 23: Trends in colorectal surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	1,096	1,095	1,083	1,218	1,241	1,304	208	3.5%
CWTU Seps	3,996	4,041	3,861	4,186	4,400	4,619	623	2.9%
NWAU	3,154	3,272	3,056	3,517	3,600	3,905	752	4.4%
Bed days	9,295	9,383	9,326	10,052	10,276	10,269	974	2.0%
ALoS	8.5	8.6	8.6	8.3	8.3	7.9	-0.6	-1.5%
Av CWT	3.65	3.69	3.57	3.44	3.55	3.54	-0.10	-0.6%
Av NWAU	2.88	2.99	2.82	2.89	2.90	2.99	0.12	0.8%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 43 Colorectal Surgery. Additional Exclusions: Age: 0 – 15 years*

Inpatient colorectal surgery is primarily provided at St George Hospital (47% of all activity) and Prince of Wales Hospital (39%) with an increasing role for Sutherland Hospital (13%) and a limited role for Royal Hospital for Women (12 separations in 2011/12).

Planned surgery separations were 64% of which 61% (510 separations in 2011/12) had DRGs considered suitable for High Volume Short Stay service.

Emergency surgery accounted for 36% separations and have a significantly longer average length of stay (11.6 days versus 5.8 days for planned) and higher average NWAU (3.92 against 2.47 for planned).

Of patients having colorectal surgery 33% have a cancer flag (424 separations in 2011/12).

### The Future

Projected activity for colorectal surgery by 2022:

- total separations are projected to increase to 1,390 (86 additional separations or 0.6% per year);
- bed days are projected to decrease to 9,896 (373 less bed days, -0.3% per year or 1 less bed).

Surgeons at Prince of Wales Hospital note with the appointment of two new colorectal surgeons, this service is slowly picking up in volume and anticipate that the numbers will

increase to near previous levels within the next two years. Length of stay is unlikely to change, as “fast track” colorectal surgery has already been implemented.

### Key Initiatives for 2012-2017 from SESLHD’s Health Care Services Plan

Refer to Key Initiatives and Actions in sections on

- High Volume Short Stay (Key Initiative 1.4.c)
- Separating planned and emergency surgery (Key Initiative 3.2.c)
- Complex cancer surgery (Key Initiative 2.4.f and 3.2.k)

## 8.8 Upper gastrointestinal surgery (with subsections including hepatobiliary and bariatric surgery)

Between 2006/07 to 2011/12, upper gastrointestinal surgery inpatient separations and bed days across SESLHD have varied with an overall upward trend, while the average length of stay and average NWAU has shown some variations but no distinct trends.

Most recently in 2011/12 for SESLHD:

- total separations were 1,145;
- bed days totalled 8,570 equal to 28 beds;
- average NWAU is 3.05.

*Table 24: Trends in upper gastrointestinal surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	1,022	938	984	1,062	1,093	1,145	123	2.3%
CWTU Seps	3,670	3,264	3,386	3,592	3,529	4,050	381	2.0%
NWAU	3,070	2,857	2,853	3,084	3,021	3,490	420	2.6%
Bed days	7,728	7,035	7,081	7,784	7,447	8,570	842	2.1%
ALoS	7.6	7.5	7.2	7.3	6.8	7.5	-0.1	-0.2%
Av CWT	3.59	3.48	3.44	3.38	3.23	3.54	-0.05	-0.3%
Av NWAU	3.00	3.05	2.90	2.90	2.76	3.05	0.04	0.3%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 44 Upper GIT Surgery. Additional Exclusions: Age: 0 – 15 years*

Most upper gastrointestinal activity occurred at St George (47% of all activity) and Prince of Wales Hospitals (29%) with both treating patients with high average NWAUs (greater than 3.30). While Sutherland Hospital has an increasing role (18% in 2006/07 increasing to 23% by 2011/12) albeit for patients with lower average NWAUs (1.99) and Royal Hospital for Women has a specialised but limited role.

Planned surgery separations were 63% of which 65% of the activity (473 separations in 2010/11) has DRGs considered suitable for High Volume Short Stay service.



Emergency surgery accounted for 37% separations however these patients have a significantly longer average length of stay (10.9 days versus 5.5 days for planned).

Of patients having upper gastrointestinal surgery 29% have a cancer flag with 53% of these patients (175 separations) being classified as High Cost Complex Casemix.

### **The Future**

Projected activity for upper gastrointestinal surgery by 2022:

- total separations are projected to increase to 1,199 (54 additional separations or 0.5% per year);
- bed days are projected to decrease to 8,022 (548 less bed days, -0.6% per year or 2 less beds).

Surgeons at St George Hospital note with regard to upper gastrointestinal surgery it is clear that the large proportion of complex work in the District is performed in St George / Sutherland. These services will need to be continued. As Upper Gastrointestinal Unit surgeons have access to theatres only one day a fortnight it has been suggested increasing access would better reflect the service provided especially if waiting list targets are a priority. For St George Hospital to increase surgical activity into the future requires:

- moving some upper gastrointestinal surgical activity to Sutherland and/or Prince of Wales Hospital; and
- in the longer term, increasing space requiring significant capital expenditure.

Surgeons at Prince of Wales Hospital note upper gastrointestinal surgery will continue to expand complex cancer surgery with increased collaboration with the upper gastrointestinal surgeons across SESLHD and St Vincent's Hospital.

Based on work undertaken by the NSW Cancer Institute, the District's Clinical Council has expressed an interest in investigating surgical outcomes for complex upper gastrointestinal cancer surgery patients and other cancer treatments that may benefit from centralisation.

## **Hepatobiliary surgery**

***Note: the DRGs relating to hepatobiliary surgery is mapped to two different SRGs (upper gastrointestinal and gastroenterology) so there is potential for double counting.***

Between 2006/07 to 2011/12, across SESLHD hepatobiliary surgical activity showed a slight overall upward trend for inpatient separations and bed days, while the average length of stay and average NWAU has shown some variations but no distinct trends.

Most recently in 2011/12 for SESLHD:

- total separations were 1,187;
- bed days totalled 7,319 equal to 24 beds;
- average NWAU is 2.34.

Table 25: Trends in hepatobiliary surgery in SESLHD hospitals, 2006/07 to 2011/12

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	1,130	1,051	1,081	1,126	1,187	1,187	57	1.0%
CWTU Seps	3,168	2,725	2,871	3,019	3,152	3,375	206	1.3%
NWAU	2,573	2,300	2,367	2,500	2,624	2,783	209	1.6%
Bed days	7,259	6,404	6,764	7,256	7,207	7,319	60	0.2%
ALoS	6.4	6.1	6.3	6.4	6.1	6.2	-0.3	-0.8%
Av CWT	2.80	2.59	2.66	2.68	2.66	2.84	0.04	0.3%
Av NWAU	2.28	2.19	2.19	2.22	2.21	2.34	0.07	0.6%

Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Diagnosis Related Groups: H01A Pancreas, Liver and Shunt Procedures W Catastrophic CC, H01B Pancreas, Liver and Shunt Procedures W/O Catastrophic CC, H02A Major Biliary Tract Procedures W Catastrophic CC, H02B Major Biliary Tract Procedures W Severe CC, H02C Major Biliary Tract Procedures W/O Catastrophic or Severe CC, H05A Hepatobiliary Diagnostic Procedures W Catastrophic CC, H05B Hepatobiliary Diagnostic Procedures W/O Catastrophic CC, H06A Other Hepatobiliary and Pancreas OR Procedures W Catastrophic CC, H06B Other Hepatobiliary and Pancreas OR Procedures W/O Catastrophic CC, H07A Open Cholecystectomy W Closed CDE or W Catastrophic CC, H07B Open Cholecystectomy W/O Closed CDE W/O Catastrophic CC, H08A Laparoscopic Cholecystectomy W Closed CDE or W (Cat or Sev CC), H08B Laparoscopic Cholecystectomy W/O Closed CDE W/O Cat or Sev CC, H40A Endoscopic Procedures for Bleeding Oesophageal Varices W Catastrophic CC, H40B Endoscopic Procedures for Bleeding Oesophageal Varices W/O Catastrophic CC, H43A ERCP Procedures W Catastrophic or Severe CC, H43B ERCP Procedures W/O Catastrophic or Severe CC, H63A Disorders of Liver Except Malign, Cirrhosis, Alcoholic Hepatitis W Cat/Sev CC, H63B Disorders of Liver Except Malign, Cirrhosis, Alcoholic Hepatitis W/O Cat/Sev. Additional Exclusions: Age: 0 – 15 years

Hepatobiliary surgery was mainly provided at St George Hospital (46% of all activity) and Prince of Wales and Sutherland Hospitals both 27%. Both St George and Prince of Wales Hospitals' patients had a high average NWAU reflecting the higher cost and complexity of their patients.

Planned surgery separations were 58% of which 71% of the activity (459 separations mainly Laparoscopic Cholecystectomies) has DRGs considered suitable for High Volume Short Stay service.

Of patients having hepatobiliary surgery 25% have a cancer flag with 59% of those patients (175 separations) classified as High Cost Complex Casemix with an average cost weight of 5.92.

### The Future

Surgeons performing liver surgery at St George Hospital note:

- the service takes a significant amount of work from out of area and a certain amount from interstate.
- it provides specialty services in the form of percutaneous and intraoperative ablation, Lipiodol I131 for hepatocellular carcinoma, a multi disciplinary team for neuroendocrine tumours and is one of the two designated sites for Lutetium treatment.
- ongoing provision of specialist liver cancer therapies within an experienced multi disciplinary group setting will require further support and development.

## Bariatric surgery

The volume of bariatric surgery performed by the District's public hospitals is very low (16 separations in 2011/12) and was performed at Sutherland, St George and Prince of Wales Hospitals.

Table 26: Separations for obesity procedures, 2011/12

LHD of Residence	POWH	STGH	TSH	Other metro public hospitals	Private hospitals	Total
SESLHD residents	1	4	4	8	532	549
Other metro LHD residents			3			3
Rural LHDs + interstate residents	1	2	1			4
Total	2	6	8	8	532	556

Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Anything to do with South Eastern Sydney ie Demand Plus Inflows plus Private Hospital Patients; Diagnosis Related Groups: K04A Major Procedures for Obesity W CC, K04B Major Procedures for Obesity W/O CC, K07Z Obesity Procedures. Additional Exclusions: Age: 0 – 15 years

Surgeons from the Southern Sector emphasised:

- Obesity is Australia's commonest risk factor for disease and bariatric surgery is the most common form of complex laparoscopic surgery in Australia, yet NSW remains the only state that provides no public inpatient services to these patients.
- If obesity treatments are going to be offered to public patients then surgery remains at the forefront. Looking after these patients requires both inpatient and outpatient support with possible models of care including totally public services or public private partnerships.
- The existing bariatric programme is inadequate and a full multi disciplinary unit with dietetics, psychology, exercise, endocrinology and surgery needs to be established. SESLHD documented such a plan but it has not been implemented due to a lack of funding.

It is noted that bariatric surgery is a state-wide issue. Most recently NSW Ministry of Health released a draft Healthy Eating and Active Living Strategy<sup>58</sup> for comment. This draft Strategy identified an action to:

*"Develop and deliver coordinated and comprehensive nutrition, overweight and obesity services, including: .... Bariatric surgical services in line with the NHMRC Clinical Practice Guidelines for the Management of Overweight and Obesity in Adults and the NHMRC Clinical Practice Guidelines for the Management of Overweight and Obesity in Children and Adolescents".*

However, this Plan has not been released and there has been no funding identified for these services.

<sup>58</sup> NSW Ministry of Health, 2012b, *draft Healthy Eating and Active Living Strategy: Preventing Overweight and Obesity in NSW 2013-2018*

## Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

*"3.1.e. Develop centres of excellence in surgical specialties (i.e. providing leadership, best practices, research, support and training:*

- *As part of the preparation of a District Surgical Services Plan and in conjunction with clinicians, appropriate Clinical Stream Directors and in consultation with the Agency of Clinical Innovation and NSW Cancer Institute, consider and establish designated centres for complex upper gastrointestinal and other cancers within the District."*

### Actions

- In 2011/12 upper gastrointestinal separations with a cancer flag and classified as high cost complex were treated at St George Hospital (73%), Prince of Wales Hospital (26%) and Sutherland Hospital (2%).
- In 2012/13 the Surgical Stream Committee agreed complex cancer surgery should not be performed at Sutherland Hospital
- In 2013/14 the Surgical Stream Committee and Cancer Stream will work with the Directors of Operations and in consultation with the Agency of Clinical Innovation and NSW Cancer Institute to analyse cancer surgery using International Procedure Codes to determine the distribution of this activity and if future redirection of this activity to a designated centre is required
- *"Perform bariatric surgery at Sutherland Hospital."*

### Actions

- In 2011/12 Sutherland, St George and Prince of Wales Hospitals performed bariatric surgery
- Throughout the life of this Plan bariatric surgery will continue to be performed at Sutherland Hospital
- Throughout the life of the Plan the Surgical Stream Committee will work with the Directors of Operations to develop and implement a public bariatric service with a full multi disciplinary team.

*"3.2.k Further develop services provided from the Comprehensive Cancer Centre at St George Hospital in line with NSW and SESLHD strategic cancer plans ... Specialist cancer surgery such as peritonectomy.*

### Actions

- In 2013/14 the Surgical Stream Committee and Cancer Stream will work with the Director Operations St George and Sutherland Hospitals and Health Services and in consultation with the Agency of Clinical Innovation and NSW Cancer Institute to analyse complex cancer surgery at St George Hospital and assess hospital capacity to determine the distribution of this activity and if future redirection of other surgical activity is required

Refer to Key Initiatives and Actions in sections on

- Capital infrastructure (Key Initiative 4.3.f)
- High Volume Short Stay (Key Initiative 1.4.c)
- Separating planned and emergency surgery (Key Initiative 3.2.c)
- Complex cancer surgery (Key Initiative 2.4.f, 3.1.e, 3.2.a, 3.2.j, 3.2.k, 3.4.g and 3.5.d)

## 8.9 Vascular surgery

Between 2006/07 to 2011/12, vascular surgery across SESLHD showed:

- inpatient separations were variable with an overall increase (90 separations or 2.1% per year);
- average length of stay varied with an overall increase in inpatient bed days (534 bed days, 1.8% per year or 2 additional beds required across SESLHD);
- average NWAU has been variable but with an overall decrease.

Most recently in 2011/12 for SESLHD:

- total separations were 898;
- bed days totalled 6,149 equal to 20 beds;
- average NWAU is 2.62.

*Table 27: Trends in vascular surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	808	717	708	850	866	898	90	2.1%
CWTU Seps	2,896	2,778	2,652	2,788	2,762	2,906	10	0.1%
NWAU	2,349	2,229	2,148	2,210	2,297	2,349	1	0.0%
Bed days	5,615	6,082	5,661	5,626	5,220	6,149	534	1.8%
ALoS	6.9	8.5	8.0	6.6	6.0	6.8	-0.1	-0.3%
Av CWT	3.58	3.87	3.75	3.28	3.19	3.24	-0.35	-2.0%
Av NWAU	2.91	3.11	3.03	2.60	2.65	2.62	-0.29	-2.1%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 53 Vascular Surgery. Additional Exclusions: Age: 0 – 15 years*

According to role delineation for vascular surgery in SESLHD's Health Care Services Plan:

- Prince of Wales and St George Hospitals are able to deal with complex major diagnostic and treatment procedures in association with other specialties; and
- By 2017 Sutherland Hospital will be able to deal with diagnostic and treatment procedures on low and moderate risk patients through a high volume short stay service.

These role delineations are reflected in the 2011/12 inpatient activity data. The data shows most vascular surgery is provided by St George Hospital (47%), 41% at Prince of Wales with 11% at Sutherland Hospital (decreased from 18% of activity in 2006/07).

Planned surgery separations were 75% of which 81% of the activity (547 separations in 2011/12) has DRGs considered suitable for High Volume Short Stay service.

Emergency surgery accounted for 25% separations however these patients have a longer average length of stay (5.28 days versus 2.56 days for planned) and a higher average NWAU (4.10 against 2.13 for planned).

Older patients aged 75 years or older account for 33% of all activity (292 separations in 2011/12).

Between 2009/10 and 2011/12, the number of people on the wait list has remained steady with an average of 757 additional patients each year.

### **The Future**

Projected activity for vascular surgery by 2022:

- total separations are projected to increase to 1,057 (159 additional separations or 1.6% per year);
- bed days are projected to increase to 8,159 (2,010 additional bed days, 2.6% per year or 7 additional beds).

Surgeons note Vascular Surgery over the last decade has had a dramatic shift from predominately open surgery to predominately endoluminal grafting emphasising the urgent need for hybrid theatres. The hybrid theatre is the highest priority on the Prince of Wales Hospital's Capital Plan and there is a possibility of funding via the Prince of Wales Foundation. St George Hospital vascular surgeons note the Hospital's Endosuite is old, underpowered for angiography, dangerous in regards to patient and doctor radiation safety and not fit for purpose. The upgrading of this facility is a high priority.

Southern Sector's vascular surgeons also note:

- emergency admissions to Sutherland Hospital are still a problem as there is only limited angiographic facilities from the Radiology Department. Instead, most patients with ischaemic limbs, ruptured aneurysms or major trauma with limb threatening ischaemia are referred to St George Hospital.
- increasing the number of Short Stay cases could be improved if theatre lists at Sutherland Hospital were fully utilised. While vascular surgeons have nominal lists at the Hospital due to a range of factors their lists are frequently cancelled so the theatres are underutilised.

#### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

Refer to Key Initiatives and Actions in sections on

- Capital infrastructure (Key Initiative 4.3.f)
- High Volume Short Stay (Key Initiative 1.4.c)
- Separating planned and emergency surgery (Key Initiative 3.2.c)
- Clinical Pathways (Key Initiative 3.2.b)

## **8.10 Neurosurgery**

Between 2006/07 to 2011/12, neurosurgery across SESLHD showed:

- inpatient separations were variable with an upward trend since 2008/09;
- average length of stay varied with an overall downward trend leading to an overall decrease in inpatient bed days (-1,376 bed days, -3.5% per year or 4 less beds required across SESLHD);
- average NWAU has been variable.

Most recently in 2011/12 for SESLHD:

- total separations were 799;
- bed days totalled 7,014 equal to 23 beds;



- average NWAU is 4.44.

*Table 28: Trends in neurosurgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	833	772	718	774	785	799	-34	-0.8%
CWTU Seps	4,498	4,012	3,585	4,063	3,984	4,061	-438	-2.0%
NWAU	3,826	3,533	2,998	3,441	3,584	3,549	-278	-1.5%
Bed days	8,390	7,790	6,376	6,883	6,982	7,014	-1,376	-3.5%
ALoS	10.1	10.1	8.9	8.9	8.9	8.8	-1.3	-2.7%
Av CWT	5.40	5.20	4.99	5.25	5.07	5.08	-0.32	-1.2%
Av NWAU	4.59	4.58	4.18	4.45	4.57	4.44	-0.15	-0.7%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 46 Neurosurgery. Additional Exclusions: Age: 0 – 15 years*

According to role delineation for neurosurgery in SESLHD's Health Care Services Plan:

- Prince of Wales and St George Hospitals are able to deal with complex major diagnostic and treatment procedures in association with other specialties; and
- Sutherland Hospital is able to provide intermediate surgical procedures on low or moderate risk patients.

These role delineations are reflected in the inpatient activity data. This shows Prince of Wales and St George Hospitals provide most neurosurgery (55% and 40% respectively) with the remainder provided by Sydney / Sydney Eye Hospital (28 separations related to B06B Procs for Cerebral Palsy, Muscular Dystrophy, Neuropathy W/O CC for example decompression of ulnar nerve) and Sutherland Hospital (10 separations).

A significant number of neurosurgery patients (43 % or 347 separations) are residents from other Local Health Districts travelling to SESLHD hospitals for their procedure.

Planned surgery separations were 61% of which 44% of the activity (216 separations in 2011/12) has DRGs considered suitable for High Volume Short Stay service. However, clinician advice suggests there are very few neurosurgical cases that are suitable for a High Volume Short Stay model despite what can be inferred by DRGs.

Emergency surgery accounted for 39% separations however these patients have a significantly longer average length of stay (13.7 days versus 5.6 days for planned) and a higher average NWAU (5.41 against 3.82 for planned).

Of patients having neurosurgery 22% have a cancer flag (172 separations in 2011/12) with 98% of these patients (168 separations) classified as High Cost Complex Casemix.

Between 2009/10 and 2011/12, the number of people on the wait list has been variable with an average of 451 patients added each year. However, anecdotally this wait list does not reflect demand as many neurosurgical patients elect to go elsewhere so remain statistically invisible.

## **The Future**

Projected activity for neurosurgery by 2022:



- total separations are projected to increase to 945 (146 additional separations or 1.7% per year);
- bed days are projected to increase to 7,856 (842 additional bed days, 1.0% per year or 3 additional beds).

Neurosurgeons at St George Hospital note:

- The trauma service has impacted on the neurosurgery workload with their own statistics suggesting 70-90% of neurosurgical admissions are emergency (significantly higher than those recorded in FlowInfo for St George Hospital at 53%). This may be due to some of the data be hidden because many of the spine and head trauma patients are nominally under the trauma surgeons and/or may be coded as multiple trauma rather than neurosurgery.
- The major impact of rising trauma load on casemix of Neurosurgery inpatients at St George Hospital and the collateral changes in referral patterns from country hospitals historically linked to teaching hospitals in other Local Health Districts, impact on elective operating capacity.
- Cancer treatment - brain and spine is integral and basic to any Neurosurgery Units workload. St George Hospital is superbly resourced for this.
- There is enormous unmet demand for outpatient Neurosurgery Services. Routine waiting times to be seen range from 3 - 9 months with large numbers of patients being redirected to Neurosurgeons in other hospitals.
- There has been no change in operating sessions for neurosurgery despite an increase in personnel and workload. Unless major changes occur at Wollongong Hospital, St George will continue to bear the brunt of the ever expanding population of the NSW South Coast - demands on St George Hospital will continue to rise without corresponding resources.
- Adequate operating time is essential for the neurosurgery service to perform its work and maintain accreditation by Royal Australian College of Surgeons (based on caseload and casemix) as a training centre for neurosurgery. This in turn is necessary to maintain a neurosurgical service, which in turn is mandatory for the viability of St George Hospital remaining a trauma centre.

#### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

Refer to Key Initiatives and Actions in sections on

- Capital infrastructure (Key Initiative 4.3.f)
- High Volume Short Stay (Key Initiative 1.4.c)
- Separating planned and emergency surgery (Key Initiative 3.2.c)
- Complex cancer surgery (Key Initiative 2.4.f, 3.1.e, 3.2.a, 3.2.j, 3.2.k, 3.4.g and 3.5.d)

## **8.11 Ear, nose and throat (ENT) surgery**

Between 2006/07 to 2011/12, ear, nose and throat surgery across SESLHD showed inpatient separations, bed days, average length of stay and average NWAU were variable with no definitive trends.

Most recently in 2011/12 for SESLHD:

- total separations were 646;

- bed days totalled 905 equal to 3 beds;
- average NWAU is 0.98.

*Table 29: Trends in ear, nose and throat surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	682	693	630	607	638	646	-36	-1.1%
CWTU Seps	789	792	782	699	704	736	-54	-1.4%
NWAU	692	706	683	612	622	633	-59	-1.8%
Bed days	1,021	1,029	1,108	964	880	905	-116	-2.4%
ALoS	1.5	1.5	1.8	1.6	1.4	1.4	-0.1	-1.3%
Av CWT	1.16	1.14	1.24	1.15	1.10	1.14	-0.02	-0.3%
Av NWAU	1.01	1.02	1.08	1.01	0.97	0.98	-0.04	-0.7%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Enhanced Service Related Group: 481 Tonsillectomy or Adenoidectomy, 482 Myringotomy W Tube Insertion, 489 Other Procedural ENT. Additional Exclusions: Age: 0 – 15 years*

According to role delineation for ear, nose and throat surgery in SESLHD's Health Care Services Plan:

- Prince of Wales and St George Hospitals are able to deal with complex major diagnostic and treatment procedures in association with other specialties;
- Sutherland Hospital is able to provide select major surgical procedures on low or moderate risk patients; and
- By 2017 Sydney / Sydney Eye Hospital will not be providing any ear, nose and throat services.

These role delineations are reflected in the inpatient activity data. This data shows Prince of Wales Hospital had 58% activity, St George 16%, with remainder at Sutherland and a decreasing role Sydney / Sydney Eye Hospital.

Planned surgery separations were 92% and all this activity had DRGs considered suitable for High Volume Short Stay service.

Of patients having ear, nose and throat surgery 7% have a cancer flag (47 separations in 2010/11).

Between 2009/10 and 2011/12, the number of people on the wait list has been variable with an average of 1,417 patients added each year.

## **The Future**

Projected activity for ear, nose and throat surgery by 2022:

- total separations are projected to increase to 704 (58 additional separations or 0.9% per year);
- bed days are projected to increase to 1,004 (99 additional bed days or 0.9% per year).

Surgical services at Prince of Wales Hospital note:

*"With regard to Otolaryngology the combined Head and Neck Cancer Service between ENT and Plastic Surgery will continue providing both a local and a tertiary referral service which integrates with Medical and Radiation Oncology. The view of*

*the department is that both Head and Neck Cancer surgery and base of skull surgery should continue on this campus.”*

#### **Key Initiatives for 2012-2017 from SESLHD’s Health Care Services Plan**

*3.1.e. Develop centres of excellence in surgical specialties (i.e. providing leadership, best practices, research, support and training) [including] ... Provide ... complex ear nose and throat surgery at Prince of Wales and St George Hospitals. Continue routine ear, nose and throat surgery at Sutherland Hospital.*

##### **Actions**

- In 2013/14, the Surgical Stream Committee and Director of Operations will use International Procedure Codes to analyse data to determine what and where complex ear, nose and throat procedures are being performed and if future redirection is required
- Throughout the life of the Plan routine ear, nose and throat surgery will continue to be provided at Sutherland Hospital

Refer to Key Initiatives and Actions in sections on

- High Volume Short Stay (Key Initiative 1.4.c)
- Complex cancer surgery (Key Initiative 2.4.f, 3.1.e, 3.2.a, 3.2.j, 3.2.k, 3.4.g and 3.5.d)

## **8.12 Endocrine surgery**

***Note: the DRGs relating to endocrine surgery are mapped to six different SRGs (54 Non Subspecialty Surgery, 53 Vascular Surgery, 46 Neurosurgery, 44 Upper GIT Surgery, 51 Plastic and Reconstructive Surgery, 27 Non Subspecialty Medicine) so there is potential for double counting.***

Between 2006/07 to 2011/12, endocrine surgery across SESLHD showed inpatient separations, bed days, average length of stay and average NWAU have been variable.

Most recently in 2011/12 for SESLHD:

- total separations were 261;
- bed days totalled 1,195 equal to 4 beds;
- average NWAU is 2.30.

Table 30: Trends in endocrine surgery in SESLHD hospitals, 2006/07 to 2011/12

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	231	218	247	296	288	261	30	2.5%
CWTU Seps	608	619	612	821	731	664	56	1.8%
NWAU	541	515	533	664	655	601	60	2.1%
Bed days	999	978	934	1,209	1,134	1,195	196	3.6%
ALoS	4.3	4.5	3.8	4.1	3.9	4.6	0.3	1.1%
Av CWT	2.63	2.84	2.48	2.77	2.54	2.54	-0.09	-0.7%
Av NWAU	2.34	2.36	2.16	2.24	2.27	2.30	-0.04	-0.3%

Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Diagnosis Related Group: K01A OR Procedures for Diabetic Complications W Catastrophic CC, K01B OR Procedures for Diabetic Complications W/O Catastrophic CC, K02A Pituitary Procedures W CC, K02B Pituitary Procedures W/O CC, K03Z Adrenal Procedures, K04A Major Procedures for Obesity W CC, K04B Major Procedures for Obesity W/O CC, K05A Parathyroid Procedures W Catastrophic or Severe CC, K05B Parathyroid Procedures W/O Catastrophic or Severe CC, K06A Thyroid Procedures W Catastrophic or Severe CC, K06B Thyroid Procedures W/O Catastrophic or Severe CC, K07Z Obesity Procedures, K08Z Thyroglossal Procedures, K09A Other Endocrine, Nutritional and Metabolic OR Procedures W Catastrophic CC, K09B Other Endocrine, Nutritional and Metabolic OR Procs W Severe or Moderate CC, K09C Other Endocrine, Nutritional and Metabolic OR Procedures W/O CC, K62A Miscellaneous Metabolic Disorders W Catastrophic or Severe CC. Additional Exclusions: Age: 0 – 15 years

Three hospitals provided endocrine surgery St George (54% of all activity) and Prince of Wales Hospitals (38%) and the remainder at Sutherland Hospital.

Planned surgery separations were 94% of which 90% of the activity (224 separations in 2011/12) has DRGs considered suitable for High Volume Short Stay service.

Thirty two percent of patients (84 separations) having endocrine surgery in SESLHD hospitals are residents of another Local Health District.

Of patients having endocrine surgery 43% had a cancer flag (113 separations in 2010/11) of which 34 patients are classified as High Cost Complex Casemix.

### The Future

Surgeons at Prince of Wales Hospital note the volume for endocrine surgery is expected to remain the same. However, there may be increased scope for High Volume Short Stay service in this subspecialty.

#### Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

Refer to Key Initiatives and Actions in sections on

- High Volume Short Stay (Key Initiative 1.4.c)
- Complex cancer surgery (Key Initiative 2.4.f)

## 8.13 Head and neck surgery

Between 2006/07 to 2011/12, head and neck surgery across SESLHD showed inpatient separations and bed days were variable with no definitive trend, while both average length of stay and average NWAU have been variable but with an overall decrease.

Most recently in 2011/12 for SESLHD:

- total separations were 145;
- bed days totalled 476 equal to 2 beds;
- average NWAU is 1.86.

*Table 31: Trends in head and neck surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	175	157	109	138	136	145	-30	-3.7%
CWTU Seps	385	391	267	313	283	274	-111	-6.6%
NWAU	365	392	257	290	276	270	-95	-5.8%
Bed days	694	835	520	575	439	476	-218	-7.3%
ALoS	4.0	5.3	4.8	4.2	3.2	3.3	-0.7	-3.7%
Av CWT	2.20	2.49	2.45	2.27	2.08	1.89	-0.31	-3.0%
Av NWAU	2.09	2.50	2.36	2.10	2.03	1.86	-0.22	-2.2%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Enhanced Service Related Group: 484 Head and Neck Surgery. Additional Exclusions: Age: 0 – 15 years*

Prince of Wales (58% of all activity) and St George Hospitals (36%) provided most head and neck surgery, with very small numbers of separations at Sutherland Hospital (7 separations) and Sydney / Sydney Eye Hospital (2 separations).

There are a large percentage (36% or 52 separations) of inflows, patients from other Local Health Districts travelling to SESLHD for surgery. These patients differ from SESLHD residents - they have a higher average NWAU (2.03 as opposed to 1.77 for SESLHD residents) and a longer average length of stay (3.7 days versus 3.0 days).

Planned surgery separations were 76% of which 84% of the activity (95 separations in 2011/12) has DRGs considered suitable for High Volume Short Stay service.

Of patients having head and neck surgery 50% have a cancer flag (72 separations in 2010/11) with 16 patients classified as High Cost Complex Casemix with an average NWAU of 6.47.

### The Future

Projected activity for head and neck surgery by 2022:

- total separations are projected to increase to 155 (10 additional separations or 0.7% per year);
- bed days are projected to increase to 494 (18 additional bed days or 0.3% per year).

Surgical services at Prince of Wales Hospital note over the next five years:

- Continued general reconstructive service to surgical oncology specialties including head and neck surgery.

- *“With regard to Otolaryngology the combined Head and Neck Cancer Service between ENT and Plastic Surgery will continue providing both a local and a tertiary referral service which integrates with Medical and Radiation Oncology. The view of the department is that both Head and Neck Cancer surgery and base of skull surgery should continue on this campus.”*

Surgeons at St George Hospital note the need for the continuation and growth of the tertiary referral centre for both Otolaryngology and Head and Neck Services at St George Hospital to ensure continued levels of surgical expertise are maintained in the management of complex surgical cases in a growing population. Specifically over the next five years they request:

- Continuation of the tertiary referral centre for both Otolaryngology and Head and Neck Services providing services to the local area and regionally.
- Continuation of the Head and Neck Cancer Service with Multidisciplinary Clinics involving Oncology and Radiotherapy and Plastic Surgical Reconstructive expertise.
- Extension of the services to involve skull base surgery and endoscopic surgery for benign and malignant disease of the head and neck.

In addition, they note the radiotherapy capacity at St George Hospital is not large enough to adequately treat the patients seen in the head and neck multidisciplinary clinics. To receive timely care requires patients to be treated in other Districts. Increasing this capacity would mean patients could receive their treatments locally and therefore be followed up locally.

#### **Key Initiatives for 2012-2017 from SESLHD’s Health Care Services Plan**

*3.1.e. Develop centres of excellence in surgical specialties (i.e. providing leadership, best practices, research, support and training) [including] ... Provide head [and] neck ... surgery at Prince of Wales and St George Hospitals. As part of the development of a Surgical Services Plan, consider designated sites for tongue, neck, jaw and base of skull surgery at St George Hospital or maintain/enhance base of skull surgery at Prince of Wales Hospital.*

##### **Actions**

- In 2010/11, most head and neck surgery was provided at either Prince of Wales Hospital (54%) or St George Hospital (35%)
- In 2013/14, the Surgical Stream Committee and Director of Operations will use International Procedure Codes to analyse data for head, tongue, neck, jaw and base of skull surgery to determine the clinical need and appropriateness for designated sites for these surgeries and capacity at these sites to manage this demand.

Refer to Key Initiatives and Actions in sections on

- Capital infrastructure (Key Initiative 4.3.f)
- High Volume Short Stay (Key Initiative 1.4.c)
- Complex cancer surgery (Key Initiative 2.4.f, 3.1.e, 3.2.a, 3.2.j, 3.2.k, 3.4.g and 3.5.d)

## **8.14 Maxillofacial surgery**

Between 2006/07 to 2011/12, maxillofacial surgery across SESLHD showed inpatient separations, bed days, average length of stay and average NWAU were variable with no significant trends

Most recently in 2011/12 for SESLHD:

- total separations were 143;
- bed days totalled 332 equal to 1 bed;
- average NWAU is 1.83.

*Table 32: Trends in maxillofacial surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	157	143	152	144	134	143	-14	-1.9%
CWTU Seps	369	340	344	345	316	323	-45	-2.6%
NWAU	281	254	272	280	258	262	-19	-1.4%
Bed days	406	360	397	375	364	332	-74	-3.9%
ALoS	2.6	2.5	2.6	2.6	2.7	2.3	-0.3	-2.1%
Av CWT	2.35	2.38	2.26	2.40	2.36	2.26	-0.09	-0.7%
Av NWAU	1.79	1.77	1.79	1.95	1.92	1.83	0.04	0.5%

*Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Enhanced Service Related Group: 513 Maxillo-Facial Surgery. Additional Exclusions: Age: 0 – 15 years*

St George and Prince of Wales Hospitals provide the vast majority of maxillofacial surgery (60% and 30% respectively) with the remainder performed at Sydney / Sydney Eye Hospital.

Planned surgery separations were 52% with all of this activity having DRGs considered suitable for High Volume Short Stay service.

55% of patients (78 separations) travelled to SESLHD from other Local Health Districts to have their maxillofacial surgery

### **The Future**

Projected activity for maxillofacial surgery by 2022:

- total separations are projected to increase to 332 (189 additional separations or 8.8% per year);
- bed days are projected to increase to 387 (215 additional bed days, 7.7% per year or 1 additional bed across the District).

Surgeons performing maxillofacial surgery at Prince of Wales Hospital expect the existing services will remain largely unchanged over the next five years with the exceptions of:

- Ongoing development of subspecialty management of maxillofacial trauma services including:
  - Management of benign odontogenic pathology and maxillo-facial oncology;
  - Subcentre for the management of dental patients on bisphosphonates and with bisphosphonate related osteonecrosis of the jaw;
  - Surgical management of temporomandibular joint disorder and pathology;
  - As part of the new oncology centre a desire to further develop the services of craniomaxillofacial implantology.
- Integration of teaching services to medical students from University of NSW and undergraduate and post graduate dental students from University of Sydney to expose them to the sub speciality of oral & maxillofacial surgery, craniofacial and hospital based dentistry.



- Focus on provision of accredited registrar training in terms of adequate operating lists, diversity of academic experience & development of appropriate surgical skills.

Medical officers in the Southern Sector highlight:

- Oral and maxillofacial surgery is a surgical specialty based in medicine and dentistry. There needs to be increased communication between the medical and dental service providers to ensure appropriately qualified oral and maxillofacial surgery VMO's are accessible for patient care and oral and maxillofacial surgery registrars are appointed at hospitals where these VMOs hold an appointment.
- Limited resources mean day only procedures are most common however, regular referrals from geriatrics, haematology and oncology mean this is unlikely to be sustained in the medium term – longer stays will become necessary. This will require additional funding for both JMO and VMO positions to ensure an adequate service is provided.
- Access to oral and maxillofacial surgery is often limited by staffing including:
  - Limited numbers of oral and maxillofacial surgeons and non- oral and maxillofacial qualified surgeons appointed to cover this area.
  - Very restricted in the ability to have oral and maxillofacial Registrars and junior medical officers for post-operative care.
  - Funding is needed for trainees and the appointment of VMO/SMO's would also need to increase. oral and maxillofacial surgery trainees and their training pathway are equivalent to Royal Australasian College of Surgeons Surgical Education and Training (SET) program trainees (as assessed by the Royal Australasian College of Surgeons and Australian Medical Council so should be considered for appointment as all other surgical trainees are considered.
- Cessation of the Medicare Chronic Diseases Scheme has seen an increase in demand for oral and maxillofacial surgery services in the Public system and this is likely to increase year on year.

#### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

Refer to Key Initiatives and Actions in sections on

- High Volume Short Stay (Key Initiative 1.4.c)
- Clinical Pathways (Key Initiative 3.2.b)
- Workforce (Key Initiative 5.2.a)

## **8.15 Other Surgical Stream sub specialities**

### **Dental**

Between 2006/07 to 2011/12, adult dental surgery across SESLHD showed inpatient separations, bed days, average length of stay and average NWAU has been variable.

Most recently in 2011/12 for adult dental surgery across SESLHD:

- total separations were 70;
- bed days totalled 107 equal to 0.5 beds;
- average NWAU was 0.59.

### **The Future**

The Head of Department notes:

*“dental services, including the shared service with Sydney Children's Hospital, will continue in their current form into the future. Possibly in the future, it will be necessary ... to appoint an additional part time dental assistant if the work load in the clinic increases. Our clinic has modern equipment which should require only minor upgrades over the next five years.”*

## **Acute and chronic pain**

Between 2006/07 to 2011/12, pain management services classified as surgical or procedural across SESLHD showed inpatient separations, bed days, average length of stay and average NWAU have been variable.

Most recently in 2011/12 for procedural pain management across SESLHD:

- total separations were 32;
- bed days totalled 50;
- average NWAU was 2.98.

### **The Future**

Over the next five years, it is expected activity for procedural pain management will remain constant.

## **Anaesthetic services**

As surgical and procedural activity has trended up so has demand for anaesthetic services.

In 2011/12 there were more than 48,000 operations requiring anaesthetic. In addition, there were many procedures requiring regional anaesthesia and / or procedural sedation.

### **The Future**

With projected increases in surgical / procedural activity, there will be increasing demand for anaesthetics. Therefore, any changes in surgical models of care need to be discussed with anaesthetics.

## **Neurovascular surgery**

Determining neurovascular surgery activity is difficult to differentiate from other neurosurgery.

### **The Future**

The Surgical Stream Committee recommended development of a governance structure for the statewide Interventional Neuroradiology Service, in particular, the after-hours service delivery between Prince of Wales, Royal North Shore, Westmead and Royal Prince Alfred Hospitals.

### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

*3.2.w Develop Medical and related services in the Northern Sector, including ... Further develop the interventional neuroradiology service.*

#### Actions

- Throughout the life of this Plan the Surgical Stream Committee and Director of Operations, Northern Sector will work with the Agency for Clinical Innovation to develop a governance structure for the statewide after hours service delivery of Interventional Neuroradiology.

Refer to Key Initiatives and Actions in sections on

- Capital infrastructure (Key Initiative 3.4.d)

## 8.16 Other Clinical Streams

### Gynaecology surgery

**Note: Gynaecology Surgery is part of the Women and Children's Health Stream and a separate Clinical Services Plan will be developed. Royal Hospital for Women is currently undergoing a Strategic Planning process and this will then feed into a Stream Clinical Services Plan. Gynaecology Surgery has been included in this document as it's activity impacts on the Surgical Stream.**

Between 2006/07 to 2011/12, gynaecological surgery across SESLHD showed inpatient separations, bed days and average length of stay were variable with an overall downward trend.

Most recently in 2011/12 for SESLHD:

- total separations were 3,679;
- bed days totalled 7,307 equal to 24 beds;
- average NWAU is 0.96.

Table 33: Trends in gynaecology in SESLHD hospitals, 2006/07 to 2011/12

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	4,076	4,124	3,785	3,869	3,672	3,679	-397	-2.0%
CWTU Seps	4,232	4,438	4,020	3,975	3,811	4,003	-229	-1.1%
NWAU	3,689	3,850	3,502	3,447	3,350	3,547	-142	-0.8%
Bed days	8,272	8,492	7,542	7,363	6,876	7,307	-965	-2.5%
ALoS	2.0	2.1	2.0	1.9	1.9	2.0	0.0	-0.4%
Av CWT	1.04	1.08	1.06	1.03	1.04	1.09	0.05	0.9%
Av NWAU	0.90	0.93	0.93	0.89	0.91	0.96	0.06	1.3%

Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 71 Gynaecology. Additional Exclusions: Age: 0 – 15 years

According to role delineation for gynaecology surgery in SESLHD's Health Care Services Plan:

- Royal Hospital for Women and St George Hospital are able to deal with complex major diagnostic and treatment procedures in association with other specialties; and

- Sutherland Hospital is able to provide select major gynaecological procedures on low or moderate risk patients.

These role delineations are reflected in the inpatient activity data. This data shows most gynaecological surgery is provided by Royal Hospital for Women (64%), followed by St George Hospital (25%) and Sutherland Hospital (10%).

Planned surgery separations were 70% of which 93% of the activity (2,400 separations in 2011/12) has DRGs considered suitable for High Volume Short Stay service.

31% of patients are from other Local Health Districts, with most of these inflow patients being treated at Royal Hospital for Women.

Of patients having gynaecological surgery 27% had a cancer flag (1,004 separations in 2011/12) with 117 of these patients classified as High Cost Complex Casemix.

Between 2009/10 and 2011/12 the number of people on the wait list has been variable with an average of 3,220 per year and an overall decrease of 245 patients or -3.8% per annum.

### **The Future**

Projected activity for gynaecology surgery by 2022 indicates:

- total separations are projected to decrease to 3,655 (24 less separations or -0.1% per year);
- bed days are projected to decrease to 7,058 (249 less bed days, -0.3% per year or 1 less bed).

However, advice from the Royal Hospital for Women indicates:

- with the implementation of strategies from the Hospital's strategic planning process this overall downward trend may be reversed. It is anticipated that through the planning process the Inpatient Gynaecology Service will be re-invigorated and separations are projected to increase.
- future planning should incorporate all complex gynaecology oncology surgery be delivered at the Royal Hospital for Women in line with the Hospital's strategic planning (currently being undertaken).

### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

*"3.1.e. Develop centres of excellence in surgical specialties (i.e. providing leadership, best practices, research, support and training): ... Consolidate complex Gynaecology at the Royal Hospital for Women and improve referral pathways, including to and from the statewide brachytherapy service at St George Hospital."*

#### **Actions**

- In 2011/12, Royal Hospital for Women treated 87% of patients who were admitted for gynaecology with a cancer flag and classified as High Cost Complex Casemix.
- In 2013/14, the Surgical Stream Committee and the Women and Babies along with the Cancer Stream will analysis complex gynaecology surgery using International Procedure Codes to determine the distribution of this activity and if future redirection of this activity is required
- In 2014/15, the Directors of Operations for Royal Hospital for Women and St George and Sutherland and the Surgery and Cancer Streams will develop referral pathways to improve access to the brachytherapy service

*3.5.c Promote further development of tertiary and quaternary level services at Royal Hospital for Women, including ... Consolidate and further develop Complex Gynaecology for SESLHD."*

#### Actions

- In 2011/12, Royal Hospital for Women treated 87% of patients who were admitted for gynaecology with a cancer flag and classified as High Cost Complex Casemix.

Refer to Key Initiatives and Actions in sections on

- High Volume Short Stay (Key Initiative 1.4.c)
- Separating planned and emergency surgery (Key Initiative 3.2.c)
- Complex cancer surgery (Key Initiative 2.4.f, 3.1.e and 3.2.k)

## Obstetrics surgery

**Note: Obstetrics surgery is part of the Women and Children's Health Stream (which will develop a separate Clinical Service Plan) and has been included in this document as it's activity impacts on the Surgical Stream.**

Between 2006/07 to 2011/12, obstetric surgery across SESLHD showed:

- inpatient separations were variable with no distinct trend;
- average length of stay trended downward with an overall decrease in inpatient bed days (-1,165 bed days or -1.9% per year); and
- average NWAU has been decreasing.

Most recently in 2011/12 for SESLHD:

- total separations were 2,436;
- bed days totalled 11,552 equal to 37 beds;
- average NWAU is 2.09.

*Table 34: Trends in obstetric surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	2,510	2,493	2,488	2,492	2,350	2,436	-74	-0.6%
CWTU Seps	4,643	4,589	4,512	4,499	4,229	4,456	-186	-0.8%
NWAU	5,174	5,149	5,112	5,150	4,771	5,102	-72	-0.3%
Bed days	12,711	12,573	12,164	11,944	11,015	11,552	-1,159	-1.9%
ALoS	5.1	5.0	4.9	4.8	4.7	4.7	-0.3	-1.3%
Av CWT	1.85	1.84	1.81	1.81	1.80	1.83	-0.02	-0.2%
Av NWAU	2.06	2.07	2.05	2.07	2.03	2.09	0.03	0.3%

Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 72 Obstetrics. Additional Exclusions: Enhanced Service Related Groups: 721 Ante Natal Admission, 724 Post Natal Admission; Diagnosis Related Groups: O60Z Vaginal Delivery, All age groups

According to role delineation for obstetric surgery in SESLHD's Health Care Services Plan:

- Royal Hospital for Women is able to deal with all deliveries;
- St George Hospital may deliver selected high risk pregnancies; and

- Sutherland Hospital may care for mothers and babies (>34 weeks gestation) at moderate risk and elective Lower Segment Caesarean Section.

These role delineations are reflected in the inpatient activity data. This shows most obstetric surgery was provided by Royal Hospital for Women (55%), 31% at St George Hospital with 14% at Sutherland Hospital.

16% of women (387 separations) travel to SESLHD for obstetric surgery, these patients have a longer average length of stay (5.3 days versus 4.7 days for SESLHD residents) and rural women have a higher average NWAU (2.41 against 2.10 for SESLHD residents).

### The Future

Projected activity for obstetric surgery by 2022:

- total separations are projected to increase to 2,625 (190 additional separations or 0.8% per year);
- bed days are projected to increase to 11,853 (301 additional bed days, 0.2% per year or 1 additional bed).

Surgeons at Sutherland Hospital note:

*“there are not enough elective lists to cover our current workload for elective Caesareans, which are typically considered as “elective” cases rather than the planned semi-urgent cases that they really are, with leeway of only a few days either side based on current Ministry of Health guidelines. With about 12 elective Caesareans at St George Hospital and four at Sutherland Hospital weekly this is a major impact on elective theatre time.”*

### Key Initiatives for 2012-2017 from SESLHD’s Health Care Services Plan

Refer to Key Initiatives and Actions in sections on

- Separating planned and emergency surgery (Key Initiative 3.2.c)

## Cardiothoracic surgery

**Note: Cardiothoracic surgery is part of the Cardiac and Respiratory Stream (which will develop a separate Clinical Service Plan) and has been included in this document as it’s activity impacts on the Surgical Stream.**

Between 2006/07 to 2011/12, cardiothoracic surgery across SESLHD showed inpatient separations, average length of stay and average NWAU were variable with no distinct trend, while there was an overall decrease in inpatient bed days (-1,636 bed days, -3.0% per year or 5 less beds required across SESLHD).

Most recently in 2011/12 for SESLHD:

- total separations were 889;
- bed days totalled 9,852 equal to 32 beds;
- average NWAU was 6.91.

Table 35: Trends in cardiothoracic surgery in SESLHD hospitals, 2006/07 to 2011/12

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	940	867	908	929	881	889	-51	-1.1%
CWTU Seps	6,929	6,388	6,428	6,686	6,329	6,503	-426	-1.3%
NWAU	6,438	5,861	5,983	6,303	6,022	6,140	-299	-0.9%
Bed days	11,488	9,727	9,864	9,994	8,977	9,852	-1,636	-3.0%
ALoS	12.2	11.2	10.9	10.8	10.2	11.1	-1.1	-1.9%
Av CWT	7.37	7.37	7.08	7.20	7.18	7.31	-0.06	-0.2%
Av NWAU	6.85	6.76	6.59	6.78	6.84	6.91	0.06	0.2%

Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 42 Cardiothoracic Surgery. Additional Exclusions: Age: 0 – 15 years

According to role delineation for cardiothoracic surgery in SESLHD's Health Care Services Plan Prince of Wales and St George Hospitals are able to deal with elective and emergency cardiac surgery and with highly complex major diagnostic and treatment procedures in association with other specialties.

These role delineations are reflected in the inpatient activity data with St George Hospital providing 50% and Prince of Wales 49% of activity.

58% of patients travel from other Local Health Districts to have their cardiothoracic surgery in SESLHD's hospitals and these patients are predominantly residents of Illawarra Shoalhaven Local Health District travelling to St George Hospital (237 separations).

Emergency surgery accounted for 53% separations however these patients have a longer average length of stay (12.5 days versus 9.4 days for planned).

Older patients aged 75 years or older account for 27% of all activity (242 separations in 2011/12).

Of patients having cardiothoracic surgery 14% had a cancer flag (125 separations in 2011/12) with all these patients classified as High Cost Complex Casemix.

Between 2009/10 and 2011/12 the number of people on the wait list has been variable with an average of 466 patients each year.

### The Future

Projected activity for cardiothoracic surgery by 2022:

- total separations are projected to increase to 954 (65 additional separations or 0.7% per year);
- bed days are projected to increase to 10,735 (883 additional bed days, 0.8% per year or 3 additional beds).

The Cardiothoracic Service at St George Hospital highlighted their shorter average length of stay along with lower average costs in some high volume DRGs and surmised this probably reflects ward efficiencies (including a flexible CICU) and presumably lower complication rates.



## Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

Refer to Key Initiatives and Actions in sections on

- Capital infrastructure (Key Initiative 4.3.f)
- Separating planned and emergency surgery (Key Initiative 3.2.c)
- Clinical Pathways (Key Initiative 3.2.b)
- Activity Based Funding (Key Initiative 4.2.a)
- Complex cancer surgery (Key Initiative 2.4.f, 3.1.e, 3.2.a, 3.2.j, 3.2.k, 3.4.g and 3.5.d)

## Surgery of Children

**Note: Surgery of Children is part of the Women and Children's Health Stream (which will develop a separate Clinical Service Plan) and has been included in this document as it's activity impacts on the Surgical Stream.**

**While Sydney Children's Hospital is physically located on the Randwick Hospitals' campus it is administered by Sydney Children's Hospital Network (therefore is not part of SESLHD). As such activity relating to Sydney Children's Hospital is included in Section 9.2.**

Between 2005/06 to 2010/11, surgery of children across SESLHD showed inpatient separations and bed days were variable with an overall downward trend.

Most recently in 2010/11 for SESLHD:

- total separations were 624;
- bed days totalled 975 equal to 3 beds;
- average NWAU is 0.87.

*Table 36: Trends in paediatric surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	763	631	668	619	660	624	-139	-3.9%
CWTU Seps	841	678	707	727	704	704	-137	-3.5%
NWAU	672	588	577	588	568	544	-128	-4.1%
Bed days	1,222	1,006	1,013	939	939	975	-247	-4.4%
ALoS	1.6	1.6	1.5	1.5	1.4	1.6	0.0	-0.5%
Av CWT	1.10	1.07	1.06	1.17	1.07	1.13	0.03	0.5%
Av NWAU	0.88	0.93	0.86	0.95	0.86	0.87	-0.01	-0.2%

Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Age: 0 – 15 years Additional Exclusions: Service Related Group: 72 Obstetrics.

According to role delineation for paediatric surgery in SESLHD's Health Care Services Plan:

- Royal Hospital for Women provides a statewide service (specifically surgery of neonates);
- St George Hospital provides most major diagnostic and treatment procedures excluding complex major surgery on children for rare complex congenital malformations;

- Sutherland Hospital provides moderate and selected major surgical procedures on children.

These role delineations are partially reflected in the inpatient activity data. Most surgery on children provided by the District was delivered by St George Hospital (43%), with 38% at Sutherland Hospital and 17% at Sydney / Sydney Eye Hospital (mainly related to hand and eye surgery). Surgery performed at Sydney Children's Hospital Randwick have not been included here as inpatient activity data is reported through Sydney Children's Hospital Network (SCHN) (refer to Section 9.2).

Planned surgery separations were 59% of which 97% of the activity (361 separations in 2011/12) has DRGs considered suitable for High Volume Short Stay service.

Emergency surgery accounted for 41% separations however these patients have double average length of stay (2.2 days versus 1.1 days for planned) and a higher average NWAU (1.15 against 0.69 for planned).

### **The Future**

Projected activity for surgery on children by 2022:

- total separations are projected to increase to 753 (128 additional separations or 1.9% per year);
- bed days are projected to increase to 1,259 (278 additional bed days, 2.3% per year or 1 additional bed).

Matters raised by surgeons at St George Hospital included a lack of paediatric surgeons at the Hospital resulting in:

- Underutilisation of allocated paediatric surgery theatre sessions;
- Decreased ability to provide paediatric surgical support for the Emergency Department, Special Care Nursery and Paediatric Service;
- Reliance on transferring patients from St George Hospital to Sydney Children's Hospital or the Royal Hospital for Women.

The options suggested for consideration included:

- Maintaining the status quo;
- Withdrawing elective general surgery on children from St George Hospital;
- Increasing hours either for the existing paediatric surgeon or engaging an additional specialist;
- Combining the services at St George and Sutherland Hospital.

When considering these options the Southern Sector needs to weigh them against recent work being undertaken at the State level including:

- work being developed by the NSW Kids and Families - paediatric surgical guidelines and directions will recommend children aged between 12 months to 12 years should be treated locally unless complex then they are to be transferred to Sydney Children's Hospital or Children's Hospital at Westmead.
- recommendations from the Surgery for Children Project Steering and Working Groups to Local Health Districts to provide surgical services as close to home as possible and where it is safe to do so, for children aged 1 month to 16 years:
  - reinforce and extend designated paediatric surgical sites "a designated secondary facility with appropriately trained nurses, paediatricians, anaesthetists, ICU/HDU cover and mentorship from Tertiary Paediatric Hospital";

- develop strategies to increase capacity for non-complex planned surgery on children targets (to be developed in consultation with individual Local Health Districts);
- consider strategies to enable the age threshold for emergency surgery specialities without consistent paediatric training being lowered.

### Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan

Refer to Key Initiatives and Actions in sections on

- High Volume Short Stay (Key Initiative 1.4.c)
- Separating planned and emergency surgery (Key Initiative 3.2.c)
- Workforce (Key Initiative 5.2.a)
- Capital infrastructure (Key Initiative 4.3.f)

## Breast surgery

**Note: Breast surgery is part of the Cancer Stream (which is developing a separate Clinical Service Plan) and has been included in this document as it's activity impacts on the Surgical Stream.**

Between 2006/07 to 2011/12, breast surgery across SESLHD was variable with no distinct trends.

Most recently in 2011/12 for SESLHD:

- total separations were 492;
- bed days totalled 963 equal to 3 beds;
- average NWAU was 1.21.

*Table 37: Trends in breast surgery in SESLHD hospitals, 2006/07 to 2011/12*

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Change #	CAGR
Separations	514	485	477	473	498	492	-22	-0.9%
CWTU Seps	567	542	541	571	621	602	34	1.2%
NWAU	571	553	572	569	622	596	26	0.9%
Bed days	822	854	824	854	960	963	141	3.2%
ALoS	1.6	1.8	1.7	1.8	1.9	2.0	0.4	4.1%
Av CWT	1.10	1.12	1.14	1.21	1.25	1.22	0.12	2.1%
Av NWAU	1.11	1.14	1.20	1.20	1.25	1.21	0.10	1.8%

Source, inclusions, exclusions and notes see Figure 3. Additional Inclusions: Service Related Group: 41 Breast Surgery. Additional Exclusions: Age: 0 – 15 years

Three hospitals provide most breast surgery: St George Hospitals (52%), Royal Hospital for Women (26%), Prince of Wales Hospital (20%) and Sutherland Hospital providing limited activity (10 separations).

27% of patients are residents of other Local Health Districts with most attending St George Hospital (57 separations) followed by Royal Hospital for Women (36 separations) and Prince of Wales Hospital (34 separations).

Planned surgery separations were 93% with no activity considered suitable for High Volume Short Stay service.

Older patients aged 75 years or older account for 10% of all activity (48 separations in 2010/11).

Of patients having breast surgery 71% had a cancer flag (348 separations in 2011/12) with none of these patients classified as High Cost Complex Casemix.

### **The Future**

Projected activity for breast surgery by 2022:

- total separations are projected to remain constant;
- bed days are projected to decrease to 823 (140 fewer bed days, -1.4% per year or less than 1 bed).

In 2012, Royal Hospital for Women and Prince of Wales Hospital undertook a review of Breast Services on the Randwick Campus – recommendations from this review have determined that all breast services will be consolidated at Royal Hospital for Women.

Both Prince of Wales and St George Hospitals' surgeons noted changing models of care

- Previously mastectomy and breast reconstruction were done at the same time, now a second procedure is being performed. With this new model of care plastic surgeons identified the need for increased access to operating theatre time at Prince of Wales Hospital and the Royal Hospital for Women specifically for breast reconstruction surgery along with additional staff.
- Breast brachytherapy has been introduced at St George Hospital and is increasingly being provided as a Statewide service. This will not reduce mastectomies but does decrease radiotherapy.

### **Key Initiatives for 2012-2017 from SESLHD's Health Care Services Plan**

*"3.2.k Further develop services provided from the Comprehensive Cancer Centre at St George Hospital in line with NSW and SESLHD strategic cancer plans ... Integrating and developing multidisciplinary teams of cancer services with surgical support from upper gastrointestinal, colorectal, breast, endocrine and gynaecological surgeons."*

#### **Actions**

- In 2013/14, the Surgical Stream Committee and Cancer Stream will work with the Director Operations St George and Sutherland Hospitals and Health Services and in consultation with the Agency of Clinical Innovation and NSW Cancer Institute to analyse complex cancer surgery at St George Hospital and assess hospital capacity to determine the distribution of this activity and if future redirection is required
- Where it is deemed appropriate that complex cancer surgery should continue at St George Hospital the Surgical Stream Committee and Cancer Stream will work with the Director Operations St George and Sutherland Hospitals and Health Services to further develop these specialist cancer care services and multidisciplinary teams

Refer to Key Initiatives and Actions in sections on

- Clinical Pathways (Key Initiative 3.2.b)
- Activity Based Funding (Key Initiative 4.2.a)
- Complex cancer surgery (Key Initiative 2.4.f)
- Workforce (Key Initiative 5.2.a)

## Transplant surgery

In 2011/12, the only hospital in SESLHD providing transplant surgery was Prince of Wales Hospital for renal transplant:

- total separations were 33;
- bed days totalled 501;
- average NWAU was 8.87.

### The Future

Prince of Wales Surgical services advised that activity for renal transplantation surgery will increase and expand over the next five years, with the unit performing both adult and paediatric transplants. This will have potential to have a significant impact on theatre requirement in the future. In addition, the future role of the Transplant Fellow is being examined with the possible change to using the funding for a 0.5 Staff Specialist.

## Critical Care and Emergency

***Note: Critical Care and Emergency are part of the Critical Care and Emergency Medicine Stream (which will develop a separate Clinical Service Plan) and has been included in this document as surgical activity impacts on this Stream.***

In 2011/12, across SESLHD, surgical separations with intensive care or high dependency unit involvement:

- total separations were 2,077 (6% of all surgical separations);
- bed days (including acute and critical care) totalled 38,964;
- average length of stay (including acute and critical care) was 18.8 days (versus 3.4 for patients with no intensive care or high dependency involvement);
- average NWAU was 10.01 significantly higher than for patients with no intensive care involvement at 1.48).

In 2011/12, surgical patients with emergency department involvement across SESLHD had:

- total separations were 7,168 (21% of all surgical separations);
- bed days totalled 60,631 equal to 195 beds (42% of all surgical bed requirements);
- average length of stay was 8.5 days (versus 3.2 for patients with no emergency department involvement);
- average NWAU was 3.14 significantly higher than patients with no emergency department involvement at 1.72).

### The Future

With increasing surgical activity, combined with more patients with co-morbidities and older patients having more complex procedures, there will be increasing demand from surgical services for intensive care and high dependency services.

The SESLHD Health Care Services Plan identified increasing demand for the District's emergency departments.

## Ambulatory Health Care: endoscopy, outpatient procedures, etc

In addition to inpatient services there are many non admitted patients having a variety of procedures requiring regional anaesthesia and / or procedural sedation.

**The Future**

It is expected over the next five years this activity will increase as endoluminal, laparoscopic and minimally invasive surgery and stent procedures become more widespread.

## Pathology and Medical Imaging

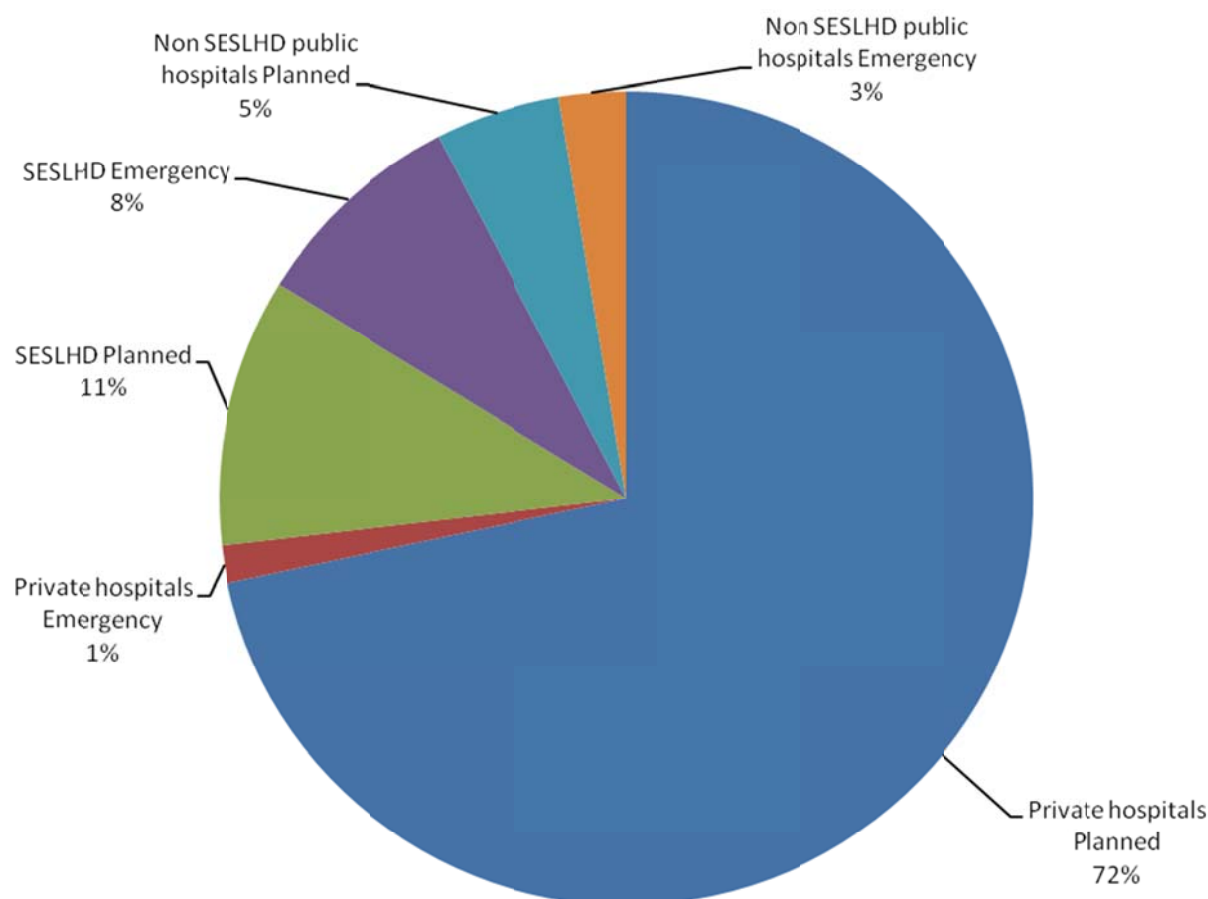
The vast majority of surgical patients require pathology services and /or medical imaging.

**The Future**

As surgical throughput increases, it is expected that demand for pathology and imaging services will also grow.

## 9. Other surgical providers

Figure 16: Where SESLHD's residents have their surgery, 2011/12



**Source:** FlowInfo v 12. **Inclusions:** SESLHD residents; all public and private hospitals; all age groups; aIM2010 Clinical Category: Surgery/Procedures, Maternity and newborns. **Exclusions:** non-SESLHD residents; SRG: Interventional cardiology, Diagnostic GI Endoscopy, qualified neonate, unqualified neonate, perinatology; ESRG: Non procedural gynaecology, ante natal admission, post natal admission; DRG: O60A Vaginal Delivery W Catastrophic or Severe CC, O60B Vaginal Delivery W/O Catastrophic or Severe CC, O60C Vaginal Delivery Single Uncomplicated W/O Other Condition. **Notes:** Prince of Wales and Sutherland Hospital's data includes associated collaborative care (ie public patients treated in private hospitals)

### 9.1 Private hospital activity

Within SESLHD's geographic boundary there are a number of private hospitals which combined have over 1,000 licensed overnight beds (including medical, surgical, obstetrics, mental health and sub acute beds). In addition there are numerous private day procedure centres providing a range of services including surgery (see SESLHD Health Care Services Plan).



SESLHD residents treated in non-SESLHD facilities (outflows) are primarily accessing private hospitals or day procedure centres (73% in 2011/12 or nearly 80,000 separations) (Table 38). However these patients appear to be less complex as their average length of stay is comparatively short and they have lower average NWAUs than surgical patients treated in the public system.

Highest volume Service-Related Groups for SESLHD residents in private hospitals were:

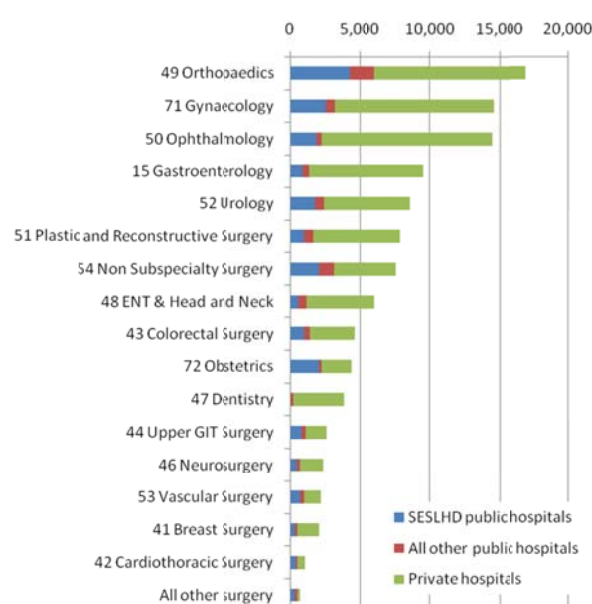
- Ophthalmology (12,185 separations);
- Gynaecology (11,347 separations);
- Orthopaedics (10,914 separations);
- Gastroenterology (8,207 separations);
- Plastic and Reconstructive Surgery (6,292 separations);
- Urology (6,271 separations).

*Table 38: Outflows – Activity of SESLHD residents, by hospitals, 2011/12*

Values	SESLHD public hospitals	Other metro public hospitals	All other public hospitals	Private hospitals	Total
Separations	21,034	8,009	303	79,922	109,268
CWTU Separations	48,491	18,710	796	102,137	170,134
NWAU	41,511	15,144	652	56,944	114,251
Bed days	94,794	32,949	1,403	140,216	269,362
ALoS	4.5	4.1	4.6	1.8	2.5
Av CWTU	2.31	2.34	2.63	1.28	1.56
Av NWAU	1.97	1.89	2.15	0.71	1.05

Source, inclusions and exclusions refer to Figure 14

*Figure 17: Outflows – Separations of SESLHD residents, by public and private hospitals, 2011/12*



Source, inclusions, exclusions and notes see Figure 14

## 9.2 Other public hospitals

There are more than 8,000 separations of SESLHD residents having surgery in other public hospitals. Most of these patients are treated at public facilities within or near the District's geographic boundaries, namely:

- St. Vincent's Network– Public (part of St Vincent's and Mater Hospitals Network): more than 2,800 separations;
- Sydney Children's Hospital (part of the Sydney Children's Hospital Network): nearly 1,500 separations;
- Royal Prince Alfred Hospital (part of Sydney Local Health District): approximately 1,400 separations.

# 10. Performance Monitoring

The best measure of a health system's performance is its impact on health outcomes. The Special Commission of Inquiry Report on Acute Care in NSW Public Hospitals<sup>59</sup> identified performance monitoring as an important tool to encourage improvements in the health system.



## 10.1 Performance measures

### National indicators and standards

At the Commonwealth level, the National Health Performance Authority will report quarterly on the performance of SESLHD, the hospitals within it and every Medicare Local, through new Hospital Performance and Healthy Communities Reports.

Table 39: National Performance Authority Indicators

#### National Health Performance Authority Indicators

##### Effectiveness - Safety and quality

- Hospital Standardised Mortality Ratio
- Death in low-mortality Diagnostic Related Groups
- In hospital mortality rates for: Fractured neck of femur, etc.
- Unplanned hospital readmission rates for patients discharged following management of: Knee and hip replacements; Paediatric tonsillectomy and adenoidectomy; etc.
- Health care associated Staphylococcus aureus (including MRSA) bacteraemia.
- Health care associated Clostridium difficile infections.

##### Effectiveness - Patient experience

- Measures of the patient experience with hospital services.

##### Equity and effectiveness – Access

- Access to services by type of service compared to need;
- Elective surgery patients admitted within clinically appropriate time (NEST)

##### Efficiency - Efficiency and financial performance

<sup>59</sup> Special Commission of Inquiry, 2008, *Final Report of the Special Commission of Inquiry: Acute Care in NSW Public Hospitals*

- Relative Stay Index for multi-day stay patients.
- Day of surgery admission rates for non emergency multi-day stay patients.
- Cost per weighted separation and total case weighted separations. and
- Financial performance against activity funded budget (annual operating result).

The Australian Commission for Safety and Quality in Health Care leads and coordinates improvements in a number of areas relating to safety and quality in health care across Australia.

The Commissions **National Safety and Quality Health Service Standards** drive improvement in safety and quality in hospitals, day surgeries and some dental practices.



In addition to the Standards, the Commission has identified principal domains for developing meaningful patient safety and quality national datasets. These include:

- Hospital-Based Outcome Indicators;
- Indicators of Safety and Quality for the Day Procedure Sector; and
- Patient experience and patient satisfaction.

## NSW targets and measures

The State Plan - *NSW 2021: A plan to make NSW number one* sets the NSW Government's improvement agenda including planned improvement in health care over the next 10 years. SESLHD will measure its broad performance against the targets set down in the State Plan and NSW Ministry of Health.

Table 40: NSW State Plan targets and measures

NSW State Plan Targets	Measures
<b>Increase patient satisfaction</b>	
<ul style="list-style-type: none"> <li>• Improve on the previous year's Patient Experience Survey following treatment</li> </ul>	<ul style="list-style-type: none"> <li>• Proportion of patients rating overall care received as very good, excellent on the Patient Experience Survey</li> </ul>
<b>Reduce unplanned readmissions</b>	
<ul style="list-style-type: none"> <li>• Reduce current rates of unplanned and unexpected hospital readmissions as percentage of total hospital admissions (5% per year over 4 years)</li> </ul>	<ul style="list-style-type: none"> <li>• Unplanned readmission of a patient within 28 days following discharge to the same facility</li> </ul>
<b>Decrease health care associated bloodstream infections</b>	
<ul style="list-style-type: none"> <li>• Improve performance and remain below COAG benchmark for Staphylococcus aureus bloodstream infection rate per</li> </ul>	<ul style="list-style-type: none"> <li>• Staphylococcus aureus (staph) bloodstream infections rate per 10,000 occupied bed days</li> </ul>

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10,000 patient bed days

**Patient safety and quality standards**

- Ensure all publicly provided health services meet national patient safety and quality standards

**Reduce hospital waiting times**

- All publicly provided health services meet national patient safety and quality standards within a COAG agreed timeframe
  - Planned surgical patients admitted within clinically appropriate time (%)
    - Cat 1 patients admitted for elective surgery within 30 days (95%)
    - Cat 2 patients admitted for elective surgery within 90 days (95%)
    - Cat 3 patients admitted for elective surgery within 365 days (95%)
  - Elective surgical patients admitted within clinically appropriate time
  - Elective surgical patients on the waitlist not ready for care
- 

## SESLHD performance measures

The SESLHD/Ministry of Health annual Service Agreement Measures which are additional to the State Plan measures are also monitored to assess SESLHD performance. These measures may change overtime.

*Table 41: NSW Ministry of Health – SESLHD Service Performance Measures*

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**Key Performance Indicators**

**Safety and Quality**

Tier 1	Staphylococcus aureus bloodstream infections (SA-BSI) (per 10,000 occupied bed days)
Tier 2	ICU Central Line Associated Bloodstream (CLAB) Infections (number)
Tier 2	Incorrect procedures: Operating theatre - resulting in death or major loss of function (number)

**Service Access and Patient Flow**

	Overdue elective surgery patients (number):
Tier 1	<ul style="list-style-type: none"><li>• Category 1</li><li>• Category 2</li><li>• Category 3</li></ul>
	Elective surgery patients admitted within clinically appropriate time (%):
Tier 1	<ul style="list-style-type: none"><li>• Category 1</li><li>• Category 2</li><li>• Category 3</li></ul>
Tier 2	Public Dental Weighted Occasions of Service against Target (%)
Tier 2	ED presentations admitted to ward/ICU/Operation Theatre (%)

**Finance and Management**

	Activity against purchased volume (%):
Tier 1	<ul style="list-style-type: none"><li>• Acute Inpatient Services (Cost weighted Separations)</li><li>• Acute Inpatient Services (NWAU)</li></ul>
	Expenditure matched to budget (General Fund) (%):
Tier 1	<ul style="list-style-type: none"><li>• Year to Date</li><li>• June projection</li></ul>
	Revenue Matched to budget (General Fund) (%):
Tier 1	<ul style="list-style-type: none"><li>• Year to Date</li><li>• June projection</li></ul>

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The District has developed and will continue to refine a number of local measures to monitor progress towards local priorities identified in this Plan.

Table 42: SESLHD's additional local measures

<b>Service Measures</b>
<b>Safety and Quality</b>
Deteriorating Patients (rate per 1,000 separations):
<ul style="list-style-type: none"> <li>• Rapid response calls</li> <li>• Cardio respiratory arrests</li> </ul>
Clostridium Difficile Infections (per 1,000 separations)
Root Cause Analysis – completed in 70 days (%)
Complaints Management – resolved within 35 days (%)
Unplanned hospital readmissions: all admissions within 28 days of separation (%)
Unplanned hospital readmission rates for patients discharged following management of:
<ul style="list-style-type: none"> <li>• Knee and hip replacements</li> <li>• Paediatric tonsillectomy and adenoidectomy</li> </ul>
In hospital mortality rates for:
<ul style="list-style-type: none"> <li>• Fractured neck of femur</li> </ul>
Patient Experience Survey following treatment: Overall care received (very good, excellent)
<b>Service Access and Patient Flow</b>
Emergency Admission Performance - Patients admitted to an inpatient bed within 8 hours of arrival in the ED (%)
Elective Surgery: Activity compared to previous year (Number)
Waiting List Turnover ratio: Elective patients (%)
Elective Surgery Theatre Utilisation: operating room occupancy (%)
Public Dental Fail to Attend Appointment (FTA) (%)
Separations (number):
<ul style="list-style-type: none"> <li>• Acute overnight</li> <li>• Acute Same Day</li> <li>• Sub Acute overnight</li> <li>• Sub Acute Same Day</li> </ul>
Average Length of Episode Stay - Overnight patients (days)
Available beds (number)
Bed Occupancy (%)
ICU High Dependency Unit transfer of care performance (days)
Aboriginal inpatients who Discharge Against Medical Advice (%)
Acute to Aged-Related Care Services (AARCS) patients seen (number)
<b>People and Culture</b>
Workplace injuries (%)
Premium staff usage - average paid hours per FTE (Hours):
<ul style="list-style-type: none"> <li>• Medical</li> <li>• Nursing</li> <li>• Allied Health</li> </ul>
Annual reduction in the total number of days in respect of accrued leave balances of more than 40 days with specific targets to be agreed.
Leave liability: average paid hours per FTE (Hours)
Recruitment: improvement on baseline average time taken from request to recruit to decision to approve/decline recruitment (days)
<b>Finance and Management</b>
Activity against notional target:
<ul style="list-style-type: none"> <li>• Non Admitted Patient Services (Service Events and NWAU)</li> </ul>
Cost per Weighted Separation
Coding timeliness – records with valid DRGs (%)
<b>Other Local Measures</b>
<ul style="list-style-type: none"> <li>• Interpreter service: Patients requesting an interpreter who received one (%)</li> <li>• Performance measures for National Quality and Safety Healthcare Standards (to be specified at national level)</li> <li>• Falls in hospital per 1,000 bed days at LHD and facility level</li> <li>• Procedure rates for Aboriginal and non-Aboriginal people having cataract or joint replacement surgery</li> </ul>

## 10.2 Monitoring progress

Progress reports will be delivered in line with the overarching Performance Management Framework for NSW Local Health Districts.

	Timing	Reporting
Progress in terms of timely implementation of the initiatives	Six monthly	Nominated lead. Coordination/development of reports through the Strategy and Planning Unit
a) Measures in the SESLHD/ NSW Ministry of Health Service Agreement	As per SESLHD Board requirements and SESLHD/- MOH Service Agreement	Health System Performance Report SESLHD Reports
b) Supplementary measures/targets in other agreements (e.g. National, SESLHD/other LHD Service level agreements)	Annual +/- more frequently as per relevant agreements or Board requirements	Clinical services/directorates report as required
c) Other local supplementary measures and targets	Annual or more frequently as required	Business Intelligence & Efficiency Unit (or Clinical service/unit with access to data)

*The Business Intelligence and Efficiency and The Strategy and Planning Units will review and collate relevant data and information on an annual basis (or more frequent basis as required by the Board and CE), assist health services to identify underperformance based on these reviews, and provide an annual report to the District Clinical and Quality Council and the Board.*

This report will identify:

- Successes and shortfalls;
- Reasons for shortfalls and actions taken, or agreed to be taken, by the relevant services to address the shortfalls as required;
- Recommendations to revise initiatives/ actions and measures/ targets as appropriate.

As far as possible, this approach to, and the processes involved in, monitoring progress will be integrated with implementation of:

- The overarching Performance Management Framework for NSW Local Health Districts<sup>60</sup>;
- The SESLHD's internal Performance Management Framework;
- The annual Service Agreement between the Director-General and SESLHD, which lists Service Performance Measures (Key Performance Indicators and other Service Measures).

When there are shortfalls in performance in terms of progress against the targets and performance thresholds, responses will proceed as per the Performance Management Framework.

<sup>60</sup> The PMF provides a single, integrated process for performance review, assessment and management. The overarching objectives of the PMF approach is to keep people healthy, and improve access to timely, quality, patient-focused health care, reflecting the purpose and vision of our SESLHD.



# Appendices

## Aboriginal Health Impact Statement

### Introduction

This Aboriginal Health Impact Statement has been produced to accompany the SESLHD Surgical Clinical Services Plan 2013-18.

This Impact Statement is based on the NSW Aboriginal Health Impact Statement and Guidelines and aims to documents the health needs and interests of Aboriginal people have been embedded into the development, implementation and evaluation of the Plan.


### Declaration

**Title of Initiative:**

SESLHD's Surgical, Perioperative and Anaesthetic Clinical Services Plan 2013 - 2018

- ☒ The health needs and interests of Aboriginal people have been considered and appropriately addressed in the development of this initiative
- ☒ Appropriate engagement and collaboration with Aboriginal people has occurred in the development and implementation of this initiative
- ☒ Completed checklist is attached

Name of Manager: Gail Daylight  
Title of Manager: Manager  
Unit Name: Aboriginal Health  
Local Health District: SESLHD

Signature:  Date: 13/8/13

## Checklist

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### DEVELOPMENT OF THE POLICY, PROGRAM OR STRATEGY

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**1. Has there been appropriate representation of Aboriginal stakeholders in the development of the policy, program or strategy?** Yes

**2. Have Aboriginal stakeholders been involved from the early stages of policy, program or strategy development? Please provide a brief description** Yes

Prior to the commencement of the planning process for the Surgical Clinical Services Plan discussions were held with SESLHD's Manager, Aboriginal Health to identify key issues for Aboriginal and/or Torres Strait Islander people in relation to surgical services. Since then advice has been sought from the Manager as required. In addition, as part of the consultation process the draft Plan has been provided to the Manager for broad distribution (including the Aboriginal Medical Service) and comment.

**3. Have consultation/negotiation processes occurred with Aboriginal stakeholders?** Yes

**4. Have these processes been effective? Explain** Yes

These processes have been effective and the input from the Manager, Aboriginal Health has been invaluable. The Manager has given a broader perspective to the Plan in terms of access to services, identification of Aboriginal people, demonstrable differences in health outcomes and the impact of Activity Based Funding (ABF) as well as highlighting some key documents.

**5. Have links been made with relevant existing mainstream and/or Aboriginal-specific policies, programs and/or strategies? Explain** Yes

The Chief Health Officer's Report "*The Health of Aboriginal People*" highlighted the lower procedure rates for Aboriginal people and poor reporting of Aboriginal people in Admitted Patient Data Collection. Based on this Report analysis was undertaken to determine SESLHD's current procedure rates and the Plan highlights the need for clinicians to improve reporting .

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### CONTENTS OF THE POLICY, PROGRAM OR STRATEGY

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**6. Does the policy, program or strategy clearly identify the effects it will have on Aboriginal health outcomes and health services? Comments** Yes

The Surgical Clinical Services Plan identifies in 2011/12 SESLHD's Aboriginal people had significantly lower procedure rates for cataracts and joint replacements than other SESLHD residents

**7. Have these effects been adequately addressed in the policy, program or strategy? Explain** Yes

Specific Actions in the Surgical Clinical Services Plan include:

- In 2012/13 SESLHD District Executive Team and the District Clinical and Quality Council endorsed distribution of Aboriginal Healthy Lifestyle posters to improve identification of Aboriginal people
  - From 2012/13 onwards Directors of Operations will monitor recording of
-

<p>Aboriginality</p> <ul style="list-style-type: none"> <li>From 2014/15 onwards Surgical Stream Committee will monitor rates of hip or knee replacement as well as ophthalmic surgery for Aboriginal people</li> </ul>	
<p><b>8. Are the identified effects on Aboriginal health outcomes and health services sufficiently different for Aboriginal people (compared to the general population) to warrant the development of a separate policy, program or strategy? Explain</b></p>	<p><b>Yes</b></p>
<p>With the development of the Surgical Clinical Services Plan it became apparent underreporting of Aboriginality makes it difficult to measure the effectiveness of health services and achieve equitable outcomes for Aboriginal people. In addition, the introduction of ABF carried a 5% weighting for Aboriginality for acute inpatients and ED presentations. Therefore, the ABF Implementation Committee quantified the impact of SESLHD's under reporting of Aboriginality in terms of ABF. In addition it was:</p> <ul style="list-style-type: none"> <li>agreed improved recording remains a significant factor for improving equitable clinical outcomes for Aboriginal people</li> <li>suggested the recording of Aboriginality be monitored, in particular after the Aboriginal identification posters are displayed throughout SESLHD</li> <li>recommended medical record audits be extended to include recording of Aboriginality.</li> </ul>	
<p><b>IMPLEMENTATION AND EVALUATION OF THE POLICY, PROGRAM OR STRATEGY</b></p>	
<p><b>9. Will implementation of the policy, program or strategy be supported by an adequate allocation of resources specifically for its Aboriginal health aspects? Describe</b></p>	<p><b>Yes</b></p>
<p>Analysis for the ABF Implementation Committee demonstrated improved recording of Aboriginality will increase ABF.</p>	
<p><b>10. Will the initiative build the capacity of Aboriginal people/organisations through participation? In what way will capacity be built?</b></p>	<p><b>Yes</b></p>
<p>The analysis undertaken in terms of procedure rates, identification of Aboriginal people and the impact of ABF has been developed in collaboration with the Manager, Aboriginal Health</p>	
<p><b>11. Will the policy, program or strategy be implemented in partnership with Aboriginal stakeholders? Briefly describe the intended implementation process</b></p>	<p><b>Yes</b></p>
<p>The implementation of the Surgical Clinical Services Plan will be dependent on a range of partnerships including Aboriginal Health. Central to this will be the ongoing monitoring of improved identification of and procedure rates for Aboriginal people</p>	
<p><b>12. Does an evaluation plan exist for this policy, program or strategy?</b></p>	<p><b>Yes</b></p>
<p><b>13. Has it been developed in conjunction with Aboriginal stakeholders? Briefly describe Aboriginal stakeholder involvement in the evaluation plan</b></p>	
<p>The evaluation of the Surgical Clinical Services Plan will occur throughout the Plan's</p>	

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life (ie 2013 – 2018). This evaluation will include:

- evaluation of improvements in identification of and procedure rates for Aboriginal people
  - this results will be reported to Chief Executive through the District Executive Team and the District Clinical and Quality Council as well as the Manager, Aboriginal Health
  - the performance indicators are to achieve equal cataract and joint procedure rates for Aboriginal and non-Aboriginal people so are consistent with exiting reporting requirements
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# Plan contributors

## Reference Group

### Surgical/Anaesthetic/Perioperative Clinical Stream Strategy and Access Committee

Gregory Keogh	District Clinical Stream Director (Chair)
Kevin Hanel	Deputy Stream Director
Sheila McCulloch	District Clinical Stream Manager (minutes)
Vicki Weeden	Manager of Access and Clinical Services
Andrew Bridgeman	Acting Clinical Group Manager, SGH/TSH
Carolyn Smith	Operational Nurse Manager, SSEH
Deb Cansdell	Acting Nursing Co-Director, STG/TSH
Gene Nazarenko	Clinical Group Manager, POW
Janet Stretton	Manager Surgical Access
Jennie Barry	Nursing Co-Director, POW
Julie Dixon	Director Planning and Population Health
Margaret Hutchinson	Manager Admission Office, TSH
Maria Fenn	Nursing Co-Director Gynaecology Services RHW
Patricia Humphreys	Nurse Manager, Admission Office, POW
Phyllis Davis	Nursing Director Operating Suite POW and SCH (Randwick)
Robert Farnsworth	Clinical Program Director, POW
Wendy Hudson	Nurse Manager, RHW
Wendy Stone	Manager Admission Office, SGH

## Consultations

### SESLHD Clinical Councils

District Clinical and Quality Council  
Northern Hospital Network Clinical Council  
The Sutherland Hospital Clinical Council  
St George Hospital Clinical Council  
St George and Sutherland Hospitals and Health Services Clinical Council  
Royal Hospital for Women Clinical Council

### SESLHD Clinical Streams

Aged Care and Rehabilitation  
Ambulatory and Primary Health Care  
Cancer  
Cardiac and Respiratory  
Critical Care and Emergency Medicine  
Medicine  
Mental Health  
Medical Imaging  
Pathology  
Surgery & Anaesthetics  
Women and Children's Health

### Governance Committees

SESLHD Board  
District Executive Team  
District Clinical and Quality Council

### Other

Other government agencies

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Sydney Children's Hospital Network  
Planning & Population Health Directorate  
Finance and Corporate Services Directorate  
Clinical Governance Directorate  
Workforce Services Directorate

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## Glossary

Term	Definition
Bad risk patient	P4: A patient with severe systemic disease that is a constant threat to life (Source: NSW Health Guide to Role Delineation, classification of adults physical status for pre-operation assessment, acknowledged <i>American Society of Anaesthesiologists Relative Value Guide 1999</i> )
Cancer Flag	all patients whose primary reason for admission was the treatment and identification of cancer
Common and intermediate surgical procedures	Indicative list of the complexity of surgical procedures includes: Appendicectomy, Varicose vein surgery, Herniorrhaphy, Haemorrhoidectomy, Excision of breast lump (Source: NSW Health Guide to Role Delineation)
Complex major surgical procedures	Indicative list of the complexity of surgical procedures includes: Abdomino-perineal resection, Anterior resection, Oesophagectomy, Aortic surgery, Pancreatic resection, Neck dissection (Source: NSW Health Guide to Role Delineation)
High Cost Complex Casemix separations	High Cost Complex Casemix separations are defined according to a selection of Diagnosis Related Groups, which are ranked by Teaching Hospital, Flows to Metropolitan Hospitals and Mean Cost Weight ranks
Low risk patient	P1: A normal healthy patient or P2: A patient with a mild systemic disease (Source: NSW Health Guide to Role Delineation, classification of adults physical status for pre-operation assessment, acknowledged <i>American Society of Anaesthesiologists Relative Value Guide 1999</i> )
Major surgical procedures	Indicative list of the complexity of surgical procedures includes: Thyroidectomy, Vascular graft, Cholecystectomy, Bowel resection, Mastectomy, Exploratory laparotomy (Source: NSW Health Guide to Role Delineation)
Minor Surgical Procedures	Indicative list of the complexity of surgical procedures includes: Excision of skin lesion, Excision of subcutaneous tumour, Drainage of abscess, Toe-nail surgery (Source: NSW Health Guide to Role Delineation)
Moderate risk patient	P3: A patient with severe systemic disease (Source: NSW Health Guide to Role Delineation, classification of adults physical status for pre-operation assessment, acknowledged <i>American Society of Anaesthesiologists Relative Value Guide 1999</i> )
National Weighted Activity Unit (NWAU)	An NWAU is a measure of health service activity expressed as a common unit, against which the national efficient price is paid. It provides a way of comparing and valuing each public hospital service (whether it is an admission, emergency department presentations or outpatient episode), by weighting it for its clinical complexity. The average hospital service is worth one NWAU – the most intensive and expensive activities are worth multiple NWAUs, the simplest and least expensive are worth fractions of an NWAU.
Northern Sector	geographic boundary includes Sydney Inner + East Statistical Local Areas (SLA) and Botany Bay, Randwick, Waverley and Woollahra Local Government Areas (LGA)
Occupancy rate	= Sum of occupied bed days during the period / Sum of available bed days in the period. NSW Ministry of Health endorsed benchmarks are routinely 85% occupancy
Southern Sector	geographic boundary includes Hurstville, Kogarah, Rockdale and Sutherland LGAs
Surgical bed	From the Admitted Patient Data Dictionary - Bed type (Admitted Patient Beds code and descriptor): 47 Surgical Overnight, 82 Extended Short Stay Surgical (< 24 hrs), 81 Same Day Surgical



## References

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