Surgical & Procedural Care in South West Sydney

Service Development Directions to 2021

Leading Care, Healthier Communities






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Foreword

Over the next decade, South Western Sydney Local Health District (SWSLHD) will face a significant increase in patient demand across all forms of surgery, ranging from traditional open surgery to endoscopic and endovascular procedures. We can expect around 50% growth in day procedures and 25% in procedures requiring an overnight ward stay. Drivers of demand include evolving models of care, changing patient and government expectations and the impact of population growth and aging, accompanied by increased surgical utilisation rates across the life spectrum.

There have been a number of significant pinch point issues in surgical and procedural care where consideration of service development directions was necessary. These include high emergency surgery workloads at Liverpool Hospital, capacity constraints in the availability of theatres and delineated endoscopy spaces, high growth in day only and short stay procedures, potential to repatriate out-of-District patient flows, the need to strengthen clinical networks and positioning the District to optimise performance under Activity Based Funding and the National Elective Surgery Targets.

Developed through an extensive consultation process with clinicians and managers, the *Surgical & Procedural Care in South West Sydney Service Development Directions to 2021* addresses these issues through proposed changed arrangements in service delivery, including:

- managerial organisation
- new and enhanced models of care
- new clinical services to be provided at individual facilities
- realignment of service provision across surgical and procedural care networks

In addition to the consultations, relevant recommendations from the NSW *Surgery Futures* Report have been incorporated and outline how clinicians and managers will work together to implement the key directions of this plan. Service developments include innovative models of care such as in High Volume Short Stay Surgery, undertaking procedural activity in ambulatory care precincts and moving some procedural activity to community settings, including Regional Integrated Primary and Community Care Centres proposed in new housing development areas.

Well-planned and managed surgical and procedural care will result in improved patient safety and quality of care.

We look forward to a collaborative and successful implementation of the plan to provide high quality surgical and procedural care to the communities of SWSLHD.

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Executive Summary

Evolving surgical models of care, Government policy expectations and demographic trends in population growth and ageing will prompt changes over the next decade to the way surgical and procedural care is provided within South West Sydney Local Health District (SWSLHD).

Between 2011 and 2021, the SWSLHD population is projected to grow by over 20%, much higher than the overall NSW growth of 11%. For those aged 70+, 50% growth is expected in SWSLHD, compared to 36% growth for NSW overall. It is projected that demand by SWSLHD residents for surgical and procedural care will increase by 46% for day procedures and 24% for procedures requiring an overnight ward stay, indicating that an additional 155 overnight ward beds will be required across the public and private healthcare sectors to cater for this increased demand.

If the current matrix of surgical and procedural care provision remains unchanged these increased demand pressures will fall predominately on Liverpool Hospital where there will be a 30% increase in surgical and procedural care ward bed days and a requirement for an additional 65 beds. This would be in the context of continuing high emergency surgery workloads (around 4,500 procedures and close to 50% of surgical and procedural care requiring an overnight stay is emergency) at the higher cost and higher acuity end of the surgical spectrum. Campbelltown Hospital and Bowral & District Hospital will also face significant increased demands; however, the implications for additional capacity are less given the much smaller baseline of surgical and procedural work presently undertaken.

To address these issues, changed arrangements for service delivery are proposed including in managerial organisation, new and enhanced models of care, new clinical services to be provided at individual facilities and realignment of service provision across surgical and procedural care networks. Underpinning these changes will be a continuing focus on clinical innovation to ensure provision of contemporary evidence based models of care appropriate to the needs of the local population.

Managerial organisation changes will focus on:

- Managing emergency surgery workloads, including for paediatric emergency surgery, with delineation of clinical pathways and the range of surgery that can be undertaken at each facility (p. 21-22)
- Management of surgical lists within departments, with auditing of allocated sessions to address issues of demand/supply match within role delineation and to support departmental ownership of lists (p. 22)
- Creating integrated surgical departments spanning across facilities, initially focussing on urology and orthopaedics and the incorporation of surgical activity undertaken at Bankstown-Lidcombe Hospital within a broader LHD perspective. Multi-hospital departments for ENT and sub-specialty Upper GIT surgery are also proposed. Resource distribution principles for multi-site units are identified (p. 23-25)
- Better integrating the procedural and consultation aspects of surgical specialties through a medical centre model of care, building on the successful experience at Bankstown-Lidcombe Hospital (p. 25-26)
- Establishing surgical specialty home wards, shared with aligned sub-specialty patients and with capability to care for higher acuity patients (p. 26)

- Re-engineering work practices to optimise theatre utilisation, with extended (including all-day) and out of hour sessions, decoupling of anaesthetic and surgical start times and scheduling of patients that matches allied and support staff availability (p. 26-27)
- Improving data reporting to a level of detail that clearly delineates surgical casemix in a meaningful way to clinicians, encompassing all settings of care and building detailed workload profiling within the framework of the Surgical Dashboard (p. 27-28)
- Workforce planning to match the future surgical workforce profile to projected surgical demands, reflecting evolving models of care and recognising the impact of surgical demand across the spectrum of disciplines that support the perioperative process (p. 28-29)

New and enhanced models of care are proposed including:

- High Volume Short Stay (HVSS) surgical centres at Bankstown-Lidcombe Hospital and at Campbelltown Hospital. Development principles for HVSS units are identified. Liverpool Hospital should adopt these principles in operation of the five room procedural/endoscopy unit (p. 30-31)
- Provision of low risk day procedures of shorter operative time at hospital based ambulatory procedural care facilities, initially focussing on establishment of the Surgical Ambulatory Care Unit (SACU) at Liverpool Hospital; recognising the need to provide appropriate levels of perioperative support including anaesthetics and recovery nursing. The model should be considered at other facilities, including within HVSS units proposed for Campbelltown and Bankstown-Lidcombe hospitals (p. 31-32)
- Stand-alone or virtual stand-alone endoscopy units, including at Liverpool Hospital, Bankstown-Lidcombe Hospital (potentially within a HVSS unit) and at Campbelltown Hospital (p. 32-33)
- Provision of day ophthalmology procedures at community based facilities, initially focussing on potential sites in Macarthur including Oran Park; and in the longer term incorporation of an eye centre in Integrated Primary and Community Care (IPCC) Centres that may be developed elsewhere e.g. at Leppington Town Centre after 2020 and at Wilton Junction (or elsewhere in Wollondilly) later in that decade. Ophthalmology will also be provided within an HVSS model of care at Bankstown-Lidcombe Hospital (p. 33-34)
- A detailed review of protocols and practices for fractured neck of femur (FNoF) surgery undertaken at each facility, within an overarching examination of the future trauma model to apply in the South West, aiming for progressive improvement towards meeting the ACI and NICE orthogeriatric standards and KPIs in areas such as time to surgery (p. 35-37)

New clinical services are proposed for individual facilities including:

- Campbelltown Hospital – endovascular services in interventional radiology, cardiac catheterisation; vascular surgery; spinal surgery; paediatric surgery; bariatric and benign oesophageal surgery; plastic surgery; minor hand surgery; urology (cysts, stones and non-cancer procedures); and in the longer term thoracic surgery (minor and intermediate cases including but not restricted to pleurodesis) and joint replacement surgery. Enhancement to paediatric and urology surgery is also proposed (p. 37-38)
- Liverpool Hospital - Pelvic Cancer Surgery Unit (focussing on gynae-oncology, urological cancer and rectal cancer) and potentially a Breast Cancer Unit providing

the imaging and assessment component at an integrated location, with breast surgery disseminated across District hospitals (p. 38-40)

- Bankstown-Lidcombe Hospital - endovascular services in interventional radiology, cardiac catheterisation and vascular surgery, noting requirements for enhancement to clinical supporting services such as radiology and allied health; also providing uncomplicated Head and Neck Surgery suitable for a HVSS unit e.g. thyroids (p. 40-41)
- Fairfield Hospital - within the context of a multi-hospital urology department, assess viability of providing minor uncomplicated urology procedures (cysts, stones and non-cancer procedures); increased day surgery provided by general surgeons (p. 41-44); and hand surgery and associated hand therapy services transferred from Liverpool Hospital (p. 43)
- Bowral Hospital – explore options for provision of ENT and urology surgery for public patients within Wingecarribee, including through negotiated arrangements with the Southern Highlands Private Hospital and SWSLHD accredited surgeons operating there. Also consider introduction of a paediatric ENT service (p. 44-45)
- South West Growth Centre – in the longer term (post 2020) provide day surgery at an IPPC centre proposed for Leppington Town Centre (p. 45-46)

Realignment of service provision across surgical and procedural care networks will initially focus on relieving demand pressures at Liverpool Hospital through consideration of alternative sites for some services presently provided:

- Hand Surgery and associated hand therapy services to Fairfield Hospital (p. 43)
- Head and Neck Surgery – provide thyroid, parotid and other less complicated procedures to Bankstown-Lidcombe Hospital; consider potential for these procedures to also be provided at Campbelltown Hospital (p. 47)
- Paediatric Surgery – planned procedures increasingly to Campbelltown Hospital if there is endorsement of its development as a regional paediatric unit, noting workforce and clinical support enhancements that would be required; and recognising the continuing need for access to emergency surgery for children attending the emergency department at Liverpool Hospital (p. 47-48)
- General Surgery – minor colorectal work, including endoscopy, and other day and short stay procedures increasingly to Fairfield and also within the HVSS model of care to be developed at Bankstown-Lidcombe Hospital and Campbelltown Hospital (p. 48-49)
- Ophthalmology - day procedures at community based facilities if feasible; and/or within HVSS units to be developed at Bankstown-Lidcombe and Campbelltown hospitals (p. 49)
- Elective Spinal Neurosurgery – consider provision through a non-complex spinal centre spanning across Campbelltown and Bankstown-Lidcombe hospitals (p. 49-50)
- Dental Surgery – focus on meeting projected demand growth at Campbelltown Hospital, including turn-around of current flows for Macarthur residents (p. 50)

Further business case planning is underway and will need to be sustained to explore the feasibility of these changed arrangements, the cost and workforce implications and the impact on clinical profiles and role delineation at individual facilities. The proposed enhancements will require increased resourcing, including staffing across a range of disciplines such as JMO, registrar (including specialty registrar), fellows, staff specialist, nursing, allied health, administrative and community health. The degree to which enhancements can be introduced will be constrained by budget availability.

Background

South West Sydney Local Health District (SWSLHD) commenced a planning process in November 2011 to assess realignments in clinical networks for surgery and procedural care necessary to meet projected demands over the next decade and evolving policy frameworks under Health Reform. Three Planning Forums were held at which clinicians and senior managers discussed the implications for SWSLHD of policy parameters such as Activity Based Funding (ABF), targets in the National Health Agreement and the recommendations of the NSW Surgery Futures Report. The surgical and procedural matrix was mapped across each facility of SWSLHD and options for service development and realignment identified. Notes from these meetings are at Attachment A.

This paper expands upon the service development directions identified at the two planning forums. These come within four main themes:

- Organisational changes to the way surgical and procedural care is managed
- New and enhanced models of care
- Provision of new clinical services at particular facilities
- Realignment of services across facilities

This paper summarises the service development options identified within the context of projected demand to 2021 using the Ministry of Health's (MoH) endorsed *aIM* acute inpatient modelling tool. This tool provides an indication of the impact of population growth and ageing on the volume of surgical and procedural care that will need to be provided by 2021.

Against this projected baseline level of surgical and procedural care provision in 2021 various options for service development and realignment are advanced. It is recognised that service developments and realignments would drive changes to flow patterns of patients internal to SWSLHD and potentially for cross border outflows. Although this paper identifies some potential impacts on flows, the detailed impact at the facility level will need to be reflected in the Clinical Services Plans for each facility.

Demand Drivers

There are a number of factors that influence the demand for surgical and procedural care that will be placed upon SWSLHD facilities over the next decade. These include:

- Demography - population growth and ageing
- Health status and lifestyle influences for South West residents
- Socioeconomic influences on health status, access and equity
- Impact of primary and secondary preventative health initiatives
- Degree to which procedures provided in hospital settings migrate to provision in community and/or primary care settings
- Government policy impacts on utilisation e.g. waiting times, surgical targets, screening programs, practice guidelines etc.

Demographic Influences

The South West will experience significant population growth and increase in older age cohorts over the next decade (Attachment B). This will directly influence surgical and procedural demand. Although aging of populations is expected to impact more significantly on medical separations where for NSW as a whole an annual increase of 1.7% for overnight separations is projected, an annual increase of 1.4% has been projected for overnight surgical/procedural separations (aIM).

Little empirical work has been published in Australia, however overseas studies point to some areas of surgery where aging will impact significantly on demand. One study from the US (Etzioni et al 2003) forecasted that the impact of aging populations would have varying workload implications for surgical specialties, with by far the highest magnitude in ophthalmology, followed by cardiothoracic surgery (includes interventional cardiology), with a second order impact on urology and then a third order impact of much the same magnitude for general surgery (includes vascular, breast, hernia, abdominal and gastrointestinal procedures), neurosurgery and orthopaedic surgery. The aging impact on surgical requirements was approximately twice that for ophthalmology procedures (where 88% were performed on those >65 years) than for orthopaedics (where 52% were performed on those aged >65 years). Other studies (Strunk, Bradley C et al, 2006) have also noted the differential impact across surgical specialties from population aging, with large impacts noted for DRGs related to coronary bypass with cardiac catheterization, prostate cancer and a number of orthopaedic-related DRGs, including hip replacement.

Aging is also associated with increased chronic disease and common chronic health issues such as diabetes, high serum total cholesterol and hypertension are associated with other more serious conditions that may require surgery/procedural care such as heart disease or chronic kidney disease e.g. people with diabetes are more likely to develop a cataract or glaucoma, often earlier and more severely than for non-diabetics.

Health status and lifestyle influences

South West residents exhibit poorer health status across a number of measures which may increase surgical/procedural care demand into the future. This includes:

- 16% higher rates of diabetes hospitalisations than NSW average
- 16% higher new lung cancer diagnoses than NSW average
- 5% higher cardiovascular disease deaths than NSW average
- Higher rates of risk behaviours such as smoking, overweight, poorer levels of physical activity and poorer nutrition uptake

Overweight and obesity is correlated with excess mortality and increasing the risk of heart disease, diabetes, osteoarthritis, colon polyps and cancers and disability. On the other hand, studies suggest that regular exercise may reduce the risk of premature mortality and reduce risks of coronary heart disease, diabetes, colon cancer, hypertension, and osteoporosis.

Socioeconomic influences

Poorer health outcomes are more likely in socio-economically disadvantaged areas. Parts of the South West exhibit high levels of relative disadvantage on the Australian Bureau of Statistics (ABS) Socio-Economic Indexes for Areas (SEIFA) measure e.g. Fairfield is the most disadvantaged metropolitan Local Government Area (LGA) and fourth most disadvantaged LGA in NSW; Bankstown and Campbelltown LGAs are in the most disadvantaged quintile group in NSW. Poorer socio-economic status may also impact on ability to access services. This is exacerbated in growth areas where the supply of health facilities and health workforce may lag behind population growth.

Previous work published in 2004 did indicate that the age and sex standardised separation rate for some surgical procedures such as cataract, hip and knee replacements was less for South West residents than the metropolitan average, possibly indicating some inequity in access and unmet demand (HSRG 2004). It would be expected that disparities would have decreased with additional capacity coming on line since that time.

The impact of socioeconomic status on access also arises through lower health insurance coverage rates decreasing options for private care and the market attractiveness for expanding private capacity; increasing the burden on public provision.

Primary and secondary preventative health influences

There is potential for preventative health activities to ameliorate surgical demands in the longer term. Programs aimed at reducing the level of health risk behaviours might lessen requirements for surgical intervention, particularly in the core areas of concern identified by the Australian Preventative Health taskforce:

- Obesity causes almost one-quarter of type 2 diabetes (23.8%) and osteoarthritis (24.5%), and around one-fifth of cardiovascular disease (21.3%) and colorectal, breast, uterine and kidney cancer (20.5%).
- Tobacco causes excess risk of cardiovascular disease, respiratory disease and cancers of the respiratory, digestive and reproductive organs.
- Excessive alcohol consumption leading to excess risk of road accidents, oesophageal cancer and breast cancer.

Alternative settings for surgical/procedural care

The potential to migrate some surgical/procedural care to provision in community and/or primary care settings may also ameliorate demands for provision of minor surgical procedures within hospital theatres. Across Health jurisdictions internationally there is a shift away from hospital inpatient surgeries towards outpatient settings to provide low-risk surgical and diagnostic procedures to patients who do not require hospitalisation. This has been made possible by technological improvements (surgical techniques, anaesthesia and pain management) allowing faster patient recovery times. There are potential productivity benefits under this model of care. High volume procedures have varyingly been provided within this ambulatory surgical model of care e.g. cataract removal and IOL lens insert, lens laser surgery, gastroscopy, colonoscopy, cystoscopy, skin grafts and flap repair, pain management nerve blocks. Generally, the surgery provided has been limited to elective procedures with short anaesthesia and operating times not requiring an overnight stay.

Government policy impacts

Under the National Health Reform Agreement, Activity Based Funding (ABF) for public hospitals commenced from 1 July 2012. Under ABF, public hospitals are funded according to the numbers and kinds of services they provide at an efficient price per service, determined by the National Health Performance Authority (NHPA). The Australian Government considers that ABF will provide incentives for hospitals to treat more patients more efficiently and for hospitals and governments to ensure patients are treated in the most appropriate setting.

Although under ABF an LHD or facility is funded for the work it performs it remains a capped system in that activity is constrained within agreed activity targets.

Innovative models of care and management arrangements that provide for increased throughput of surgery/procedural care within existing surgical capacity should be advantaged under ABF as would provision of surgery/procedural care in alternative settings with maximisation of throughput at an efficient cost per unit of care.

The Commonwealth also provides targeted funding for NSW surgery through the National Partnership on Improving Public Hospital Services Agreement with two main objectives for elective surgery - increasing the number of patients seen within clinically recommended times and the progressive reduction of long wait patients. The Agreement includes phased targets such that by December 2015, 100% of patients receive their surgery within their clinical priority timeframe. Although over 90% of NSW patients are currently treated within their clinical priority timeframe, the Ministry of Health has indicated that the 100% target requires considerable redesign of surgical service delivery for it to be achieved.

The overarching framework for redesign of surgical service delivery in NSW is Surgery Futures which has strongly advocated three models of service delivery to improve efficiency and sustainability:

- development of high volume short stay surgery centres
- establishment of specialty centres
- expansion of the streaming of planned and emergency surgery.

Attachment C outlines those aspects of Surgery Futures of relevance to SWSLHD.

The Agency for Clinical Innovation (ACI) through the Surgical Services Taskforce (SST) provides guidance, advice and resources to LHDs on ways to improve surgical service provision and to develop and implement new models of care. It aims to optimise access to elective and emergency surgery for patients within the NSW Health system. Currently the main areas of focus for the SST are the management of hip fracture patients, improvements in operating theatre efficiency and the surgical management of rare and complex cancers.

Resources developed or under development through ACI include:

- The PREDICTABLE Surgery Acronym – **P**lanned, **R**esourced, **E**xtended Day Only, **D**riven by Protocol, **I**nsulated Beds, **C**ultural Change, **T**raining and Workforce, **A**ssessment of Surgical Resources, **B**est Practice in the delivery of Surgical Services, **L**ibrary of Protocols, **E**mergency – the principles that build the framework used to drive improvements on surgery in NSW
- The Pre Procedure Preparation (PPP) Toolkit Resource
- The High Volume Short Stay Surgical Model Toolkit
- The Extended Day Only Admission Policy
- The Emergency Surgery Redesign Toolkit for Implementation in NSW Health Hospitals
- The Paediatric Surgery Model for Designated Area Paediatric Surgical Sites
- Strategies to achieve the National Elective Surgery Targets (NEST) for NSW
- Surgery Dashboard Indicators 2011/12
- Minimum Standards for the Management of Hip Fracture in the Older Person (2014)
- Self-Assessment Minimum Standards for the Management of Hip Fracture in the Older Person
- The Operational Performance Enterprise Reporting Application (OPERA) providing a baseline suite of operationally focussed reports to inform wait list and operating theatre management as part of NSW Health's Enterprise Data Warehouse for Analysis, Reporting and Decision Support (EDWARD).
- The Operating Theatre Efficiency program which aims to develop strategies for hospitals to improve theatre efficiency in NSW, addressing recommendations in the Auditor General's Report on Operating Theatre Efficiency.
- The Operating Theatre Efficiency Guidelines (2014) – a guide to the efficient management of operating theatres in New South Wales
- The Self Assessment Checklist for Surgical services In NSW Public Hospitals
- The Operating Theatre Standard Costs Template
- The First Case on Time Theatre Starts project which aims to improve operating theatre efficiency by ensuring that patients receive timely and quality care at the appropriate time. A Self Assessment Checklist is available for the *% First Case on Time Theatre Starts* KPI in NSW Public Hospitals

These resources have been referred to in the development of this Plan and will continue to inform the development and ongoing management of surgical processes across SWSLHD.

Demand for surgical/procedural care may also be generated through population screening i.e. where a test is offered to all individuals in a target group, usually defined by age, as part of an organised program. There are three national population-based screening programs in Australia - BreastScreen Australia, the National Cervical Screening Program, and the National Bowel Cancer Screening Program.

Demand for Surgical/Procedural Care in the South West

Surgical and Procedural care provided for SWSLHD residents in 2010-11 and projected for 2021 is outlined at Attachment D. This includes care provided in public hospitals outside of SWSLHD and in private hospitals and day procedure centres. The 2010-11 data is extracted from the FlowInfo V10.0 data base and the 2021 data from the aIM data base. Both data bases are endorsed by the Ministry of Health.

aIM uses historical trends of hospitalisation and projected population growth and structure to project future hospital admission rates and length of stay by age group, sex, LGA of residence and clinical specialty. It uses state-wide admission rates and applies existing service parameters (e.g. public/private mix, proportion of urgent versus non urgent activity, hospital of treatment) to develop base case projections. The Enhanced Service Related Group (ESRG) classification is used to categorise activity to clinical specialty. This is a collection of Australian Refined Diagnosis Related Groups (ARDRGs) that group like surgical/procedural activity. This level of classification provides more detail than the higher level Service Related Group (SRG) categorisation that seeks to aggregate the range of activity that would commonly be undertaken within a hospital department.

The data at attachment D provides the context of overall demand against which service development options for SWSLHD can be assessed. In summary, the demand growth parameters for surgical/procedural care over the next decade are:

- Day only procedures increase by 46%
- Procedures requiring overnight (ward) beds increase by 24%
- an additional 155 overnight ward beds will be required across all hospitals

Day only procedures

For day only procedures the rates of growth projected for high volume procedures (i.e. >2,000 procedures recorded in 2010-11) are in order of percentage growth:

- 86% for other eye procedures
- 84% for glaucoma and lens procedures
- 52% for dental extractions and restorations
- 47% for colonoscopy
- 45% for gynaecology
- 43% for skin, subcutaneous tissue and breast procedures
- 43% for gastroscopy
- 43% for knee procedures
- 40% for cystourethroscopy
- 39% for wrist and hand procedures including carpal tunnel
- 26% for colorectal surgery

Procedures requiring an overnight ward stay

For procedures requiring an overnight (ward) stay the rates of growth projected for high volume procedures (i.e. > 900 procedures recorded in 2010-11) are in order of percentage growth:

- 66% for percutaneous coronary angioplasty
- 44% for invasive cardiac investigatory procedures
- 43% for other upper GIT surgery
- 38% for caesarean delivery
- 31% for other gynaecological surgery
- 31% for major small and large bowel procedures including rectal resection
- 30% for tonsillectomy or adenoidectomy
- 29% for hip and knee replacement
- 21% for cholecystectomy
- 20% for other orthopaedics – surgical
- 19% for inguinal and femoral hernia procedures age>0
- 17% for other non specialty surgery
- 15% for other urological procedures
- 14% for other procedural ENT
- 13% for other vascular surgery procedures
- 11% for other colorectal surgery

The additional overnight ward beds that would be required to cater for this growth in demand, taken at the SRG level, in order of magnitude are:

- 27 for tracheostomy
- 20 for orthopaedics
- 17 for interventional cardiology
- 14 for colorectal surgery
- 14 for upper GIT surgery
- 13 for neurosurgery
- 12 for obstetrics
- 10 for other non subspecialty surgery
- 9 for gastroenterology and endoscopy
- 9 for urology
- 7 for cardiothoracic surgery
- 5 for vascular surgery
- 5 for gynaecology
- 2 for plastic surgery
- 1 for ophthalmology
- 1 for ENT
- 1 for head and neck surgery

Future Provision of Surgical and Procedural Care at SWSLHD Facilities – Status Quo

Using *aIM*, the impact on individual facilities of the increased demand for surgical and procedural care identified above can be projected. This is a status quo projection i.e. it assumes that the current profile of clinical services provided at each facility and flow patterns of patients to these services remains the same. The data for adult patients requiring an overnight stay across all facilities aggregated and for each individual facility is presented at Attachment E, to illustrate the implications for provision of beds.

Adult surgical and procedural care activity

Across all SWSLHD facilities, for surgical and procedural patients requiring overnight ward stays, there is a 23% increase in separations projected by 2021, with an additional 105 beds required across the LHD. The impact at individual facilities is:

- Liverpool Hospital – 27% increase in separations and an additional 65 beds
- Bankstown-Lidcombe Hospital – 12% increase in separations and an additional 17 beds
- Campbelltown Hospital – 32% increase in separations and an additional 15 beds
- Fairfield Hospital – 11% increase in separations and an additional 4 beds
- Bowral & District Hospital – 32% increase in separations and an additional 5 beds

The facility demand projections provided above are status quo, assuming the maintenance of current patient flows for surgery and the current role of hospitals in terms of range and complexity of surgery provided. They can be seen as reflecting only the impact of population growth and ageing on local surgical catchments. For some hospitals, surgical service enhancements are already underway and service development directions to 2021 will see an increased range of surgery provided, bringing with it increased activity over and above that identified above. For example, Campbelltown Hospital is already experiencing a significant increase in surgical activity (8% increase in last financial year) and new surgical services planned there would bring even more activity.

The status quo projections for provision of day only surgery and procedural care for adults (>15) are presented at Attachment F. There is a significant 54% increase in day only activity projected across SWSLHD. In order of percentage increase, the impact at individual facilities is:

- Campbelltown Hospital – 87% increase
- Liverpool Hospital – 60% increase
- Bankstown-Lidcombe Hospital – 42% increase
- Bowral & District Hospital – 33% increase
- Fairfield Hospital – 13% increase

The status quo projections suggest the prime strategic imperative is to examine options that can relieve Liverpool Hospital from having to meet the preponderance of increased surgical and procedural care demands. This would be through provision of new services at other SWSLHD hospitals and realigned surgical networks that seek to reshape the intra LHD patient flows for surgical and procedural care. This would be consistent with the strategic directions of previous SSWAHS planning and the tenor of Surgical Futures. It is noted that the *Clinical*

Services Plan for Macarthur to 2021 envisages outflows of Macarthur residents for surgical and procedural care (much of this to Liverpool) being turned around through the enhancement of local services in areas such as interventional cardiology, vascular surgery, spinal surgery, less complex thoracic surgery and elective orthopaedics.

Paediatric surgical and procedural care activity

The status quo projections for paediatric patients requiring surgical and procedural care are at Attachment G (day only) and Attachment H (overnight stay). The projections are problematic as they are trended from a low base of activity undertaken at local facilities over recent years. As illustrated at Attachment J, there has been significant flow of children to the Childrens' hospitals, particularly to Westmead for surgery. Greater than 40% of paediatric demand for emergency surgery and around 55% of paediatric demand for planned surgery is serviced at the Childrens' hospitals. The status quo projections trend forward these high levels of outflow.

The projections at Attachment G do indicate a significant increase in day only surgery and procedures for SWSLHD facilities, at a little over 50% increase overall. Nevertheless, the number of procedures projected for 2021 (1,123) is modest, equivalent to a little under 4 day surgery beds.

Across all SWSLHD facilities, for paediatric surgical and procedural patients requiring overnight ward stays, there is a 19% increase in separations projected by 2021. Average length of stay is predicted to fall from 2.05 to 1.82 days. Consequently, there is little impact on bed requirements which remain modest at about 9 paediatric surgical beds across the LHD in 2021, marginally above the 2010-11 requirements.

The status quo projections suggest the prime strategic imperative in paediatric surgery is to address the high flows to the Childrens' hospitals, examining the feasibility of undertaking locally more of the surgical and procedural activity that does not require the specialised paediatric services only available at the Childrens' hospitals. Of particular interest would be planned short stay surgical activity in general surgical, ENT and orthopaedic disciplines.

Patient Flows for Surgical and Procedural Care

SWSLHD residents flow to a range of hospitals for their surgical and procedural care including:

- Their local SWSLHD public hospital
- Another SWSLHD public hospital
- A public hospital outside SWSLHD
- A private hospital within SWSLHD
- A private hospital outside SWSLHD

Adult Flows

Attachment I outlines the major patient flows for surgical and procedural care by adults requiring an overnight ward stay projected in 2021 at status quo. This is provided separately for residents of each LGA to illustrate the potential impact on local hospitals from initiatives which might reshape these flows. A significant proportion of the flows for surgical and procedural care are to private facilities. The extent to which provision of new services at SWSLHD hospitals might attract these patients to public provision is unknown.

The significant areas of flow to public facilities outside SWSLHD for adult residents of SWSLHD LGAs are as follows.

Bankstown	There are significant outflows to SLHD hospitals, in order of magnitude to RPAH, CRGH and Canterbury. Outflows to RPAH in interventional cardiology and cardiothoracic surgery are at a higher level than the internal flow to Liverpool. Outflows for the ESRG other urological procedures to RPAH and CRGH combined are at much the same level as local provision at BLH and much higher than internal flow to Liverpool. Outflows for the ESRG other vascular surgery procedures to RPAH and CRGH combined are higher than the internal flow to Liverpool and at around half the level of local provision at BLH. There is also flow to RPAH and CRGH combined in ESRG Other Non-specialty surgery higher than the internal flow to Liverpool, however only at around 1/3 the level of local provision at BLH.
Fairfield	Internal flows to Liverpool predominate. The main external flows are to Westmead, a diverse range across ESRGs with no flows appearing to be of significance in comparison to the internal flows to Liverpool.
Liverpool	The major internal flows represent hospital role differentiation e.g. to Fairfield in hip and knee replacement and to BLH in colorectal and upper GIT. The main external flows are to RPAH, a diverse range across ESRGs with no flows standing out as significant compared to the level of local provision.
Campbelltown	Significant internal flows to Liverpool, particularly in areas such as interventional cardiology, cardiothoracic surgery, head and neck surgery, neurosurgery, wrist and hand procedures, plastic surgery and vascular surgery. There do not appear to be any significant external flows.
Camden	Internal flows to Campbelltown for services provided there and to Liverpool, mainly for services not provided at Campbelltown.

Wingecarribee	The largest flow is to South West private hospitals, larger overall than local public provision at Bowral & District. Liverpool is the largest internal flow. There are smaller flows externally to RPAH and St Vincent's across a range of ESRGs. These external flows are at a higher level than internal flows to Campbelltown hospital.
Wollondilly	The largest flow is to South West private hospitals, higher than Internal flows to Campbelltown, Liverpool and Bowral, which are in that order of magnitude.
SWSLHD Summary	In summary, for adult surgical and procedural care requiring an overnight stay, the areas of greatest scope for turning around flows to improve resident access to services locally and increase self sufficiency in provision of public hospital care include: ▪ For Bankstown residents – provide interventional cardiology capability at BLH, which would also enable increased vascular surgery to be undertaken with the increasing endovascular nature of clinical practice in that specialty. Increased urology and non-specialty surgery at BLH could turn around significant flows to RPAH and CRGH and these services would likely be well catered within a HVSS model of care. Also, if cardiothoracic surgery capacity at Liverpool Hospital was able to accept more patients, the current preponderance of outflow to RPAH may be able to be addressed. ▪ For Campbelltown residents – full implementation of the proposals for surgical expansion in the *Clinical Services Plan for Macarthur to 2021* would relieve some demands on Liverpool. ▪ For Wingecarribee residents surgical and procedural care enhancements at Campbelltown Hospital could alleviate external flows to RPAH and St Vincent's and internal flows to Liverpool Hospital.

Paediatric Flows

Flows for paediatric (0-15 years) surgical and procedural care are outlined at Attachment J. This is for SWSLHD child residents as a whole flowing to SWSLHD hospitals, the Childrens' Hospitals at Westmead and Sydney and the total to other public hospitals. Separate tables are provided for patients classified as receiving an emergency procedure and those receiving a planned procedure. Emergency is defined as admission being required within 24 hours of diagnosis.

Only around 7% of day only surgical and procedural admissions for children are classified as emergency, whilst 40% of overnight stay admissions for surgical and procedural care are classified as emergency. Of all emergency admissions 14% are day only and 86% overnight admissions. Of all planned admissions 60% are day only and 40% overnight admissions.

In summary, the following flow patterns are evident for SWSLHD resident children:

- For emergency day only admissions 48% flow to the Children's Hospital Westmead, 33% are treated within SWSLHD hospitals, 11% flow to the Sydney Children's Hospital and 8% are provided at another public hospital outside SWSLHD
- For emergency overnight stay admissions 54% are treated within SWSLHD hospitals, 28% flow to the Children's Hospital Westmead, 14% flow to the Sydney Children's Hospital and 4% are provided at another public hospital outside SWSLHD
- For planned day only admissions 34% are treated within SWSLHD hospitals, 30% flow to the Children's Hospital Westmead, 13% flow to the Sydney Children's Hospital and 23% are provided at another public hospital outside SWSLHD

- For planned overnight stay admissions 39% flow to the Children's Hospital Westmead, 33% are treated within SWSLHD hospitals, 16% flow to the Sydney Children's Hospital and 12% are provided at another public hospital outside SWSLHD

Average length of stay and average cost weight for overnight admissions indicates variations in the complexity of cases treated across these settings:

- For emergency overnight admissions at the Children's Hospital Westmead the average cost weight is 3.90 and ALOS is 8.6 days; at the Sydney Children's Hospital the average cost weight is 4.83 and ALOS is 7.9 days; at SWSLHD hospitals the average cost weight is 1.65 and ALOS is 2.7 days; and at other public hospitals outside SWSLHD the average cost weight is 1.55 and ALOS is 2.4 days.
- For planned overnight admissions at the Children's Hospital Westmead the average cost weight is 4.27 and ALOS is 6.1 days; at the Sydney Children's Hospital the average cost weight is 3.23 and ALOS is 3.3 days; at SWSLHD hospitals the average cost weight is 1.03 and ALOS is 1.3 days; and at other public hospitals outside SWSLHD the average cost weight is 1.26 and ALOS is 1.7 days.

Although there is variation by location of residence, for all LGAs the highest flow is to the Children's Hospital Westmead, in advance of local provision or internal SWSLHD flows. For all LGAs there is also significant flow to the Sydney Children's Hospital. The flow pattern for planned overnight admissions is:

- Bankstown – 34% to the Children's Hospital Westmead; 23% to the Sydney Children's Hospital; 23% locally to BLH; 6% to Canterbury Hospital; 4% to Liverpool Hospital and 10% elsewhere
- Fairfield - 50% to the Children's Hospital Westmead; 25% to Liverpool Hospital; 10% to the Sydney Children's Hospital; 6% to Auburn Hospital and 9% elsewhere including <1% locally at Fairfield Hospital
- Liverpool – 45% to the Children's Hospital Westmead; 27% locally at Liverpool Hospital; 15% to the Sydney Children's Hospital; 4% to Campbelltown Hospital and 9% elsewhere
- Campbelltown - 33% to the Children's Hospital Westmead; 30% locally at Campbelltown Hospital; 17% to the Sydney Children's Hospital; 13% to Liverpool Hospital and 7% elsewhere
- Camden - 36% to the Children's Hospital Westmead; 28% to Campbelltown Hospital; 22% to the Sydney Children's Hospital; 6% to Liverpool Hospital and 8% elsewhere
- Wingecarribee - 34% to the Children's Hospital Westmead; 22% to Wollongong Hospital; 16% to the Sydney Children's Hospital; 10% locally at Bowral & District Hospital; 9% to Campbelltown Hospital and 9% elsewhere
- Wollondilly - 29% to the Children's Hospital Westmead; 25% to Campbelltown Hospital; 19% to the Sydney Children's Hospital; 9% to Liverpool Hospital; 6% to Wollongong; 4% to Canterbury Hospital and 8% elsewhere

In summary, although there are considerable flows of SWSLHD children to the Childrens' Hospitals, on average it is at a much higher level of casemix complexity than paediatric surgical and procedural care services provided locally at SWSLHD hospitals.

For emergency admissions there are at any time around 10 beds across the Childrens' Hospitals for SWSLHD residents; with neurosurgical and tracheostomy ESRGs accounting for the highest bed usage. Excluding neurosurgical, cardiothoracic and tracheostomy care which would appropriately flow to the Childrens' Hospitals in all instances, 41% of emergency

care requiring an overnight bed is provided locally in a SWSLHD hospital with 38% provided at the Children's Hospital Westmead and 18% at Sydney Children's Hospital. Although less complex, non-subspecialty care such as appendectomies classified as emergency does flow significantly to the Childrens' Hospitals, in total the flows are a little less than what is provided locally.

For planned admissions there are at any time just over 12 beds across the Childrens' Hospitals for SWSLHD residents; with cardiothoracic surgery and neurosurgery accounting for over 40% of the bed usage (5 beds). Excluding neurosurgical, cardiothoracic, tracheostomy and transplant care which would appropriately flow to the Childrens' Hospitals in all instances, 21% of planned care requiring an overnight bed is provided locally in a SWSLHD hospital with 54% provided at the Children's Hospital Westmead and 19% at Sydney Children's Hospital. Over 50% of planned overnight paediatric bed days provided locally within SWSLHD hospitals are in ENT, where local provision accounts for 51% of total demand, with 24% provided at the Children's Hospital Westmead and 6% at Sydney Children's Hospital. Flows to the Childrens' hospitals predominate for the other ESRGs.

Principal Issues Framing Service Development Directions

Two workshops enabled the clinical leadership of surgical departments in SWSLHD and the hospital senior executives to identify preferred service development directions in surgical and procedural care. These directions have been assessed against projected demand for surgical and procedural care to 2021, using the Ministry of Health's endorsed planning tools.

This identified overarching principles to frame service development directions for the future:

- Addressing the high emergency surgery workload at Liverpool and the projected significant increase in overall surgical activity that will occur over the next decade if the status quo in patient flow and clinical profiles at hospitals continues into the future
- Recognising the difficulty in expanding surgical and procedural capacity at Liverpool hospital beyond that achieved in the Liverpool Stage 2 Phase 1 new Clinical Services Block rebuild
- Addressing the large growth in day only and shorter stay surgical and endovascular procedures projected over the next decade
- Recognising that population growth and ageing will have differential impact across disciplines, creating demand pressure points in some disciplines e.g. interventional cardiology, endovascular interventions, planned and emergency orthopaedics, ophthalmology
- Identifying cost and workflow efficient surgical and procedural models of care that can be sustained profitably under ABF and offset potential funding deficits in areas of activity such as emergency surgery
- Wherever possible, repatriating outflows of patients to public facilities external to SWSLHD to profitably and sustainably expand local service availability
- Building on existing strengths of clinical networks, recognising service development directions that have underpinned funded and planned service developments, particularly at Liverpool and Campbelltown hospitals
- Recognising the range of clinical services impacted by decisions to change the matrix of surgical and procedural care provision, including anaesthetic and other clinical staff managing the perioperative process, diagnostics, skilled nursing and allied health

High Emergency Surgery Workloads

The issue of high emergency surgery workloads at Liverpool Hospital was a prime area of concern identified at the workshops. Attachment K shows the comparative emergency surgery workloads at SWSLHD hospitals. Leaving aside caesareans, which are overwhelmingly classified as planned and other, the emergency proportion of activity across these surgical & procedural ESRGs is 48.2%. Campbelltown Hospital also has a proportion around 50% but the volume is two and a half times larger at Liverpool Hospital. It was identified at the workshop that this is higher than the percentage at most other principle referral hospitals. This is supported by data presented to the NSW Emergency Surgery Implementation Project steering committee which shows that for A1- A3 hospitals (principle referral hospitals), the ratio for planned and emergency surgery is a 60/40 split while the B hospitals (metropolitan and non metropolitan) have a slightly higher planned surgery to emergency surgery split.

Capacity Constraints

The aIM projections indicate that if the status quo remains, Liverpool Hospital by 2021 will require an additional 65 surgical/procedural overnight beds and cater for a 60% increase in day procedures. The emergency component of this activity would remain at the current proportion. Additional surgical/procedural capacity constructed in the Phase 2 development (23 theatres, including 5 endoscopy, plus 2 procedural rooms and an interventional radiology suite) was predicated on meeting 2016 demand. There is scope for a marginal increase in capacity (+2 theatres) within the current footprint; however, any further operating capacity would require a build outside and not integrated with the existing theatre complex.

High growth in day only and short stay procedures

Demand for surgical/procedural day procedures is projected to increase by close to 50% over the next decade. In addition a significant proportion of the close to 25% increase in surgical/procedural overnight stay procedures is in shorter stay activity that could be more efficiently provided within a HVSS (i.e. LOS less than 72 hours, offering potential for 5-day week operation) model of care e.g. plastic surgery, ENT, gynaecology, head and neck surgery, breast surgery and colorectal surgery. Overall, demand for interventional cardiology (day only and overnight stay combined) is projected to increase by 43%. Additional endovascular capacity will be required to provide for this demand and for vascular surgery that is increasingly undertaken using endovascular techniques.

Differential demand impacts across disciplines

The combination of population growth and ageing of existing populations also creates significant demand growth in some high volume services that require longer overnight stays than catered for under HVSS model of care e.g. TURP, hip and knee replacement, Upper GIT surgery. This raises opportunities but also questions about capacity and advisability of introducing or continuing existing models that concentrate provision within a specialty centre model of care. These issues need to be addressed in the context of dispersed hospitals in the south west with long travel distances and consideration of threshold levels of demand that enable local provision within an efficient model of care.

Implications of Activity Based Funding (ABF)

The introduction of ABF funding provides opportunities and threats that require consideration in regard to the continuation of current models of care and potential changes to service delivery models in the future. Although meeting demand may be the prime driver for change in models of care, one of the guiding principles in the movement to ABF funding is to create incentives for efficiency, with LHDs being able to retain and reinvest the benefits accruing from efficiency in service delivery (A64 of Agreement). ABF should provide further incentive to introduction of efficient Surgical Futures models of specialty centres and HVSS through economies of scale and high volume lowering unit costs. Similarly the ABF principle that payment is based on the characteristic of the patient or the service being provided rather than the setting of care (Health Policy Solutions p.25) would favour the provision of some services in more cost effective community settings.

Potential threats from ABF introduction arise because casemix does not fully account for all patient-related characteristics which have a demonstrable effect on resource use. The reliance on clinical descriptors (diagnosis) takes little account of other factors such as demography (age) or urgency of admission which raise unit costs for certain classes of patients within a DRG category. For hospitals with high proportions of patients attracting additional costs at the top end of the within DRG cost spectrum, the ABF efficient price may not fully meet costs. For example, if emergency surgery attracts additional costs that are not adequately reflected in casemix weights then hospitals with high emergency surgery caseloads would be disadvantaged compared to peers with a higher proportion of planned activity. The incentive would be to identify those classes of "loss making" patients where an alternative model of care could decrease unit costs.

Repatriating patient outflows

In some specific areas there is potential to turn around the flow of SWSLHD residents to public hospitals outside of the LHD borders, in order to profitably and sustainably expand local service availability. Some cross border flows are natural consequences of geography, whereby SWSLHD reside close to outside hospitals e.g. flows to Canterbury Hospital and Westmead. Other flows represent patient/family choice as to preferred location of treatment e.g. some paediatric flows to the Childrens' hospitals through their emergency departments. Others represent established general practice referral links to specialists who practice in outside hospitals. A significant turn-around of flows normally requires introduction locally of new services not previously provided or assertive action to improve access to closer services provided elsewhere within the LHD.

Strengthening clinical networks

An important principle is that service developments should build on the strengths of existing clinical networks, not conflicting with service developments underpinning funded and planned infrastructure development at Liverpool and Campbelltown Hospitals. The funded Liverpool Stage 2 Phase 1 & 2 developments currently being completed will provide additional capacity in operating theatres, endovascular suites, interventional cardiology and surgical HDU; however, in the main this capacity has been scoped to meet 2016 projected demands.

The funded Campbelltown Hospital Phase 1 (Acute) redevelopment currently being designed includes an additional 30 surgical beds incorporating a surgical assessment unit and a combined cardiac catheterisation and endovascular interventional suite; there is no addition to operating theatre capacity with ramping up of surgical activity to be within unused capacity. This is only part way towards the additional surgical capacity identified within the *Clinical Services Plan for Macarthur to 2021* as necessary to meet local demand for surgical and procedural care, including turn-around of internal flows to Liverpool through providing an increased range of surgical disciplines. This included vascular surgery, spinal surgery, thoracic (pleurodesis and other procedures of lesser complexity/acuity) surgery, elective orthopaedic joint surgery, plastic surgery, bariatric surgery and paediatric surgery.

Recognising the impact on clinical services supporting the perioperative process

The final principle is that all considerations to changing the matrix of surgical and procedural care provision need to be assessed in the light of impact on the range of clinical services that support surgical and procedural care processes, spanning the complete episode of care.

Although the procedure may be the principal reason for admission, ensuring a quality outcome is very much dependant on the range of skilled clinicians involved in the perioperative process surrounding the surgical or procedural intervention.

This includes anaesthetics; operating theatre nursing; perioperative, post-anaesthesia care and recovery nursing; imaging (in and out of theatre); pathology; allied health including physiotherapy, occupational therapy, speech pathology, social work; medical physicians; geriatricians; rehabilitation; and biomedical engineering. Any proposal to enhance surgical or procedural care provision will likewise have a flow on effect of requiring enhancement in some or many of these services.

A particular area of focus in any changed or enhanced service development directions will need to be on implications for anaesthetics and anaesthetists will need to be considered and consulted from the ground up. Like other disciplines, anaesthesia is evolving towards greater sub-specialisation e.g. some anaesthetists don't do eye procedures. Surgical and procedural care realignments e.g. for less complex higher volume work, would require anaesthetists to move to provide not only the theatre session but also the post theatre recovery coverage. Likewise where work is realigned from theatres to an ambulatory care setting, within or outside of the hospital precinct, anaesthetists will also need to move to provide the procedural and recovery anaesthetic support.

It is important to note that 98% of planned surgery goes through perioperative clinics where anaesthetics is the core component. The site where perioperative clinics are provided will be an important consideration in terms of efficiency in providing the pre-surgical work-up. Potentially the pre-admission care might be provided at a site different to that where the procedure will take place.

Although anaesthetics is predominantly provided in the operating suites at each facility, an increasing volume of work is provided elsewhere in the hospital e.g. cardiac catheterisation laboratory, imaging and MRI suites and in nuclear medicine. Due to the increasing complexity of many radiological procedures, including those in the young and very elderly, a greater need for anaesthetic assistance and sessions outside theatres is expected in the future e.g. in neuroradiology many patients require general anaesthesia for arterial and venous diagnostic and therapeutic procedures. General anaesthesia is infrequently required for adult vascular diagnostic and interventional procedures but may be indicated e.g. for patients undergoing very long or very painful procedures, those with uncontrollable pain or severe systemic disease who are unable to stay still, those with impaired understanding of the procedure or those who cannot cooperate.

There is an increasing need for anaesthetists to provide sedation services and regional, spinal or epidural anaesthesia outside the theatre setting e.g. for non-vascular procedures, particularly hepatobiliary and renal intervention, which tend to cause more pain than vascular intervention, and it is often inadvisable to undertake them without sedation and analgesia administered by an appropriately trained heathcare professional with the appropriate level of monitoring. Overseas studies have revealed suboptimal involvement of anaesthetic departments in interventional radiology, and the lack of training for sedation provision. (Mir FA et al, 2010).

As more anaesthetic work is provided outside theatres service development directions need to consider issues such as whether there is scope for integrating post anaesthesia recovery across the needs arising from theatres, interventional radiology, endovascular work and

cardiac catheterisation. Potentially shared recovery spaces could significantly improve anaesthetic workflow, providing efficiencies and reducing duplication of effort.

In anaesthetics, much of this work outside theatres is not captured in a systematic and integrated data collection system and there is sub-optimal ability to measure and monitor work flow using appropriate data collecting tools.

Four themes in development directions

Discussions at the workshop within the framework of these principles identified that to meet projected demands from population growth and ageing and address the challenges arising from Government policy expectations changed arrangements for service delivery were required in four themed areas:

- managerial organisation
- new and enhanced models of care
- new clinical services to be provided at individual facilities; and
- realignment of service provision across surgical and procedural care networks.

The proposed approaches in these areas follow.

Developments in Managerial Organisation

Emergency Surgery

The workshops considered that *Surgery Futures* did not adequately address emergency surgery requirements, including for trauma and the complexities of managing this unpredictable load. There are issues around application of the NSW Emergency Surgery Guidelines that require further work. The high emergency surgery workloads at Liverpool Hospital have not been matched by provision of quarantined capacity and patient flow to enable a rapid and resource efficient response to need. This will create budgetary threats under ABF. There is a need to delve more deeply into the emergency surgery data, both casemix and a range of activity data available under Surginet, to understand delays to theatre and the spectrum of activity at Liverpool that could potentially be provided elsewhere in the LHD.

Overall, SWSLHD is less than 50% self sufficient in the provision of paediatric emergency surgery, with high flows to the Childrens' hospitals. Further investigation of the casemix is required to establish what proportion of this flow would more appropriately be provided locally and what proportion represents transfers from SWSLHD emergency departments and what is self selection by families.

A Clinical Redesign process was undertaken in 2005 on *Surgical Demand*. This was supplemented in 2008 by a project on *Managing Emergency & Elective Surgical Patients Liverpool Hospital*. The Liverpool study identified 28 solutions of which two focused directly on realigning the emergency/planned surgery mix in access to theatre:

S13 Greater access to surgery for emergency/semi-urgent patients (long term – dedicated second emergency theatre)

S26. Rationalise elective procedure caseload

It is unclear to what extent improvements to management of emergency surgery arising from this Clinical Redesign process have been sustained over time, although a second dedicated emergency theatre is yet to be implemented. Initiatives arising from this planning process may help facilitate this specific recommendation.

Appropriate management of emergency surgery requires the separation of emergency and elective patient flow, with the allocation of sufficient resources to optimise flow efficiencies. Issues such as the appropriate number of quarantined emergency theatres, establishment of separate obstetric/Caesar theatres, orthopaedic trauma lists, endoscopy emergencies and dedicated semi-elective inpatient endoscopy lists and inpatient reduction lists (scheduled emergency cases) require consideration.

The management of emergency surgery and issues around implementation of the NSW Emergency Surgery guidelines would appear to be one area which would benefit from further commitment to Operations Research, using the Clinical Redesign model or not, supported by data trawls at a detailed enough level to provide clinically meaningful data to support decision making. The work of the *Emergency Surgery Implementation Project* would be relevant, including reference to the *Toolkit for Implementation in NSW Health Hospitals*. Although SWSLHD hospitals did not benefit by inclusion in the 7 hospitals piloting redesign of

emergency surgery management there should be potential for improvement through local application of the Toolkit.

Initiatives to free up theatre capacity at Liverpool Hospital to enable more rapid throughput of emergency surgery and consideration of alternative sites for provision of emergency surgery are identified elsewhere in this options paper.

Paediatric Emergency Surgery

The issue of capability to provide more paediatric emergency surgery locally has been examined in depth by the Clinical Director, Paediatrics and Neonatology, in close consultation with the surgical clinical streams providing surgery for children and the SWSLHD hospitals that undertake paediatric surgery. This review was undertaken in the current context of limited activity within the District provided by Specialist Paediatric surgeons, with two surgeons only providing limited amounts of planned surgery at both Liverpool and Campbelltown hospitals and neither surgeon providing emergency cover. Specialty specific surgery is provided for children by ENT, Orthopaedics, Plastics and Urology surgeons.

The service development direction for SWSLHD in paediatric surgery is to move towards a model of self-sufficiency in provision of non-tertiary surgery for children. The role delineation level for paediatric surgery in each facility will remain at current levels (Level 4 at Liverpool and Campbelltown hospitals and Level 3 at Bankstown-Lidcombe, Fairfield and Bowral and District hospitals). The goal is that all facilities be supported with appropriate resources to provide non-complicated surgery to children lower than 12 years of age. There is also the intention to enhance the volume of planned paediatric surgery provided at both Campbelltown and Liverpool hospitals.

Each hospital providing paediatric surgery has from 2013 formalised detailed policies and guidelines for management of children presenting to ED with urgent surgical conditions. The guidelines provide clear plans of action ensuring:

- Clarity on age and type of patients which are to be managed locally
- Emphasis on early escalation to senior ED physicians for decision making
- Senior ED physicians can make decisions to transfer to the Sydney Childrens' Hospitals
- Timely consultation by surgeons to all patients when requested
- Timely transfer to the Childrens' hospitals when required
- Paediatricians are available to support diagnosis and decision making, especially for young children and those with medical co-morbidities

Progressively implement a model of self sufficiency in the provision of non-tertiary surgery for children, with appropriate resourcing of paediatric surgical sites to provide non-complicated surgery to children lower than 12 years of age. Enhance the volume of planned paediatric surgery provided at Campbelltown and Liverpool hospitals. Implement, monitor compliance and regularly review comprehensive facility specific policy guidelines on the management of children presenting to ED with urgent surgical conditions. The guidelines are to cover critical issues such as age and clinical condition able to be managed locally, escalation protocols for senior doctor decision making and timeliness of specialist consultation and transfer to a Childrens' hospital.

Ownership and Management of Lists

The workshop considered varying practices between hospitals on ownership of lists and management of lists. Where individual surgeons own their lists and there is disparity in the volume of referrals they receive, it can be difficult to allocate session time that accurately reflects surgeon demand and an efficient/equitable management of KPIs. The solution is that all lists should be considered as owned by the surgical department and subject to surgeon reallocation according to Departmental policy. This could be achieved formally through agreed protocols or informally through collegiality.

To facilitate this process a thorough understanding is required within each surgical department of the match between demands for theatre time and the constraints on available capacity, including any unevenness that may have developed historically in the demand/supply match. Liverpool Hospital has recently undertaken a surgeon led audit process within surgical departments to identify, now and for the future, development strategies to optimise the demand/supply match, including examination of the department's role within the facility and more broadly across the District. There would be value in all facilities undertaking a similar audit process.

The GIT surgeons have committed to the pooling of clinically appropriate patients and sharing in the allocation of lists. Initially this is proposed between Liverpool and Bankstown-Lidcombe hospitals, with eventual expansion to cover Campbelltown Hospital as it develops.

> Mandate a policy that all lists are to be owned by the surgical department, with the surgical department to determine the mechanisms by which the department list is managed to meet KPIs. To facilitate this process encourage surgical departments within each facility to undertake surgeon led audits to optimise the demand/supply match in the context of the role of the department within the facility and in relation to the District networks. The outcome should be a clear strategic development path for each department into the future.

It will be important to ensure that that the allocation and determination of lists by individual departments is supported by adequate resources to manage these lists and achieve KPIs.

Multi-hospital Surgical Departments

The potential to establish surgical departments spanning multiple hospitals has been identified. The efficiency dividends from such a course of action are likely to be variable across surgical departments. It would be most valuable in surgical disciplines where there is a significant volume of activity that will need to be provided at the District Hospital role level to meet ongoing local demand. Higher volume specialties where there is a critical mass of staffing availability could benefit from this arrangement. Within these supra departments, the matrix of care types to be provided at individual hospitals would need to be determined in the light of clinical support service availability e.g. diagnostics, anaesthetics, equipment and high dependency monitoring for patients of higher acuity.

The prime candidates for multi-hospital departments are in urology and orthopaedics. The preferred course of action would be to initially foster a sustainable working arrangement

between BLH and Liverpool Hospital surgeons in these disciplines with the view to expanding a successful model to link Campbelltown Hospital at a later stage.

In urology there is existing cross-appointments to Liverpool and Campbelltown hospitals. BLH urologists, who are senior and do significant urological cancer work, are not aligned with the Liverpool/Campbelltown urologists, with their cross-appointments to hospitals outside SWSLHD, Sydney LHD mainly. As a result there is significant outflow of Bankstown residents for urology at RPAH and CRGH and little internal flow to Liverpool. Overall demand for urological procedures is projected to grow by >30% over the next decade, indicating sufficient volume for an expanded multi-hospital department to establish a differentiated sub-specialty focus across sites. Urologists have, however, indicated that much urology work is not differentiable along sub-specialty lines and would need to continue to be provided across a range of District hospitals to meet local demand.

In orthopaedics, a combined department exists across Liverpool and Fairfield hospitals, with differentiation of elective and emergency focus. Bankstown orthopaedic surgeons undertake significant hip and knee replacement work meeting the majority of local demand. The outflows from Bankstown for hip and knee replacement to RPAH, CRGH and Canterbury hospitals are all at a higher level than the internal flow to Fairfield. This suggests that there would need to be considerable realignment of referral networks for orthopaedic surgeons with long standing appointments to BLH should a combined department approach be further explored. Previously there had been little interest expressed in exploring this approach. Potential may arise over time with succession planning for the surgical workforce.

Campbelltown Hospital does not undertake elective joint replacement work, with most public patients travelling to Fairfield for this work. For SWSLHD, overall demand for orthopaedic procedures is projected to grow by >30% over the next decade.

A multi-hospital orthopaedic department inclusive of BLH could assist in repatriating some flows to SLHD hospitals and managing the volume of hip and knee replacement procedures at BLH if an alternative surgical development focus there is sought. Expanding that department to incorporate Campbelltown Hospital may assist in a development path to provide elective joint replacement at that hospital in response to increasing local demand.

Subsequent discussions also identified ENT as a surgical discipline that may benefit from pursuing a multi-hospital department arrangement. This could be addressed following further testing of the concept within orthopaedics and urology.

Explore potential for expanded multi-hospital departments in urology and orthopaedics to incorporate BLH activity, recognising that increased demand in these disciplines will offer opportunity for sub-specialty differentiation between sites and the potential to repatriate external flows and realign internal flows. Testing the viability of this course of action in orthopaedics would need to recognise the significant realignment of long standing referral networks required. If over time these realignments for BLH activity can be achieved, consider expansion of the orthopaedic multi-hospital department to include Campbelltown Hospital, to ensure the longer term goal of elective joint replacement there is achieved fully networked. Also consider the viability of a multi-hospital department for ENT surgery.

Resource Distribution Principles for Multi-Site Units

- Reflects strengths and expertise of facility
- Concentrate high volume surgery optimising patient outcomes
- Critical mass of patients for economies of scale
- Synergy with other medical and surgical units at facility
- Operate at marginal cost for increased activity
- Take advantage of spare capacity (funded & unfunded)
- Appropriate geographical distribution
- Equity of access for patients
- Optimal patient flow to beds, ward and HDU
- Seamless transfer policies between facilities, both directions

Upper GIT – Clinical Focus for Service Developments

- **Bankstown-Lidcombe** - Pancreatic; Oesophageal (consider also thoracic); Gastric; Complex Biliary
- **Liverpool** – Hepatic; gastric; Complex Biliary
- **Campbelltown** – Bariatric; Benign Oesophageal and Dysmotility; Complex Biliary
- **Fairfield** – networked complex Upper GIT to major centre
- **Bowral & District** - networked complex Upper GIT to major centre

The Upper GIT surgeons also support the establishment of an expanded multi-site unit covering the three major facilities (Liverpool, Bankstown-Lidcombe and Campbelltown) that perform sub-specialty Upper GIT surgery. The arrangement proposed is that all surgeons are accredited at all facilities, however to meet on call demands and routine sessional demands, each VMO surgeon would have a substantive appointment at two of the hospitals. Tertiary and district cases would be differentiated between sites according to hospital designation and role. A District wide consultative roster for complex Upper GIT problems would be provided and there would be continued commitment to the trauma/general surgery roster. The GIT surgeons suggest the principles highlighted be applied for the relative distribution of surgical resources and activity across sites.

Reflecting the current strengths and clinical expertise that have developed at each of the sub-specialty GIT services, it has been suggested that service developments in Upper GIT be supportive of the highlighted differentiation of clinical focus. Elective cholecystectomy is not considered to be a specialist Upper GIT service and although Upper GIT units will continue to attract a large number of these surgeries (appropriately for complex, high acuity cases and also because of their general surgical workloads) routine cases would be performed at all surgical facilities. The GIT surgeons estimate that a 30% increase in major upper GI resections will be required over the next five years, implying that elective surgical sessions will need to be enhanced by the same order of magnitude, noting that technological advances in upper GIT surgery have not resulted in efficiency gains in theatre time per operation.

Medical Centre Model of Care

The workshop considered that a cost effective model had been developed at BLH with an attached medical centre where specialists undertake consultations and there is available private services in areas such as pharmacy, physiotherapy, radiology, audiology and general practice. It is likely that availability of the medical centre has been a significant contributor to demand management for outpatient and ambulatory care provided in the at BLH, where over the three years to 2010-11, reported outpatient and ambulatory clinic activity (NAPOOS and PRNIP) has fallen at an average annual rate of 6%.

The potential to develop a medical centre model of care should be incorporated into any outpatient and ambulatory care infrastructure development undertaken elsewhere in SWSLHD. Within this medical centre model of care it may be possible to provide a range of services that otherwise would need to be provided on crowded hospital campuses where there are associated cost inefficiencies, such as perioperative clinics for patients who will be operated on in the main theatre blocks.

Aligned medical centres with SWSLHD hospitals would provide the opportunity to consider provision of elective work such as endoscopies, cataract replacement and other uncomplicated day eye surgery that constitutes > 80% of ophthalmological workload, within the medical centre model of care. Although there has been expansion of theatre capacity at Liverpool Hospital under the Stage 2.1 redevelopment, the inherently higher fixed cost structures of Principal Referral hospitals raise the prospect that under ABF, these procedures may be a sub optimal use of this capacity. Siting these services outside the main hospital centres of activity would offer the opportunity to focus on maximisation of revenue potential. In addition, the potential for Private Public Partnership (PPP) arrangements for the development and operation of the medical centre model of care could also be explored.

Further clarity is required on the implications of ABF funding before business case planning could be undertaken to explore the viability of such an arrangement.

Explore potential for medical centre developments, including privatisation options, in infrastructure developments addressing outpatient and ambulatory care needs at SWSLHD hospital campuses.

Home Wards

The workshops identified that to effectively cater for the significant increases in surgical overnight demand projected over the next decade, there were potential gains in efficiency and opportunities to optimise quality of care through establishment of specialty home wards. The Upper GIT surgeons have indicated that the multidisciplinary requirements in care of gastroenterological patients are best addressed through the establishment of home wards at the major facilities (which could also be shared with colorectal and gastroenterology patients). It has also been suggested that home wards could include a “higher acuity” pod to cater for step-down patients from the HDU. These pods would relieve demand on critical care services by enabling earlier transfer from HDU and in some instances enabling the bypass of HDU following surgery.

Explore potential for establishing surgical specialty home wards, which could be shared with aligned sub-specialty patients, including pods with capability to care for higher acuity patients, thus relieving demands on high dependency units.

Efficiency of Theatre Utilisation

Issues of operational efficiency have not been the prime area of focus in service development planning, however the significant projected increase in surgical demand over the next decade will dictate that optimal use of theatre infrastructure be achieved. The workshops discussed some operational measures that would improve efficiency of theatre use, recognising that detailed discussion of operational issues is more within the province of

the LHD Surgical Demand Committee. The Upper GIT surgeons have made some suggestions as to how the throughput and efficient utilisation of theatres can be optimised. The extent to which additional activity can be undertaken within existing theatre infrastructure can be seen as offsetting the quantum of additional theatre/procedural space that would otherwise be required to meet the increased demands. Increased throughput will, however require significant re-engineering of surgical practices, bringing with it increased recurrent staffing costs that need to be compared to the capital infrastructure costs that would otherwise be incurred to increase capacity to meet demand.

Re-engineering of the structure of operating sessions requires examination, including proposals such as:

- Extending sessions into the evening (9pm) for short stay surgery and endoscopic procedures
- Weekend sessions for short stay surgery and endoscopic procedures
- Three sessions per day rather than the traditional two sessions
- A full day session rather than two half-day sessions.

In addition there is scope to examine the decoupling of anaesthetic and surgical start times:

- Optimising use of anaesthetic bays to commence lines whilst the previous case is still ongoing
- Ensuring short stay and day only cases are first on the list (permitting on time starts and enabling anaesthetist to commence lines for more time consuming cases)
- Ensuring ICU ward rounds early in the day
- Providing adequate staffing to permit continuing cases during meal breaks
- Rostering of allied and support staff corresponding to theatre needs in optimising flow (porters, admission staff, recovery staff, radiology) or staggered start times for theatres.

Consider re-engineering of work practices to optimise theatre utilisation, including extended and out of hours sessions, measures to decouple anaesthetic and surgical start times and appropriate scheduling of patients matched to allied and support staff availability for optimal flow over the sessional time.

Data Capture

Clinicians have expressed concern that the surgical casemix data at a broad discipline level e.g. general surgery is not sufficiently detailed to address issues such as variations between hospitals in the complexity of cases treated. Issues such as the proportion of emergency to planned activity will need to be explored at a detailed level if threats and opportunities under ABF are to be understood. It has been suggested that data needs to be drilled down to DRG for these issues to be adequately investigated and that issues such as the flow of surgery across the year and the age of patients may need to be explored in detail.

The SWSLHD Surgical Dashboard provides a useful summary at facility level across all surgical cases. The potential to provide regular reports on some core indicators from the dashboard at a drilled down level of procedure type may assist in ongoing management of surgical and procedural activity.

In this paper data is presented at the ESRG level. Clinicians should advise whether regular reporting at this level of DRG aggregation is sufficient to enable rational decision making and estimation of budgetary impact under ABF.

There is a range of other data of relevance to management of surgical and procedural workloads that will need to continue to be refined and expanded upon. This includes continued rollout of Surginet to address manual data collection issues for theatre workload, utilisation and throughput statistics. Outpatient workload data requires continuing refinement, particularly in areas such as anaesthetics. Improved data capture is required for neurointerventional and catheterisation laboratory work, which is a growing demand that is not currently booked through the same system as other surgical work.

This growing demand has significant implications for anaesthetists in balancing requirements to support this procedural work with other surgical work, emergency and elective. Comprehensive and accurate data capture will also be required to ensure appropriate workforce planning can proceed.

In consultation with clinicians develop regular reporting mechanisms on core KPI elements of the Surgical Dashboard at a clinically coherent level of casemix aggregation. Further develop the Surgical Dashboard framework of data reporting to encompass all settings of surgical and procedural work including interventional suites, ambulatory care and outpatient perioperative activity.

Workforce Planning

Concern has been raised that the current matrix of surgical services across the LHD and the current workforce mix providing these services does not necessarily match the workforce requirements to meet emerging and projected surgical and procedural care needs. There has been a tendency to replace surgeons from within the same surgical discipline rather than addressing emerging needs. The data presented in this report on projected demands over the next decade indicates that the largest growth in demand for day surgery procedures will also be in the high volume services of ophthalmology and non subspecialty general surgery (>70% growth) and gastroenterology (>50% growth). There will also be significant growth (35%-45%) across a range of surgical disciplines such as urology, plastics, ENT, diagnostic GI endoscopy, colorectal surgery, vascular surgery, head and neck surgery and neurosurgery.

For procedures requiring an overnight ward stay the largest growth in demand will be in procedural care in interventional cardiology and tracheostomy (>50%), with significant growth (>25%) in breast surgery, gastroenterology, Upper GIT surgery and gynaecology and >20% growth in orthopaedics (note hip and knee replacements grow 32%), ENT, colorectal surgery and urology.

The projections data indicates that the highest demands for enhancement of the surgical and procedural care workforce will be in the interventional cardiology/endovascular surgical activity and in ophthalmology. There will be significant medical workforce demands across a range of sub-specialised disciplines and a role for general surgeons is also likely to remain, particularly in the sphere of day surgery.

The significant increase in theatre/procedure room volume projected clearly also has workforce implications for a range of other staff required to support the perioperative process. To address these issues, a workforce planning group with high level clinician

representation has been established to consider needs for the next 5-10 years. This should inform the coming quinquennium appointment round.

Workforce planning for SWSLHD should take account of the significant increase in surgical and procedural care projected, particularly in interventional cardiology/endovascular services and ophthalmology. Enhancement to the medical workforce across a range of sub-specialties will be required along with maintenance of a role for general surgery. The significant increase in procedures will require enhanced staffing across a range of disciplines to support the perioperative process.

Developing new and enhanced models of care

The workshop identified potential for a number of new and enhanced models of care to meet projected increased demands for surgical and procedural care and the efficiency gains necessary under Health Reform initiatives in ABF and KPIs. These models of care are consistent with the general thrust of *Surgery Futures*.

It is noted that to date no SWSLHD facility has been supported by the Ministry of Health to redesign models of care in line with *Surgery Futures* directions. This is despite one of the six core directions for the future development of surgical services being identified as new investment in surgery targeted to population growth areas in Greater Sydney. HVSS models have been supported for introduction at Canterbury and Auburn hospitals. Emergency Surgery models have been supported for introduction at Wagga Wagga, Prince of Wales, Sydney Children's, Orange, Tweed, Gosford/Wyong and Maitland hospitals. Specialist Centre models have been supported for introduction at Westmead and Sutherland hospitals.

High Volume Short Stay (HVSS) Surgical Units

Surgery Futures recommended that a HVSS service be established at Campbelltown and that BLH continue in the shorter term to provide HVSS services. As identified at Attachment C, HVSS surgery includes planned treatments requiring admission up to 72 hours, including both day only (DO) and Extended Day Only (EDO) surgery (23-hour surgery). It involves defined protocols and case mix; designated operating theatres, beds, staff and recurrent funding. Projected demand growth in day only and shorter stay surgery indicates that by 2021, HVSS units could be established at both Campbelltown Hospital and BLH. The Campbelltown unit would provide for the Macarthur and Wingecarribee catchment. The BLH unit would provide for the Bankstown, Fairfield and Liverpool catchment. The infrastructure required to establish viable and sustainable HVSS units has not to date been included in any approved capital works proceeding at either of these sites.

As part of planning previously undertaken for the Liverpool Hospital Stage 2 Phase 2 & 3 redevelopment, yet to be funded by Government, capacity required in 2021 for a HVSS unit at Liverpool hospital was scoped. This exercise identified sufficient demand for a 5+ quarantined theatre unit supported by up to 16 day only beds and up to 26 short stay overnight beds. The activity within this unit would have been a combination of reconfigured work currently undertaken in the main theatre block and demand growth. The unit would operate week days, closing weekends. Whilst more detailed planning would be required to scope required capacity for HVSS units at BLH and Campbelltown hospitals, demand projections would appear to justify establishment of units at least this size at each site.

Surgery Futures identified that South Western Sydney would require an additional 7 theatres and 24 beds by 2021 to provide for a HVSS model of care. Reconfiguration of current activity suitable for HVSS would need to be added to this to establish the viable and efficient unit size. Surgery Futures suggests that SWSLHD wide by 2021 there will be HVSS suitable activity equivalent to 74.4 beds in total and 20.3 theatres; however it acknowledges that some of this activity would continue to be provided outside of the HVSS model. To capture 60% of this suitable activity within two units would on the Surgery Futures calculation suggest a 6 theatre unit supported by 23 beds at each site; which would be a combination of new and reconfigured existing capacity.

Campbelltown Hospital considers it feasible in the short term to provide a HVSS model of care, with availability of a 2nd endovascular suite and development of appropriate protocols to enhance short stay and day case surgery. This would not be sufficient capacity to meet efficiently projected demand into the future, however, would enable the HVSS model to be piloted and efficiencies in work practice explored. At BLH short term implementation of a HVSS model of care would require considerable reconfiguration of existing capacity as sufficient perioperative facilities would not be available under the current configuration. Areas such as the existing staff specialists suite would need to be considered for adaptation.

The provision of HVSS units at Campbelltown Hospital and Bankstown-Lidcombe Hospital should be included in infrastructure developments at each site. For Campbelltown Hospital this would involve inclusion in a subsequent stage to the Macarthur Stage 1 (Acute Hospital Services) redevelopment that has been funded and is currently being designed. Piloting of the HVSS model at Campbelltown Hospital within existing capacity to identify efficiencies in work practice should be explored. At BLH, a HVSS unit should be scoped within the Clinical Services Development Plan currently being prepared.

The Upper GIT surgeons have also commented that a HVSS model of care should be implemented at Liverpool Hospital, utilising the existing five room procedural/endoscopy unit. It is recommended that the establishment of HVSS units proceed in line with the core highlighted principles.

HVSS – Development Principles

- Day Only (DO) or Extended Day Only (EDO) surgery with quarantined beds in a stand-alone or virtual stand-alone unit
- High DO rates with protocol driven discharges
- Increasing the range of DO procedures e.g. ASA 1&2 hernias, laparoscopic cholecystectomy etc; with lists reflecting more complex work early in the day
- Ensuring all procedural work is provided from endoscopy units e.g. gastrointestinal endoscopy, cystoscopies etc

Procedural Activity in Ambulatory Care Precincts

The workshop identified a range of surgical procedures undertaken in main theatre blocks that could potentially be undertaken in procedure spaces within ambulatory care hospital precincts. These procedures, which may have technical complexity, are generally characterised as low risk day procedures of shorter operative time on patients who score well on preoperative anaesthetic risk assessment.

Liverpool Hospital has identified a range of procedures currently undertaken in the main theatres that could appropriately be undertaken in the Procedures, Investigations & Infusion Centre (PIXI) included as part of the first floor ambulatory care precinct constructed in the Liverpool Stage 2 Phase 1 redevelopment. This would entail commissioning of a Surgical Ambulatory Care Unit (SACU), physically located within the PIXI precinct. It is important to note that patients undergoing surgery in an ambulatory care setting still require appropriate levels of clinical expertise in anaesthesia and Post Anaesthesia Care Unit (PACU) monitoring, equivalent to those undergoing surgery in the main theatre block.

A two stage implementation strategy is proposed for transfer of these procedures to SACU. Initially appropriate procedural work requiring only local anaesthesia will be undertaken. As a second phase, after agreement with clinicians that all potential clinical risks have been

adequately addressed through policy setting, resourcing and infrastructure set up; it is proposed that appropriate procedures requiring regional block anaesthesia be provided in SACU.

A range of procedures have been identified as suitable to be undertaken in SACU, including procedural interventions in pain management, dermatology, hand surgery, plastic surgery and head and neck surgery. It is noted that Liverpool Hospital is one of three expert hand surgery services in NSW, with the second highest workload in the wrist and hand procedures ESRG (1,099 procedures of which 86% are day only) behind Sydney Hospital. The hand surgeons estimate that this day activity could be undertaken in the SACU environment. There is a broader range of other less complex day surgical procedures which could also potentially be undertaken in the SACU. For example, in the USA, over 2,300 procedures have been identified as fundable when provided in an Ambulatory Surgical Centre (ASC). At Liverpool Hospital, estimates are that up to 400 sessions p.a. could potentially be transferred from the main theatre block to SACU.

Liverpool Hospital proposes that SACU act as a focal point for hand surgery research and teaching in Sydney and be the preferred treatment centre for all WorkCover and Motor Accidents Authority (MAA) hand injuries in Western Sydney. SACU would be the site of a stand-alone Hand Centre, a component of the Liverpool Hospital Trauma service, enabling hand surgery to be migrated from the theatre setting.

Future infrastructure redevelopments at other SWSLHD facilities should consider the provision of SACU like units to relieve pressure on main theatre blocks from provision of minor procedural interventions. It may that a SACU procedural space model of care could be incorporated within the HVSS units planned for Campbelltown Hospital and BLH.

Progressively commission at Liverpool Hospital the Surgical Ambulatory Care Unit (SACU), as an alternative setting for minor day procedures previously provided in the main theatre block. This will require provision of anaesthetic and perioperative support equivalent to that provided in the main theatres. Include provision for ambulatory care procedural centres in infrastructure developments at other SWSLHD hospitals and consider feasibility of incorporation in HVSS proposals for Campbelltown and Bankstown-Lidcombe hospitals.

Stand-alone Endoscopy Units

On the basis of DRG allocation, across SWSLHD hospitals in 2010-11 there were 8,662 endoscopic procedures performed (DRGs G48C, G46C, Z40Z, G47C, L41Z, G47B, H43B, G46B, G48B, E42C, H43A, G46A, G47A, E42B, K40C, L40Z, G48A, E42A, K40B, H40B, H40A, K40A). Of these, 6,749 (78%) were performed on day only patients. At Campbelltown, Fairfield and Bowral and District hospitals these procedures are undertaken in the operating theatres. At Bankstown-Lidcombe Hospital they are undertaken in dedicated rooms in the theatre block and at Liverpool Hospital they are undertaken in a dedicated unit.

Surgeons have indicated that hospitals with a significant volume of endoscopic work should provide endoscopy in a stand-alone or virtual stand-alone unit, which could be incorporated within an HVSS centre. They recommend that Bankstown-Lidcombe Hospital develop a new endoscopy centre capable of meeting the volume and complexity of its work (requires capital expenditure) and that at Campbelltown Hospital the endoscopy suite be

reconfigured with a view to creating a standalone unit to meet future needs (addressing the need to commission a second endoscopy space).

At Liverpool Hospital it is proposed to divert endoscopy procedures from the operating theatre, recovery and peri-operative precinct through commissioning of the Specialist Endoscopy Unit (SEU) constructed as part of the stage 2.1 redevelopment. This would help reduce delays to endoscopy, ensure endoscopy provision in a more cost effective setting and assist in flow through the operating theatres for more complex and time-consuming work, including urgent and emergency cases.

Optimise provision of endoscopy through stand-alone or virtual stand-alone units at Liverpool, Bankstown-Lidcombe and Campbelltown Hospitals, through commissioning of the Specialist Endoscopy Unit (SEU) at Liverpool, developing a new endoscopy centre at Bankstown-Lidcombe and reconfiguration of services at Campbelltown.

Procedural Activity in Community Settings

The projected 80% increase in demand for day ophthalmology procedures will place significant demands on SWSLHD theatre capacity into the future. Currently, ophthalmology procedures are undertaken in the main theatre complexes in SWSLHD and specialised eye centres with quarantined theatres have not been developed. Over 36% of SWSLHD resident demand is serviced at Campbelltown Hospital, 27% at Liverpool hospital, 22% at Bankstown-Lidcombe Hospital and 15% at Bowral hospital. The activity is overwhelmingly from local catchments with Liverpool Hospital also servicing Fairfield residents. At BLH a non-inpatient model has been implemented for these procedures, however, this model has not been replicated elsewhere.

Surgery Futures recommended an eye centre develop at Campbelltown Hospital and that Liverpool Hospital patients could access there and BLH in the future. Bowral could continue ophthalmology pending clarification of future role.

The workshop suggested that options be explored for the provision of day ophthalmology procedures in community settings away from hospital campuses. This could be appropriate for cataract and other elective work but access to main theatres would still be required for emergency and/or trauma work. It was suggested that dental chairs in the community could be converted to operate as ambulatory eye centres. In Macarthur the options would include Rosemeadow (2 adult, 2 child chairs), Narellan (1 adult, 2 child chairs) or Ingleburn (4 adult, 2 child chairs). Oral Health Services advise that all of these chairs are in use for needy clients. It is not clear that a suitable community venue for an eye centre would be available in the Bankstown, Liverpool or Fairfield regions.

In the longer term incorporation of an eye centre within any Integrated Primary and Community Care (IPCC) centre planned for Campbelltown Hospital campus (yet to be funded) may be appropriate. An eye centre might also be considered in the Stage 3 IPCC at Oran Park when services transition from the initial shopping centre site to a stand-alone facility. Longer term plans for an IPCC at Leppington Town Centre include a day surgery unit which would cater for day ophthalmology procedures; however this would likely develop post 2020. Such a day surgery unit could also appropriately provide a high volume of endoscopic work (noting the >40% increase in gastroscopy and colonoscopy work to 2021 projected at Attachment D), relieving demands on theatres and procedure rooms at Liverpool and Campbelltown hospitals.

If the Surgery Futures recommendation that eye procedures be devolved from Liverpool Hospital is to occur and reasonable access is to be maintained for local catchments increased service provision at BLH would seem an appropriate response. Ophthalmology would fit easily into a HVSS model of care proposed for BLH and the non-inpatient model of care could contribute to the optimisation of efficiencies under HVSS.

In light of projected demand growth in ophthalmology of >80%, explore options for providing ophthalmology in community settings, initially at a community health site in Macarthur; in the longer term at IPCCs proposed for Campbelltown Hospital campus, the Stage 3 Oran Park stand-alone facility and eventually Leppington Town Centre; and for the northern sector of SWSLHD at BLH within a HVSS model of care.

Hospital services have indicated that where low acuity procedural cases are migrated to community settings of care, sufficient clinical resources will need to be maintained within hospitals to deal with complex cases and to ensure that specialty staff remain engaged with the hospital to maintain consultative and emergency services.

Fractured Neck of Femur Surgery

Currently, Liverpool Hospital is the main centre in the south west for provision of emergency surgery for fractured neck of femur (FNoF) patients. These patients have an average pre-operative stay of 3 days, amongst the longest of peer tertiary facilities nationally and internationally, raising quality of care issues and suggesting unit costs that would be loss making under ABF. It is known that pre-operative delays result in an increase in mortality and an increase in length of post-operative stay (NHS). It has been estimated that every 7.85 hours of delay to surgery after the initial 48 hours equates to an extra day in hospital (NHS). In some jurisdictions the benchmark is that appropriate, medically fit patients receive surgery within 24 hours. The British Orthopaedic Association recommends surgery within a maximum of 48 hours of the patient being fit for surgery and believes 95 per cent of cases should be treated within this time limit. The Clinical Excellence Commission (CEC) recommends that surgery proceed within 36-48 hours.

Clinical guidelines for management of fractured neck of femur have been published by both the NHS National institute for Health and Clinical Excellence (NICE) – *Quality standard for hip fracture* issued March 2012; and the NSW Agency for Clinical Innovation (ACI) – *The Orthogeriatric Model of Care: Clinical Practice Guide 2010*. These documents are essentially consistent in identifying minimum standards of care comprising:

- Orthogeriatric clinical management with aged care involvement as soon as practicable from the time of presentation
- Appropriate pain management commencing in the ED, regularly administered and continuing post-discharge
- The patient's planned surgery not being cancelled
- Surgery performed within 48 hours and in-hours
- Rehabilitation and mobilisation commenced within 24 hours post operatively
- Intervention for personal and environmental risk factors to prevent further falls and secondary fractures
- Local ownership of data systems/processes to drive performance and improve patient care.

Over 77% of patients with a diagnosis code of fractured femur are classified to one of three ANDRGs in order of magnitude – 108B Other Hip and Femur Procedures W/O Catastrophic CC; 160Z Femoral Shaft Fractures; 108A Other Hip and Femur Procedures W Catastrophic CC. In 2010-11 there were 210 emergency surgical admissions at Liverpool Hospital across these ANDRGs, with an average length of stay of 9.6 days; however, this represents only the acute phase of care as 62% of patients were type changed (a recent practice). Overall length of stay in Liverpool hospital is probably more like 17+ days which is what was reported in 2008-09 when there was only one type change reported. At 17 days LOS, these patients would use on average up to 12 beds a day at 85% occupancy. The 2007-08 data indicates that 52% of patients are transferred to another hospital on discharge (presumably for rehabilitation), with 36% being discharged home and 8% discharged to a nursing home.

In 2010-11, 90% of these patients were SWSLHD residents with 33% from Liverpool, 32% from Fairfield, 13% from Campbelltown, 6% from Bankstown, 3% from Camden, 2% from Wollondilly and <1% from Wingecarribee. Only 2% of these patients spent time in ICU, with a further 3% spending time in HDU.

There was comment at one of the workshops that there is international precedent for a FNoF model of care whereby surgery is provided through an elective orthopaedics unit. Potentially if this model of care was applied in SWSLHD, FNoF surgery currently undertaken at Liverpool hospital could be provided at Fairfield Hospital, by surgeons from the Whitlam Joint Replacement Centre, who also provide the current care at Liverpool. There would be little impact on patient access to services locally as the current FNoF catchment is 65% from Fairfield/Liverpool at approx. 50:50. In the absence of offsetting detrimental impacts, improvements in quality and efficiency of care would be possible if there was more rapid access to theatre through regular scheduling of FNoF lists which could be managed with the same rules and efficiency as elective lists. The flexibility offered by having on site a critical mass of specialist teams of surgeons and anaesthetists working elective lists in theatre each day may enable more rapid progress to theatre. There would also be potential quality of care benefits through earlier and more intensive progression to an integrated rehabilitation program.

However, further detailed discussion identified a number of concerns and risks with following this course of action at the current level of role delineation for specialty services at Fairfield, including:

- Lack of an adequate bed base and high level diagnostic support
- Lack of high dependency unit support for acutely unwell or deteriorating patients
- Insufficient availability of a range of medical specialty services
- A need for additional rehabilitation and geriatric medicine support on-site
- A Need for higher level anaesthetic cover to theatres than currently available under ANZCA approved training site registration as a satellite to Liverpool Hospital
- Issues with pre-operative assessment and post-operative care
- Risk of increased mortality and morbidity for patients with many co-morbidities

In addition, providing emergency FNoF work at Fairfield within a constrained bed base would make it difficult to achieve the Surgery Futures goal of separate streaming of planned and emergency surgery. The conclusion is that at its present stage of development Fairfield Hospital is not in a position to take on the FNoF caseload currently cared for at Liverpool Hospital.

Emphasised at the workshops was that each site that presently cares for FNoF patients should undertake a detailed review of their practices with a view to establishing working protocols that will enable a closer accord to KPIs such as 95 per cent of cases being treated within 48 hours of presentation. The aim would be that all hospital sites treating FNoF progress towards compliance with the ACI Orthogeriatric Clinical Practice Guide 2010 and the NICE Quality standard for hip fracture 2012.

Clearly there is scope for improved and streamlined procedures to be implemented across the LHD to meet these standards. However, improvements would be contingent on identifying additional resources to deal more rapidly with emergency surgery demands. Some key issues for local implementation of the standards include improving the measurement and reporting of outcomes, increasing orthogeriatric involvement from the time of presentation and the availability of weekend operating lists. A key to progress would be detailed examination of the trauma model for the South West and ways to enhance the LHD's ability to respond to these demands.

Each hospital undertaking FNoF surgery to undertake a detailed review of current protocols and practices, aiming for progressive improvement towards achieving the ACI and NICE orthogeriatric standards and KPIs such as 95% of cases being treated within 48 hours of presentation. This review should be undertaken within an overarching examination of the Trauma model to apply in the South West over the coming decade.

Developing new clinical services at individual facilities

In light of the projected significant increase in demand for surgical and procedural care in the South West over the coming decade, the workshop identified that the range of services available at individual facilities needed to expand, consistent with service development directions identified for clinical networks. Strategic planning will occur over 2012 to further consolidate clinical stream service development directions, which will build on existing network arrangements and differentiated roles for individual facilities.

Campbelltown Hospital

Population growth and ageing will have the most significant impact on demand in the Macarthur region, with a 37% increase in population compared to 13% for the rest of SWSLHD and 11% for NSW overall. In Macarthur, the 70+ aged cohort will more than double in number, compared to a 91% increase for the rest of SWSLHD and 36% for NSW overall (Attachment B).

A Clinical Services Plan for Macarthur to 2021 (CSP-M) identified that Macarthur requires a Principle Referral Hospital at Campbelltown by 2021 with the foundation for this development being early establishment of the 4 pillars of service provision i.e. on-site Magnetic Resonance Imaging (MRI); 24 hour availability of CT scanning; 24 hour availability of core pathology services, especially blood banking; and Interventional angiography. *Surgery Futures* indicates that introduction of interventional cardiology can continue at sites that do not provide cardiothoracic surgery (p.21).

New on-site clinical service provision was also proposed in haematology; infectious diseases; renal medicine; thoracic, spinal, plastic and bariatric surgery; elective joint replacement; sleep disorders; and foetal medicine.

Government has funded the Macarthur Stage 1 (Acute Hospital Services) Campbelltown Hospital Redevelopment as the first stage in delivery of the additional clinical services outlined in CSP-M. This includes a combined cardiac cath lab/interventional suite (2 procedure rooms) located on the theatre floor and sharing recovery space and up to 30 additional surgical beds, which would include a surgical assessment unit. Overall, there will be 90 additional beds made available, including medical, aged care and palliative care beds.

Population growth and ageing across the Campbelltown Hospital catchment is a prime driver for the imminent commencement of SPP/PDP planning for the Macarthur Stage 2 (Acute Hospital Services) Campbelltown redevelopment, with a view to construction of the additional capacity that will be required to meet the projected demand in 2021. This includes increased beds, theatre redevelopment and development of the clinical school/education centre; all essential if Campbelltown Hospital is to develop as a tertiary Principle Referral hospital.

Stage 1 does not include additional operating theatres; however, there is unused capacity in the 8 room theatre block that will enable surgical activity to be ramped up prior to the Stage 2 works, where CSP-M identifies eventual expansion of operating theatres to 15.

CSP-M projects the activity that would be generated in 2021 from provision of new surgical and procedural services, based on the turning around of current internal patient flows for Macarthur residents to services mainly at Liverpool Hospital. The rationale is that by 2021 Macarthur will be 70% self-sufficient in provision of these new services.

As a result there will be an additional 1,709 separations provided at Campbelltown Hospital across the surgical and procedural disciplines of interventional cardiology, vascular surgery, spinal surgery, thoracic surgery, planned orthopaedic joint replacement surgery, plastic surgery, bariatric surgery and paediatric surgery. This would require an additional 31 overnight surgical ward beds. With the significant increase in surgical activity that is projected as necessary to meet demands the hospital has also identified a need for a surgical assessment unit.

Provision of planned orthopaedic joint replacement surgery is seen as a longer term proposition at Campbelltown Hospital. In the interim short to medium term before commencement of this service it will be important to maintain access to joint replacements at Bankstown-Lidcombe and Bowral and District hospitals, as well as Fairfield hospital; to maintain clinical skills and develop the service prior to on-site provision.

Bariatric surgery will be a new surgical service provided at Campbelltown Hospital within a model of care integrated with multidisciplinary medical management through the Obesity Clinic at Camden Hospital. It is estimated that initially a pilot program of 40 patients per year, requiring one surgical session per fortnight, would be provided. The pilot program is yet to be funded; however the hospital has identified this service as a high priority for implementation.

Any significant enhancement of surgical services at Campbelltown Hospital will require hand in hand enhancement in on site provision of interventional radiology and pathology, particularly cytology and frozen section. Under contemporary surgical practice networking arrangements for these services are problematic. This is particularly evident for breast and head and neck surgery.

The service enhancements at Campbelltown Hospital will have direct impact on alleviating demand pressures at Liverpool hospital as it is mainly to there that Macarthur residents would travel if local provision was not available. The exceptions are in planned orthopaedic joint replacement surgery (flow to Fairfield Hospital), paediatric surgery (flow to Childrens' hospitals) and bariatric surgery (new service not currently provided in South West public hospitals). This is equivalent to freeing up around 20 beds at Liverpool Hospital.

Consistent with what is proposed in the CSP-M, provide by 2021 at Campbelltown Hospital surgical and procedural care in the disciplines of interventional cardiology including cardiac catheterisation, vascular surgery, spinal surgery, thoracic surgery, planned orthopaedic joint replacement surgery (longer term), plastic surgery, minor hand surgery, bariatric and benign oesophageal surgery, enhanced urology and paediatric surgery; providing care closer to home for Macarthur residents and relieving demand pressures on other SWSLHD facilities and the Childrens' hospitals.

Liverpool Hospital

Currently, Liverpool Hospital is a major referral centre within the LHD for trauma, hand surgery (to transfer to Fairfield Hospital), neurosurgery and cardiothoracic surgery. It also has major

referral units in colorectal, upper GI, breast, head and neck, vascular, urology, orthopaedics, ENT and plastic surgery.

Liverpool Hospital considers that with continuing growth in demand, meeting surgical targets and benchmarks across the range of surgical disciplines presently provided, will require progressive addition of surgical sessions.

With the development of HVSS services at Bankstown and Campbelltown hospitals relieving future short stay surgical demand pressures at Liverpool hospital and the availability of expanded

theatre and surgical ward capacity from the Stage 2 Phase 1 redevelopment, there is potential for Liverpool Hospital to increasingly focus on more complex longer stay surgery that can take advantage of the diagnostic, critical care and integrated multidisciplinary support available there. This is wholly consistent with the *Surgery Futures* recommendation (p.14):

> "Bankstown and Campbelltown should absorb HVSS services from Liverpool to create capacity at Liverpool for development of more specialised surgery services."

Liverpool Hospital would continue to provide the focus in the South West for provision of complex surgeries currently centred there e.g. neurosurgery, cardiothoracic surgery and interventional neuroradiology.

In addition, Liverpool Hospital could develop as the major centre in the south west for some specialty cancer surgery. The workshop suggested that development of a Pelvic Surgery unit (gynae-oncology, urological cancer and rectal cancer) and a Breast Cancer centre be considered. This would be consistent with *Surgery Futures* which reported on international trends for cancer services to be concentrated in centres that treat high volumes of patients and offer a full range of cancer services, including surgery, oncology, radiotherapy and specialised nursing and allied health services (p.26). Integrated Cancer Centres such as at Liverpool Hospital offer this range of services.

Surgery Futures also suggests that further development of cancer urology services and gynae-oncology be focused at Integrated Cancer Centre sites (p.22). The NSW Cancer Institute is currently gathering data with a view to testing the hypothesis that in cancer surgery, higher volume is correlated with better outcomes.

Liverpool Hospital - Profile of Surgical Departments

- **Cardiothoracic** – quaternary level service with the 3rd highest volume of activity among public units in NSW
- **Head and Neck** – complex pathology cases and malignancies, contributing to emergency on-call roster
- **Orthopaedic Emergencies** – academic unit, most surgeons also work at Fairfield for elective cases
- **General Surgery Emergency** – comprehensive range of activity, all surgeons on call for trauma & emergency
- **Vascular Surgery** – quaternary level with full range of open operative, endovascular and minimally interventional procedures
- **Breast Surgery** – full range of services including microvascular reconstruction
- **Women's Health** – caesarean section demand linked to birthing volume
- **Hand Surgery** – high volume of hand emergency cases
- **Urology** – both general and urological cases, focus on complex urological malignancies
- **Facio-Maxillary/Plastics** – emergency, urgent and elective complex jaw facial trauma surgery

There would be a potentially significant volume of activity that could be treated through a Pelvic Surgery Unit. On 2010-11 data demand from SWSLHD residents treated in a public hospital for urology, gynaecology and colorectal surgeries where there was a relevant

primary or in situ cancer site recorded on the medical record was 1,000 separations and 6,862 bed days. This is equivalent to 22.12 beds at 85% occupancy. For breast cancer surgeries there were 310 separations recorded and 1,021 bed days, equivalent to 3.29 beds at 85% occupancy.

The following table outlines Central Cancer Registry new cases of cancer data for 2008 for SWSLHD residents, indicating projected growth to 2021 if the 2008 rates per 100,000 population continue.

Cancer Type	2008					2021		
	Male No.	M. Rate[2]	Fem No.	F. Rate[2]	Total No.	Male No.	Fem No.	Total No.
Urogenital[1]	750	207.9	63	15.1	813	1,089	81	1,170
Colorectal	256	72.7	203	49.2	459	381	263	644
Gynaecology	-	-	149	35.9	149	-	192	192
Total Pelvic	1006	-	415	-	1,421	1,470	536	2,006
Breast	5	1.4	428	102.1	433	7	551	558

[1] Prostate, bladder and kidney cancers

[2] rate per 100,000 population

On the above data the incidence rate for pelvic cancers in the South West can be expected to increase to 2021 by over 40% compared to the 2008 data. Breast cancer incidence increases by 29% over that same period. There would appear to be more than sufficient surgical volume into the future to justify consolidation of activity into integrated treatment units at Liverpool Hospital. These units would need to be aligned with the Cancer Services redevelopments presently underway. This includes the development of a Wellness Centre.

For breast cancer, full integration would imply bringing BreastScreen facilities on site. The previous SSWAHS Area Cancer Plan 2005-2016 had recommended establishment of a comprehensive breast centre including BreastScreen screening and assessment services and diagnostic and consultative services for symptomatic women from the South West catchment. This was based on strategic directions work undertaken and endorsed by SWSAHS in 2000. This work addressed then critical issues of lower than optimal mammographic participation rates and rates of early identification of breast cancer; higher than optimal rates of mastectomy; diverse pathways of care; women needing to travel outside of the area for assessment; and difficulties in recruiting and retaining skilled staff. The workshops were very supportive that in the future Breast Imagery be centralised and undertaken at a District level to address these critical issues which still remain evident.

It had been estimated that the Breast Centre would require 550m^2 of space. Close affiliation and linkages would be maintained with general practitioners, palliative care services, radiotherapy and chemotherapy, women's health services, community-based cancer support services and other relevant disciplines. This strategy envisaged that "sector-specific clinics would be provided at the centre in order to facilitate continuity of care and appropriate local referral". The centre would provide an increased volume of breast surgery on-site, with affiliated surgeons continuing to provide some breast surgery at other local public hospitals. These affiliated surgeons would have access to the clinics and diagnostic services of the breast centre, participating in multidisciplinary discussion. The breast centre might therefore be best characterised as a "centre without walls". The breast centre proposal was not included in the Liverpool Stage 2, Phase 1 redevelopment. .

Undertake business case planning on the potential to establish an integrated Pelvic Cancer Unit (gynae-oncology, urological cancer and rectal cancer) and Breast Cancer Unit (involving BreastScreen imaging and assessment services at a centralised location and breast surgery disseminated across District hospitals), with the Imaging and assessment component of the service proposed for Liverpool Hospital.

Bankstown-Lidcombe Hospital

At Bankstown-Lidcombe Hospital a Clinical Services Development Plan (CSDP) has been prepared and is currently under review. The CSDP proposes establishment of a HVSS model of care that would incorporate much of the planned shorter stay surgical activity already undertaken there. Within this model of care it would be possible to provide new clinical services undertaken by Head and Neck surgeons in uncomplicated procedures e.g. thyroids.

Currently, general surgeons at BLH provide some thyroid surgeries, catering for just over 30% of the local demand for public hospital care. There is significant flow in the public sector to Liverpool, St George and Concord hospitals (around 50% of local demand for public hospital care) and also to private hospitals, predominately in South Eastern Sydney. If 70% of the activity currently flowing to other public hospitals were returned to BLH this would imply an additional 35 procedures at an ALOS of just over 2 days.

The other area of service expansion that has been advanced for BLH is in the provision of cardiac catheterisation, endovascular and interventional radiology services. The previous SSWAHS Area Healthcare Services Plan had identified a need for BLH to expand interventional imaging capacity and enhance the availability of invasive cardiology services. This would also give scope for BLH to expand in vascular surgery, where the ratio of endovascular to vascular approaches is now 50:50 and is expected to increase to 75:25 over the next five years. As noted earlier, *Surgery Futures* indicates that introduction of interventional cardiology can continue at sites that do not provide cardiothoracic surgery (p.21).

In interventional cardiology a significant proportion of activity is non-admitted and not captured in the inpatient statistics. For admitted activity, currently, a high proportion of the cardiac catheterisation and endovascular work for Bankstown residents flows to RPAH and Concord hospitals, each receiving

Bankstown-Lidcombe Hospital - Profile of Surgical Departments

- **Vascular & Endovascular** – RDL 5 service, full range of surgery except for aortic aneurysms
- **Upper GI** - advanced hepatobiliary surgery, including pancreatic surgery, complex endosurgical procedures
- **Gastroenterology** - specialist endoscopic services including DBE, ERCP EUS, RFA, EBUS and Confocal micro endoscopy
- **Colorectal** – full range of procedures including complex laparoscopic and ano-rectal physiology facility
- **General Surgery** – sub-specialty approach with defined teams in colorectal, upper GI, breast/endocrine and general/laparoscopic
- **Orthopaedics** – RDL 5 service, elective including joint replacement and trauma excluding spinal
- **Urology** – RDL 5 service
- **Plastic Surgery** – RDL 4 service, mainly local patients – hand injury, breast reconstruction, cancer resection
- **Ophthalmology** – RDL 5 service, operating with public and PRNIP lists
- **Breast Surgery** – treating around 100 breast cancer and 300 benign cases per annum
- **Women's Health** – gynaecology at RDL6 including general gynaecology, advanced laparoscopic and pelvic floor; obstetrics RDL4

more than flows to Liverpool Hospital (refer Attachment I and p. 11). There is also a significant flow to private facilities. With this referral flow there is a flow-on effect for those who require cardiothoracic surgery with more than double the number of Bankstown residents receiving cardiothoracic surgery at RPAH, compared to those receiving surgery at Liverpool Hospital. It is expected that with the introduction of interventional cardiology at BLH that the nexus of reliance on Sydney LHD cardiovascular services can be broken and that Bankstown residents will increasingly and predominately flow to Liverpool hospital for cardiothoracic surgery.

Review of the BLH CSDP should consider the potential for BLH to follow the development path in interventional cardiology that is being undertaken at Campbelltown Hospital i.e. a combined cardiac cath lab/interventional suite (2 procedure rooms) located close to the operating theatres and sharing recovery space.
This should enable expansion in the provision of endovascular procedures, including transfer of some endovascular procedures out of the main theatre block. Noting that development of a HVSS unit at BLH to meet 2021 demands would require additional theatre/procedure room capacity, the location of a cath lab/interventional suite would need careful design consideration.

Clinical support services at BLH will need to be enhanced and resourced to provide timely response for an efficient endovascular interventional suite to operate. This includes timely access to radiology procedures and reporting. Current issues, such as balloon dilations having to be organised the day before due to lack of support services, will need to be addressed.

As part of the review of the Clinical Services Development Plan for BLH, consider capital developments to enable provision of interventional radiology, cardiac catheterisation and vascular surgery, noting the enhancements to clinical support in radiology and allied health that will be necessary to provide an efficient service. Consider service provision by Head and Neck surgeons of uncomplicated procedures suitable for a HVSS model of care e.g. thyroid procedures.

Fairfield Hospital

Currently at Fairfield Hospital surgery is provided in the following specialties – general surgery (endoscopy and most general procedures), obstetrics and gynaecology (including Caesarean section), orthopaedics (joint surgery and other elective procedures) and vascular surgery (one surgeon providing varicose vein surgery only). There is an average of 33.25 four hour sessions provided per week – 28.75 (86%) are elective and 4.5 (14%) are emergency. There is unfunded operating theatre capacity to expand surgical activity at Fairfield Hospital, with the fourth operating theatre currently funded for two full day elective sessions per week, with expansion to five day utilisation potentially yielding an additional six four hour sessions (recurrent costs to achieve this expansion would be in the order of $2m per annum).

At Fairfield Hospital there is potential to expand the provision of sub-specialty surgery for minor uncomplicated procedures not requiring higher dependency support post operatively. The workshop identified potential in planned plastic surgery and planned urological procedures.

Subsequent to the workshop the decision was also made to transfer to Fairfield Hospital the hand surgery and associated hand therapy clinic (specialised physiotherapy and occupational therapy) previously provided at Liverpool Hospital. This is a service with an LHD wide catchment, with Liverpool Hospital in 2011-12 providing 66% of the LHD activity for ESRG 492 Wrist and Hand Procedures incl Carpal Tunnel. Transfer of all the ESRG 492 hand surgery activity at Liverpool Hospital to Fairfield Hospital would entail an additional 1,056 procedures and 1,526 bed days, equivalent to 5 beds (day only and overnight) per day.

Other data indicates a higher level of activity would transfer to Fairfield, estimated for 2012 calendar year at 1,897 episodes and 2,711 bed days. Greater than 70% of hand surgery is day only, which on the 2012 calendar year activity indicates that access to 6-7 day only bed spaces and 3 overnight beds will be required to meet this level of demand. An additional 8 weekday and 1-2 weekend operating theatre sessions will be required. Hand surgery activity is projected to grow by 19% in the ten years to 2021. Higher growth may occur if the Fairfield Hand Unit becomes the preferred centre for all WorkCover hand injuries in south west Sydney.

Plastic surgery had previously been provided at Fairfield at low and what was considered unstainable volumes. Data at Attachment I indicates that by 2021 if current flow patterns are maintained, Liverpool Hospital would provide for Fairfield residents 91 overnight ward separations and 625 bed days in plastic surgery i.e. around 2 beds worth of activity. The activity in ESRG 511 Microvascular Tissue Transfer or Skin Grafts (40 separations and 412 bed days at 10.3 days ALOS) is in the main not likely to qualify as minor plastic surgery and would presumably continue to be provided at Liverpool. Even if 100% of the remainder of plastic surgery activity for Fairfield residents was returned to Fairfield Hospital, this would only be equivalent to 51 procedures and 213 bed days, at 4.18 ALOS and less than 1 bed worth of activity.

There are also 88 day only procedures in plastic surgery projected for 2021 for Fairfield residents at Liverpool Hospital that could potentially be provided at Fairfield. Overall the projected activity in plastic surgery that could be provided at Fairfield is not high and of low acuity. The issue arises as to whether the funding generated for this activity under ABF would cover the additional expense incurred in expanding to provide this sub specialty on site. The workshops considered this data and decided that there was no value in proceeding with the proposal for returning plastic surgery provision to Fairfield Hospital.

A proposal was also raised at the workshop that dental surgery (hospital admitted rather than community oral health clinic work which is already provided at the Fairfield Hospital campus in the largest Community Oral health Clinic within SWSLHD) for Fairfield residents could be provided at Fairfield Hospital rather than Liverpool hospital. It may be possible for simple dental surgery procedures to be provided from the community clinic. The hospital identifies significant resource costs in establishing a dental surgery service, including in establishing a perioperative service, education for theatre and ward staff and purchase of complete instrumentation.

An examination of the data for hospital admitted dental surgery for Fairfield residents in 2010-11 identified 218 separations, with 77% of these being for children < 20 years. Of these child dental surgeries, 33% (56 seps) were provided at the Children's Hospital Westmead and 32% (54 seps) at Canterbury Hospital. Only 4 separations were provided at Liverpool. Of the 49 adult dental surgeries, 37% (18 seps) were provided at Liverpool Hospital and 29% (14 seps) at Westmead Hospital. Given the small amount of activity identified, the high natural flow component to Children's Hospital Westmead and Westmead Hospital and the significant set

up costs involved, there does not appear to be a convincing case for providing a dental surgery service at Fairfield Hospital.

For urology, the data at Attachment G indicates that by 2021 if current flow patterns are maintained, Liverpool Hospital would provide for Fairfield residents 66 overnight ward separations and 436 bed days in procedural urology i.e. under 2 beds worth of activity. Fairfield residents also flow significantly to BLH and Concord Hospital for procedural urology.

For the two procedural urology ESRGs entailing an overnight ward stay i.e. 523 TURP and 529 Other Urological Procedures; the 2021 projected outflow of Fairfield residents to other public hospitals for planned procedures totals 180 separations and 870 bed days. It might be feasible to target return of around 70% of that outflow activity with increased planned procedural urology provision at Fairfield Hospital i.e. 126 separations and 609 bed days, at 4.8 days ALOS and equivalent around 2 beds worth of activity.

There are also 461 day only procedures in urology projected for 2021 for Fairfield residents outflowing to other public hospitals. At 70% turn-around of that activity, an additional 323 day only urological procedures would be provided at Fairfield i.e. 7 per week on a 48 week p.a. theatre schedule.

Fairfield Hospital has identified that there is potential to provide minor urological surgical procedures on a day only basis. This would likely be confined to check cystoscopies. Equipment purchase (estimated at >$200k) would be required i.e. urology tower, cystoscope trays, flexible cystoscopes, service contract, associated disposables/consumables. Also additional radiographer and image intensifier resources would be required. As for plastic surgery, the issue of whether the funding generated for this activity under ABF would cover the additional expense incurred in expanding this sub specialty provision on-site would need to be explored.

The workshop considered that there was also potential for the general surgeons at Fairfield Hospital to ramp up the volume of day surgery procedures provided for the local population. They already do a significant amount of day surgery work, particularly colonoscopies. Although the range of day surgeries that could be undertaken by general surgeons in the future is difficult to predict, the future demand for planned day surgery for Fairfield residents has been projected for the following representative sample of ESRGs:

- 152 Gastroscopy
- 161 Other Colonoscopy
- 162 Other Gastroscopy
- 439 Other Colorectal Surgery
- 512 Skin, Subcutaneous Tissue and Breast Procedures
- 531 Vein Ligation and Stripping
- 545 Inguinal and Femoral Hernia Procedures Age>0
- 549 Other Non-specialty Surgery

Overall, a 33% increase in demand by Fairfield residents is projected for these day surgeries over the next decade. Currently, 49% of the public demand in these ESRGs from Fairfield residents is met at Fairfield Hospital, 17% at Liverpool Hospital and 7% at each of Canterbury, Campbelltown and Bankstown-Lidcombe hospitals. By 2021 it may be feasible to target that 70% of these day surgeries are provided locally at Fairfield Hospital. This would result in an 88% increase in day surgery volume at Fairfield Hospital for these ESRGs, a combination of natural demand growth and turn-around of outflows. This would provide some relief in demand at

Liverpool Hospital, mainly in endoscopic work. Increased volume might result in economies of scale advantageous under ABF funding.

It is noted that Fairfield Hospital has been providing endoscopy sessions for Liverpool Hospital on Fridays. It is proposed that these sessions return to Liverpool Hospital with the transfer of the hand surgery unit to Fairfield, to free up theatre availability.

The hospital has identified that a significant increase in the volume of endoscopy work undertaken could be accommodated through establishment of a Procedure Unit outside of the theatre complex. This could cater for procedures such as check cystoscopies and other endoscopic work diverted from the main theatres, freeing capacity and improving utilisation for more complex surgical procedures. Establishment costs would be significant in capital and equipment purchase.

In the context of exploring a multi-hospital urology department with a District networking focus, assess the clinical and financial viability under ABF of providing minor uncomplicated procedures in urology at Fairfield Hospital. Encourage increased provision of day surgery by general surgeons to meet natural demand growth and increase the self sufficiency in local provision. Expand the range of sub-specialty surgery through the transfer of hand surgery and associated hand therapy services from Liverpool Hospital, maintaining it as a centre of excellence with an LHD wide catchment.

Fairfield Hospital has also identified potential for the well established elective orthopaedic service to be expanded. This would include additional joint replacement surgery and minor procedures which could be built onto the existing Orthopaedic Surgery profile. The limitations of bed base may preclude significant expansion in more complex surgeries requiring a substantial period of inpatient post operative care. The limitations to bed base further strengthen the firm view that orthopaedic trauma surgery for Fairfield residents continue to be provided at Liverpool Hospital, to ensure that the elective orthopaedic service can continue to provide an optimal model of care and grow appropriately to meet future increased demand. Also, it is noted that there is no equipment available at Fairfield Hospital that would enable orthopaedic trauma surgery to be undertaken.

Continuation and enhancement of the Fairfield Orthopaedic Hip and Knee Service (FOHKS), providing education and management of patient needs whilst on the waiting list, is strongly supported by the hospital.

Bowral and District Hospital

Bowral and District Hospital currently provides surgical services in the specialties of general surgery, orthopaedics, obstetrics and gynaecology, endoscopy and ophthalmic surgery.

In Wingecarribee, consultations with the local SWSLHD Consumer and Community Network to inform development of the LHD strategic plan - *Strategic Priorities in Healthcare Delivery to 2021* – highlighted community concern about inability to access a range of specialist services locally in the public hospital system. Of particular concern was that Bowral Hospital did not offer lists in ENT or urology and that patients were forced to travel outside the local area for public hospital services in these disciplines or incur the significant expense of private hospital surgery offered at the co-located Southern Highlands Private Hospital or at another private hospital outside the area.

In 2010-11 there were 337 planned ENT separations for Wingecarribee residents, with 247 (73%) provided in private hospitals and 90 (27%) provided in a public hospital. In order of magnitude the flows for public ENT surgery were to Wollongong (28%), Campbelltown (17%), Bulli (16%), Children's Westmead (9%) and RPA (6%).

In 2010-11 there were 299 planned urological surgery separations for Wingecarribee residents, with 238 (80%) provided in private hospitals and 61 (20%) provided in a public hospital. In order of magnitude the flows for public urological surgery were to Campbelltown (41%), Liverpool (15%) and St Vincent's (13%).

Offering public lists would likely rebalance the public/private mix in service provision. As urology and ENT are offered at Southern Highlands Private by surgeons who also have appointments at SWSLHD hospitals (Campbelltown and/or Liverpool hospitals) it may be possible to explore whether surgery for public patients in ENT and urology could be offered under a contract arrangement there. This might be more efficient in obviating any set up costs for the operating theatres at Bowral Hospital.

There is potential to provide a paediatric ENT service at Bowral and District Hospital, conjointly with the paediatric unit and paediatricians, noting that demand pressures on bed capacity for paediatric patients are less acute than experienced in the adult wards and surgical short stay unit.

Explore options for providing ENT and urology surgery for public patients in Wingecarribee, including through negotiation with Southern Highlands Private Hospital and the surgeons providing services there who are also accredited with SWSLHD public hospitals. Consider introduction of a paediatric ENT service, with the inpatient bed component provided from within the paediatric bed allocation.

Bowral and District Hospital has theatre capacity available that could provide for additional lists (on alternate Mondays and Fridays). The hospital has identified that this vacant list time could be used for additional general surgery, ENT surgery and additional orthopaedic surgery. An option of a third orthopaedic surgeon operating from the hospital has been advanced as one means of addressing increasing local demands for orthopaedic surgery, noting that joint replacement surgery has now increased to between 150-160 per annually, of which around 20% are for out of District patients.

South West Growth Centre

The 46% increase in demand for day surgery projected for SWSLHD residents over the decade to 2021 suggests that in addition to providing capacity for increased volume at existing sites, new day surgery sites should also be explored. Much of the increased population growth in the future will be in the South West Growth Centre (SWGC).

Planning for health service provision in the SWGC has been based on strong clinical advice to the effect that the hospital (secondary and tertiary) inpatient and ambulatory care needs of SWGC residents would best be met through increased capacity at existing hospital facilities within close proximity to the growth centre boundaries i.e. at Liverpool, Campbelltown and Camden.

Infrastructure developments within the SWGC have focused on developing an Integrated Primary and Community Care (IPCC) model of care. Three levels of IPCC provision are

preferred to emerge, ranging from team general practice (<5 GPs in practice) in local neighbourhoods to 3 larger regional centres (RIPCCs) located in the major town centres to develop at Leppington, Oran Park and eventually in the western sector of the SWGC, probably Bringelly.

An RIPCC would not provide overnight inpatient care, rather focusing on providing a comprehensive range of on-site ambulatory care and specialty services in-reaching including potentially aged care and rehabilitation services, child and family counselling, community mental health, health promotion, drug health, youth services, palliative care, chronic disease care coordination, antenatal care, satellite renal dialysis, chemo and other infusion therapy. A range of Community Health services appropriate to the population catchment of the RIPCC would be co-located.

The largest RIPCC is planned for Leppington Town Centre and provision of day surgery has been incorporated in the scope of services to be provided. Just over 1,000 square metre internal space allocation has been identified for a four theatre day surgery unit, with a schedule of accommodation derived from the Australasian Health Facility Guidelines (AusHFG).

Staged construction is envisaged reflecting the fact that the range of services to eventually be provided will have different population catchments for viability of service provision. It is estimated that there would be economic justification for capital construction of the first stage of a Regional IPCC when catchment populations grow to approximately 20,000 people. This is not likely before 2020 at Leppington and the first stage would mainly focus on primary care and some community health services, such as child, youth and family services. More specialised services requiring larger patient catchments for viability, such as day surgery, would likely follow in subsequent stages of construction.

Continue to plan for provision of day surgery unit within the Regional Integrated Primary and Community Care (RIPCC) Centre proposed for the Leppington Town Centre development within the South West Growth Centre (SWGC).

Realigning services across surgical and procedural care networks

Initiatives mentioned earlier to introduce new clinical services at individual hospitals will serve to realign the matrix of service provision in some specialties. Internal patient flows, particularly to Liverpool Hospital, will to some extent be repatriated as new services are provided at local hospitals. This effect could be further enhanced by proactive decisions to realign service provision to an alternative location of care. The workshop considered that for service realignments the initial focus should be on relieving demand pressures at Liverpool Hospital. The following identifies the impact in terms of beds and procedures at 2010-11 service volumes should some services presently provided at Liverpool Hospital be redirected elsewhere.

Head and Neck Surgery

As identified earlier, minor procedures undertaken by Head and Neck surgeons may be able to be performed at BLH. Most of these procedures would be included under ARDRGs D02C Head and Neck Procedures W/O Malignancy W/O CC; D05Z Parotid Gland Procedures; D14Z Mouth and Salivary Gland Procedures; and K06B Thyroid Procedures W/O Catastrophic or Severe CCs. Clinical advice is that 80% of Head and Neck surgery is on thyroids.

In 2010-11, there were 229 procedures in these ARDRGs undertaken at Liverpool Hospital, with 27 day only and 203 overnight admissions, accounting for 379 bed days at 1.87 ALOS. Realigning this activity to BLH would have minor impact on theatres (less than 5 procedures per week) or in freeing up of beds (a little more than 1 bed on average). Thyroid procedures have an average time in theatre of 166 minutes and other head and neck surgery 118 minutes on the data included in the Ministry of Health's Operating Theatre Requirements Projection Model. The workshop also suggested that thyroid surgery be undertaken at Campbelltown Hospital.

If a specialised head and neck surgery service for minor procedures is established at Bankstown-Lidcombe Hospital, explore potential for the minor thyroid, parotid and other procedures currently undertaken at Liverpool Hospital to be realigned there. Also consider the potential for minor thyroid, parotid and other procedures to be provided at Campbelltown Hospital.

Paediatric Surgery

In the longer term it is proposed that Campbelltown Hospital develop further as a regional paediatric centre and become the prime focus for paediatric surgery within SWSLHD. The Ministry of Health has yet to clarify the extent to which paediatric developments at Campbelltown Hospital will proceed on a development path which could potentially entail a 3rd Children's Hospital for Sydney. With paediatric service developments Campbelltown Hospital could develop as an elective specialist paediatric surgery hub, increasingly taking on the load of planned paediatric surgery undertaken at Liverpool Hospital. If this was to occur in the long term, consideration would need to be given as to how to maintain access to

timely emergency paediatric surgery required by children attending the Liverpool Hospital ED.

Significant enhancement of paediatric surgical activity at Campbelltown Hospital could only proceed with a critical mass of activity to justify the enhanced workforce and clinical support services that would be required.

In 2010-11, there were 498 planned paediatric (aged <16) surgeries at Liverpool Hospital, with 290 of these being day only and 208 overnight admissions, accounting for 253 bed days at 1.22 ALOS. Around 48% of these procedures were in ENT, 21% orthopaedic and 15% more general surgery including hernia repair. Realigning this activity to Campbelltown Hospital would have minor impact on theatres (a little over 10 procedures per week) or in freeing up of beds (a little less than 1 bed on average).

In 2010-11 there were 239 emergency paediatric surgical procedures undertaken at Liverpool Hospital, of which 37 were day only and 202 overnight admissions, responsible for 725 bed days at 3.59 ALOS. This is a little less than 5 procedures through theatre a week and a little more than 2 beds on average for emergency paediatric surgery patients.

Should Campbelltown Hospital receive endorsement to develop as a regional paediatric unit, explore potential for the realignment of planned paediatric surgery from Liverpool Hospital to that unit. This analysis would consider the impact of realignment on the continuing need to access emergency surgery for children attending the emergency department at Liverpool and the enhancements to workforce and clinical support required at Campbelltown.

General Surgery

In general surgery, the previous section identified potential at Fairfield Hospital to increase general surgical provision, particularly day only procedures including endoscopic work. Development of the HVSS model of care at BLH and Campbelltown Hospital also provides opportunities for shorter stay general surgery to be realigned from Liverpool Hospital. Clinical advice at the workshops was that there would be a decreasing need to provide general surgery at Liverpool Hospital due to sub-specialisation and that although in the shorter term an increase in general surgery was expected at Campbelltown Hospital, over time it would also decrease there as sub-specialisation proceeded. It was noted that all surgeons are included on general surgery emergency rosters and do a range of general surgery procedures e.g. laparoscopic cholecystectomies.

General Surgery procedures which may meet the criteria for realignment would in the main be included under SRGs 43 Colorectal Surgery and 54 Non Subspecialty Surgery. For day surgery the relevant ESRGS include:

- 432 Anal, Stomal and Pilonidal Procedures
- 439 Other Colorectal Surgery
- 545 Inguinal and Femoral Hernia Procedures Age>0
- 549 Other Non-specialty Surgery

In 2010-11 at Liverpool Hospital there were 225 planned day surgery procedures performed in the above ESRGs. Procedures under ESRG 549 Other Non-Specialty Surgery have an average time in theatre of 109 minutes, those under ESRG 439 Other Colorectal Surgery

average 69 minutes and hernia procedures average 79 minutes on the data included in the Ministry of Health's Operating Theatre Requirements Projection Model.

For overnight ward admissions with ALOS <3 days the relevant DRGs include:

- G10B Hernia Procedures W/O CC; G11Z Anal and Stomal Procedures
- J09Z Perianal and Pilonidal Procedures
- 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
- M05Z Circumcision
- Q02B Other OR Procedure of Blood and Blood Forming Organs W/O Cat or Sev CC
- X06B Other Procedures for Other Injuries W/O Catastrophic or Severe CC
- Z01B OR Procedures W Diagnoses of Other Contacts W Health Serv W/O Cat/Sev CC.

There is not a significant amount of planned surgery undertaken at Liverpool Hospital in these procedures with the 2010-11 data indicating 405 separations and 703 bed days at 1.74 ALOS. This is a little more than 2 beds on average for these patients. Overall it appears that the realignment of planned activity in general surgery from Liverpool Hospital to Fairfield Hospital and to HVSS models of care at BLH and Campbelltown Hospital would not in isolation have significant impact on freeing up theatre capacity or surgical beds.

Consider realignment of minor colorectal work, including endoscopy, and other day and short stay procedures undertaken by general surgeons at Liverpool Hospital to Fairfield Hospital and HVSS units proposed for BLH and Campbelltown Hospital.

Ophthalmology

Transfer of ophthalmology day procedures to community based facilities has been canvassed earlier, along with their incorporation within a HVSS model of care at BLH and Campbelltown Hospital. In 2010-11 there were 307 planned day only ophthalmology procedures, 83% being lens procedures. Lens procedures have an average time in theatre of 42 minutes on the data included in the Ministry of Health's Operating Theatre Requirements Projection Model. Realigning this activity would not have a major impact on theatres (a little over 6 procedures per week).

Realign the day ophthalmology activity currently undertaken at Liverpool Hospital to a community based facility if that proves feasible to establish and/or to HVSS units that are proposed for BLH and Campbelltown Hospital.

Elective Spinal Neurosurgery

The intention to develop an elective spinal surgery service at Campbelltown hospital was identified in the CSP-M. Most neurosurgery currently undertaken at Liverpool Hospital will remain centred there – all acute and elective cranial neurosurgery, elective complex spinal surgery and acute spinal surgery. Non-complex spinal surgery could, however be effectively provided at an alternative hospital which in addition to Campbelltown Hospital could also include Bankstown-Lidcombe hospital. In 2010-11, there were 275 elective spinal and back related procedures (ANDRGs I06Z, I09A, I09B, I10A and I10B) undertaken at Liverpool Hospital,

consuming 1,250 bed days at a length of stay of 4.55 days, equivalent to 4 beds at 85% occupancy. Around 58% of these patients came from outside the Liverpool/Fairfield catchment. There would appear to be scope for an LHD-wide solution through establishment of a non-complex spinal centre spanning across Bankstown-Lidcombe and Campbelltown hospitals.

Consider potential for establishing a non-complex spinal centre spanning across Campbelltown and Bankstown-Lidcombe hospitals.

Dental Surgery

The workshops also discussed whether there was scope for rationalisation in the sites that undertook dental surgery with concern that there was a significant amount of dental work undertaken at Liverpool Hospital that could be more efficiently provided at a district hospital. It was recognised that Liverpool Hospital would continue to require dental surgeon input to facio-maxillary work undertaken there and the dental surgery component of multidisciplinary trauma care. A proposal that Fairfield Hospital provide the dental surgery for Fairfield residents that is presently provided at Liverpool Hospital is discussed earlier in this document, with the conclusion that there would be little value in providing a new service at Fairfield Hospital for the current small level of flow to Liverpool Hospital.

For SWSLHD residents in total, a 52.39% increase in demand for dental extractions and restorations is projected by 2021 (Attachment D). In 2010-11 there were 753 public hospital inpatient separations of SWSLHD residents for dental extractions and restorations, with 91% day only. The highest volume was provided at Canterbury Hospital (217 seps) followed by Westmead Hospital (181 seps). Liverpool Hospital provided 103 separations and Campbelltown Hospital 95 separations. These are the only SWSLHD hospitals reporting dental surgery. Around 38% of the Liverpool Hospital separations were for Liverpool residents, with 34% for Macarthur residents.

If there is considered to be a need to reduce the amount of dental surgery provided at Liverpool Hospital the most efficient strategy would appear to be to marginally enhance the Campbelltown Hospital services to treat all Macarthur residents there, rather than establishing dental surgery at another SWSLHD hospital that does not presently provide this service. Future growth in demand is also likely to be predominately between Liverpool and Campbelltown in SWGC precincts.

Where practicable, meet the projected growth in demand for dental surgery at Campbelltown Hospital, including by turning around the current flows to Liverpool Hospital by Macarthur residents.

Plastic Surgery (including hand surgery)

The workshops also discussed whether there was any value in seeking to realign plastic surgery from Liverpool Hospital. Fairfield Hospital has indicated that it would be able to provide some minor plastic surgery, but would have difficulties in taking on a definitive role in plastic surgery arising from trauma i.e. in providing the initial trauma assessment and care as well as the subsequent surgical intervention. It is noted that 90% of plastic surgery work at Liverpool Hospital relates to trauma/emergency cases and is a core component of the multi-

disciplinary approach to this work, therefore it was considered that there was little scope for the majority of this plastic surgery work to be provided at Fairfield Hospital.

However in one sub-specialty area, hand surgery, Fairfield Hospital is well placed to provide the secondary follow-up surgery after initial trauma assessment and care provided at emergency departments across the District. Hand surgery in Australia has traditionally been provided by either plastic, orthopaedic or sometimes general surgeons, but has increasingly evolved as a sub-specialty of its own. At Liverpool Hospital the hand surgery unit has evolved from the plastic surgery service.

In 2010-11, Liverpool hospital had the second highest workload in ESRG 429 hand and wrist procedures of NSW public hospitals (behind Sydney Hospital), providing 1,099 procedures of which 73% were provided as day only and 41% classified as emergency. This activity is provided across 4 DRGs, with the percentage classified as emergency being:

- B05Z Carpal Tunnel Release – 147 separations, with 1.4% emergency
- I30Z Hand Procedures – 658 separations, with 36.2% emergency
- X05A Other Procedures for Injuries to Hand W CC – 40 separations, with 87.5% emergency
- X05B Other Procedures for Injuries to Hand W/O CC – 254 separations, with 67.3% emergency

As identified in the section on new clinical services at Fairfield Hospital, subsequent to the workshop the decision has been made to transfer to Fairfield Hospital the hand surgery and associated hand therapy clinic previously provided at Liverpool Hospital. The service is scheduled to commence in September 2013.

Attachment A - Notes of SWSLHD Surgical Planning Forums

THURSDAY 17 NOVEMBER 2011

1. Purpose

To develop a comprehensive Surgical Plan for SWSAHS

2. Drivers for Change

- The changing Health environment i.e. surgical planning driven by the National Agreement and surgical targets. For SWSLHD, the volume of work is greater than can be achieved with the additional surgical funding; there is a need to revise targets.
- Activity Based Funding will be a driving factor with activity linked to funding. There will be an impact on surgical management and models of care.
- Previous planning/changes has been hampered by a lack of consultation. All facilities will need to know about the directions.
- Current configuration and mix of services doesn't fit with the services provided and the skills/expertise of specialists doesn't fit in well always with future needs. Tend to replace surgeons with similar surgeons rather than look at future needs.
- Significant growth in population.
- Role of clinical networks need to be considered. How can they be enhanced?

3. NSW Surgery Futures Report – Implications for SWSLHD of the Recommendations

- **High volume short stay services (HVSS**): concentrate work in hospitals to produce higher throughput and better outcomes. Funding is available but have to use the current bed base i.e. Bankstown has spare capacity
- **Eye Centres:** to be located in Campbelltown and Bankstown, and continue work at Bowral. However it could be undertaken in community or private setting. We need to cost this under the ABF model.
- **Specialist Centres:** in neurosurgery - Liverpool; spinal neurosurgery - Bankstown; Fairfield - joint arthroplasty; interventional radiology is a workforce issue; Liverpool only - interventional cardiology.
- **Gynaecology:** highly complex multidisciplinary work with a significant workforce issue nationally and locally. Liverpool could be a centre for Gynae-oncology.
- **Paediatric Surgery:** the relationship between major teaching hospitals and periphery hospitals needs to be discussed for Liverpool. The focus needs to be on Campbelltown i.e. how to run a third paediatric hospital at Campbelltown? UWS has a proposed paediatric chair for Campbelltown. SWSLHD is not self-sufficient with lots of referrals out.
- **Urology:** high demand with the majority HVSS. Cancer urology is potentially at Liverpool – possibly a Pelvic Cancer Centre with rectal cancer, urology and gynae cancer. Bowral work is undertaken in the private hospital; Campbelltown does some; limited at Fairfield; substantial work at Bankstown and some work at Liverpool but an issue is the mix. Cancer urology should align with the Cancer Centre and Plan. An option might be a smaller number of centres.
- **Orthopaedics:** increased demand with a high cost for joint and support. There is good access at Bowral, no service at Campbelltown, Fairfield has capacity to do more but

has no ICU backup for sick patients and no continuity of care. There is potential for networking but requires protocols, beds and identification of who shouldn't go there. The report recommends more activity at Fairfield, Bankstown to pick up cases from Liverpool and Bowral to maintain a service.

- **Cancer:** surgery to be done at cancer centres. Need to look at Cancer Institute data.
- **Upper GI:** Also need to look at Upper GI centres and consider each subspecialty
- **Bariatric Surgery**: proposed for Campbelltown however there is no funding for this.
- **Trauma:** not considered properly. We need to look at emergency surgery guidelines and how they are/can be applied locally.

4. General issues

- What is the role of all hospitals? Fairfield has a clear identity which helps in attracting specialists. Need to consider readiness for surgery, demand and capacity, and emergency versus elective.
- Investment will be targeted to population growth in greater Sydney.
- What is the role of private hospitals?
- Need to acknowledge the personal investment of surgeons.
- The ABF target is 100%, with excess work funded by LHD funds. A concern is that SWSLHD is overheating. Bed control and models of care need to be examined
- What do we want to provide in the future?
- CT support requires consideration as access to data is required immediately.

5. Role Delineation and Previous Service Planning

- All facilities need to consider their current and future role, and the support and other services which are required to provide a **safe** service. The *NSW Role Delineation Guidelines* reflect the support and other services required for each speciality. For a facility to become a centre of excellence/specialist centres, the range of support and other health services identified in the Guideline need to be in place.
- Need to look at role delineation and dissect general surgery into its component parts
- Clinical Streams planned the service direction 5-6 years ago. These directions were reviewed in the last 1-2 years. Within the context of a new LHD, new streams and stream directors and a new health and funding environment, the previous directions need to be reviewed and updated/modified.

6. Comments relating to the Surgical Casemix Data

- Need to consider data by facility, specialty; and analyse activity, trends, and issues.
- Complexity of work needs to be acknowledged. We need to be savvy in how we present the data and drill down into it – not just general surgery. For example
  - Upper GI units can provide a higher level service and at a lesser cost.
  - The Liverpool profile for emergency to planned surgery is different than other hospitals. Do we need all emergency work at that cost? And how do we deal with emergency work which blocks beds. Data on Emergency Surgery by DRG is needed (noting that some hospitals are on bypass)
  - the flow of surgery across the year
  - in Orthopaedics patients age, elective or emergency/trauma etc
  - patterns of complexity

7. Next meeting

1. Consider each facility, use of theatres, activity mix, issues and concerns
2. Consider the model of care and the mix – i.e. should we have specialist models

THURSDAY 15 DECEMBER 2011

1. Bowral Hospital

- Surgery (general surgery, orthopaedics, ophthalmology and obstetrics) is undertaken in 2 theatres with no other procedural space. Funded for 9 full day sessions – 1 theatre is vacant every Friday and every second Monday. There are no overdues on wait lists. Theatres are small and old
- Orthopaedics: have a cap of 120 yr. Demand of approximately 145 referrals - 120 managed by Bowral and 20 remaining cases flow out (this is increasing). Out of Area referrals are increasing. How do we reverse the flow?
- General Surgery: The principle of how lists are managed i.e. how to put patients on lists and who owns the lists i.e. 3 general surgeons with unbalanced referral rates resulting in differing wait list times. The standard is that we do surgery within 30 days. A possible solution is that the list should be considered the Departments and should be addressed at a department level with surgeons to work together so that there is sharing across the practice. However this can break the patient relationships. An alternative is to provide the fewer sessions to the younger surgeons
- Emergency: no lists however some cases are done out of hours i.e. treated as emergency, particularly orthopaedic when they are not a true emergency
- Theatre capacity: is available possibly utilised for ENT or urology? (and interest by surgeons) but bed base is an issue with only 6 short stay beds with only 6 endoscopy cases a day.
- Private hospital: has 4 theatres fully operational with demand for setting up additional private capacity
- Ophthalmology: cases should not be done in theatres
- An overall issue, not just confined to Bowral is the number of SWSLHD residents out flowing for surgery at outside facilities.

2. Campbelltown

- Surgery includes: general, orthopaedic (trauma and general), urology, plastics, ophthalmology, ENT, gastro, respiratory, paeds and limited vascular.
- Campbelltown is expanding but has limited capacity
- KPIs: 57% planned with 43% emergency and a cancellation rate of 4.8%
- Bariatric: planned for the future when funding is provided. Propose a cap of about 50 cases and linked in to the Metabolism Clinic
- Orthopaedics: Campbelltown is not a trauma centre (Liverpool's role). We need to define what a trauma centre is i.e. simpler plastics such as hand injuries could be undertaken at Campbelltown
- Thoracic surgery: in the longer term should this be provided at Campbelltown e.g. pleurodesis.
- Ophthalmology: load and throughput are issues. Require hospital based work for very complex cases however the bulk of it could be undertaken in a public hospital, primary health centre or off site e.g. integrated primary and community care centre or a PPP (and possibly take Liverpool and Bowral cases)
- Urology: load is an issue. There are dual appointments with Liverpool. Potentially subspecialisation with cysts, stones and renal tumours at Campbelltown and renal oncology at Liverpool
- Interventional cases: use of VMOs increases expense. Relatively fewer undertaken at Campbelltown. Lack of trained radiologists in the District. Vascular and radiological work needs to be planned together as a subspecialty and consider workforce issues.

- 7 operating theatres, 1 endoscopy room (and another one is unused). Run an Inpatient (IP) Reduction list and emergency theatres together (better throughput when compared to IP with surgeon or IP with specialty). Separate paediatric emergency from paediatric planned
- Funded for 2/3rds of capacity, with 368 unfunded
- Limited bed base: possible solutions include High volume short stay (HVSS) – could use 6 inpatient beds and run with day only with protocols for discharge – do closed reductions and abscesses; and to use primary health care dental chairs offsite for routine eyes (or consider PPP)
- PPP: a long term commitment which locks us in so how do we wish to provide public health care into the future?
- Ambulatory care services: better and faster care and can be done on or off site
- Potential solutions/strategies
  - Decrease the load in caesarean lists (issues across the District)
  - Appoint for KPIs, reallocate vacant sessions
  - Engage clinicians in waiting lists – surgeons happy to look at categorisation
  - We need to consider how we do holiday lists
  - Need to consider the Ophthalmology model of care
  - Paediatric bed base is an issue with 1 session at Campbelltown and 1 at Liverpool – capacity for children to surge
  - HVSS
  - Expand inpatient reduction list
  - Bed capacity is an issue with increased cases
- Breastwork: 2 surgeons with 100 cases in ten months i.e. more than Liverpool and same as Bankstown, and a funded Breast nurse – there are models e.g. Bankstown which could reduce LOS. Lots of patients go outside the District for examination and care – we need to consider a District Breast Centre with a comprehensive service for breasts. This is proposed for Liverpool (or at another site but need support services). Reconstruction work is an issue with some treated at Liverpool (with a good unit developing) but some still flow to CRGH. Most people prefer treatment in their own District so flow could be reversed.
- What is the self sufficiency of Breastwork and for surgery in general?
- Orthopaedic: Campbelltown interested in joint replacement however it is preferable to only have one centre of excellence and we have the Whitlam Centre at Fairfield. We need to consider demand
- ENT: load is an issue
- What is the role of each hospital? Bowral does a range of work for the size of the community, Campbelltown also does a range. Fairfield has a well developed identity

3. Bankstown

- There are 8 theatres. Specialties include ENT (10), general surgery (22), Upper GI (13), Colorectal (21), vascular (12), breast (6), gynae (21), neuro (4), ophthalmology (17), orthopaedics (27), plastics (10), urology (18) and gastro (67). No cardiothoracic. Paeds over 5 years (only) done by general surgeons. All general surgeons on roster for emergency work
- Endoscopic work done in 2 rooms in perioperative day stay by 10 surgeons. Unit could possibly be more efficient if outside theatre areas – possible PPP? Undertake 2,500 procedures/yr – currently at capacity
- Orthopaedics: considerable no of joint replacements
- Could reopen short stay adjacent to theatres for readmissions

- 8 operating theatres funded for 5.7 theatres – 228 sessions/month, 80 unfunded sessions, 12 ECT unfunded
- Overnight emergency work: 1 emergency session/day with no overnight emergency staff – call-backs are an issue. Not much work overnight – mainly c sections. Other than Liverpool there are no overnight theatre teams (nil at Bankstown and Campbelltown)
- Bed stay: abscesses wait for 4 days
- Endoscopic rooms funded for 80 sessions month with no unfunded sessions ERCP done in X-ray rooms due to equipment requirements (potential for up to 8 sessions/month) – vacant in the endoscopy area.
- 4 unfunded sessions week – 3 ECT and 1 MRI
- Emergency work: work is done with patients fitted in the next day and this is an issue. Anaesthetist buy in is required. There is no dedicated list for trauma or semi urgent/inpatient cases disrupting planned lists
- KPIs met with negotiation of extra sessions
- ICU beds and their availability across the District is an issue
- Urology: is an issue locally with no senior registrar (and the same for Plastics – depends on the registrar) and also across the District. What works well at Campbelltown (with the same surgeons at Liverpool) is a problem at Bankstown with patients flowing elsewhere in Sydney. MDT for genitourinary at Campbelltown and Liverpool. Staff at Bankstown are senior. Urology with major cancer – lists are already higher at Bankstown than Liverpool. Potentially could expand urological oncology work with registrars help.
- Should look at urology across the District as have 3 hospitals which do it. District would benefit from a Pelvic Cancer Centre and need a surgical cancer planning day. Noted that there is a need to look within the stream of Urology as the focus is on Liverpool and Campbelltown with Bankstown left out (NB Bankstown did waitlist work for Liverpool)
- Head and Neck: opportunity to supplement services provided at Liverpool, possibly doing thyroids
- What is the role of Bankstown? Historically general surgery but this needs to be stepped up. Can be strong upper GI and gastro, and HVSS (by opening the short stay ward). Plastics want to expand; breast work could be an issue, not ENT or eyes. However the hospital is landlocked. There is a good relationship with the medical centre adjacent to the hospital which decreased work in the ED – this should be considered for Liverpool.
- Need to address capacity at Liverpool
- Interventional radiology work: a desire. No urology work without interventional radiology (send to Liverpool if septic for a PERC)
- Renal and vascular: For transplant services patients go elsewhere to State-wide centres which are doing the service well so no transplant services for SLHD

4. Fairfield

- There are 4 theatres. Surgeons include general surgery (7), orthopaedics (5), vascular surgery (1), obstetrics & gynaecology (7)
- The workload is predominately elective (80%) – a heavy general surgery load of 2,400, mainly colonoscopies. Obstetrics & Gynaecology is mainly caesareans. There has been a significant increase in the number of orthopaedic joint operations, now at 640 p.a. Vascular surgery is mainly varicose veins and an overflow from Liverpool.
- There are 105 funded lists/month and an additional 53 unfunded lists (including 18 emergency lists)
- There are two 'private" orthopaedic lists a month i.e. a pooling of patients with private status taken from the overall waiting list, but not advantaged in access to surgery. It is considered that an alternative terminology for these lists should be used
- Overall there is no waiting list problem and utilisation is at 86%. Of the 35 sessions per 4 weeks of unfunded (unused) capacity, 8 are currently used for Liverpool wait list reductions, leaving 27 sessions per 4 weeks available.
- The cancellation rate is 2.2%
- The opportunities at Fairfield need to be considered in the light of restricted capacities i.e. limited bed base, HDU capacity only with no ICU, limited Registrar cover. The opportunities identified include the following.
- Plastics (uncomplicated cases only) – plastics was previously provided at Fairfield
- General Surgery – expanded activity, 2 young VMOs developing their practice, including work with complexity. Potential to develop HVSS surgery, taking on some Liverpool work. Much could be day cases with minimal load on beds or need for HDU resources
- Orthopaedics – capacity to expand simpler more minor orthopaedic procedures, but not for joint replacement. Fractured neck of femur patients could be taken on, although issues with ICU/HDU capacity. There is a combined orthopaedic department Liverpool/Fairfield now and potential to look at a combined department across SWSLHD. The issue as to whether joint replacement is done at Campbelltown in the future requires examination given demand parameters.
- Urology – was previously transferred from Fairfield to Bankstown. A service for minor cases could be reinstated with major cases continuing to be done elsewhere. There is potential to look at a combined management structure for urology across SWSLHD.
- Ophthalmology – would require capital investment
- Endoscopy - would require capital investment, presently done in theatres and view that could be done more effectively elsewhere, however presently achieve 10-12 endoscopies per list.
- There is a need to recognise the very important role of General Surgery at both Fairfield and Bowral. Also general surgery is very important for surgical teaching/training.
- Overall future developments at Fairfield were identified as joint replacement, urology and the strengthening of General Surgery

5. Liverpool

- From 2012 there will be 23 theatres, including 5 endoscopy, plus 2 procedural rooms and an interventional radiology suite. There are 100+ surgeons operating with 426 sessions per month and a minimum of 4 unfunded sessions per week.
- For 2011 YTD there has been 308 additional theatre lists outside normal business for waitlist and emergency cases
- There is a significant issue in major surgical equipment being in need of replacement

- The most significant area of concern in meeting Performance Targets is in cardiothoracic. Issues also arise from time to time in Head & Neck, Urology, Plastics, General Surgery, Neurosurgery, Upper GIT, Vascular and Gastroenterology. Improvement strategies include Saturday sessions, reallocation of vacant sessions, Registrar lists, side by side lists, transferring patients to other surgeons and additional lists at other hospitals
- About 70% of cardiothoracic cases are undertaken on non-cardiothoracic lists. This is expensive as it means two anaesthetists are servicing the surgery unnecessarily.
- There is a high emergency and trauma load, approaching 50% which is much higher than most other teaching hospitals. There are also a large number of inpatient emergency and semi urgent waiting list patients. Of 14,000 procedures per year, 6,000 are emergency, with 2,000 of these relatively minor procedures including 1,500 hand surgeries. Only 1 emergency theatre operates during the day. 776 caesarean sections compete for the one emergency list.
- Suggested solutions include moving some less complex cases to a more appropriate facility. Discussion with the hand surgeons has indicated that despite Liverpool being one of 3 expert hand surgery services in NSW, complementing the trauma role, around 87% of these procedures could be done in an ambulatory care facility. This facility will be available with commissioning of the Liverpool redevelopment. Potential revenue has been estimated at $2m p.a.
- It has been estimated that 400 sessions p.a. could be saved by moving suitable procedures to the ambulatory care facility, offloading up to 30% of mainly emergency cases from the main theatres. This capacity relief would enable a 2nd emergency theatre and increase in number of caesarean section sessions available
- The potential for shifting elective work from Liverpool is in Head & Neck surgery, General Surgery, Breast Surgery, Ophthalmology and Paediatric Surgery.
- There was discussion that general emergency lists don't work well. Emergency lists need to be run as more of a business with product differentiation.
- Discussion about Gynae-Oncology, with acknowledgement that it needs to be done well. It would be a good fit with a major pelvic service should that be established at Liverpool.
- There are issues with orthopaedic trauma surgery, all of which is done at Liverpool. Fractured Neck of Femurs have an average pre-op stay of 3 days. Overseas experience is that a Neck of Femur unit could be established at an elective joint hospital and that this could improve quality of care.
- The main solutions offered were to run emergency lists as a business; separation of elective and emergency theatres; and providing extra emergency operating time and Caesar lists.

6. Next meeting

1. Consider an Issues paper in February outlining the key themes, issues and options for service development and realignment
2. Consider the consultation process for agreed service development changes, internally within the surgical community and externally with the broader community.

WEDNESDAY 28 MARCH 2012

1. Purpose

The aims of the meeting were:

a. To ensure that the draft Surgical and Procedural Care in South West Sydney plan summarising the outcomes of the first two workshops identifies the key issues
b. Discuss the manner in which consultation regarding the draft document within the facilities occurs.

2. DRAFT SURGICAL AND PROCEDURAL CARE IN SOUTH WEST SYDNEY

1. Managerial Organisation Changes

1.1 Management of surgical lists in departments: need to manage lists around departments rather than individuals with pooling of lists for elective patients and procedures to enable evenness of lists. At Liverpool, a surgery audit is occurring with all departments asked to develop a strategic plan (now and into the future) including their role within the facility and the District. This approach could be rolled out.

1.2 Integrated surgical departments across the LHD: would work well for some departments and a District wide approach would be valuable. Need to consider availability of staff, equipment, etc. and ability of each facility i.e. high or lower level facilities. Urology and orthopaedics – may be good specialities to start link between Bankstown-Lidcombe and Liverpool, then Campbelltown.

- Orthopaedics: a good place to start a link. However Bankstown-Lidcombe Orthopaedic surgeons do not appear interested in this approach.
- Urology: a good place to start but Urology is difficult to define.
- Breast Cancer: support from Fairfield, Bankstown-Lidcombe and Liverpool for a Breast Centre. The location is not clear but needs to have access to radiotherapy in theatres. The aim is that Breast Imagery occurs at a District Level
- Ambulatory facilities: as an alternative to theatres to undertake some procedures but require resources e.g. anaesthetists and nurses
- Anaesthetics: not mentioned. Concerns focus on:
    - need to be considered/consulted with from the ground up;
    - anaesthetics is becoming more specialised and some are selective in the work they do e.g. some won't do eye procedures
    - supportive of getting minor high volume work out of Liverpool to enable more complex work to be undertaken. Will mean that staff need to move
    - 98% of surgery goes through peri-op clinics – where should this work be located; how should recovery work; services like cath. labs and neuroradiology – should they work together or separately
- Endovascular work: at Bankstown and Campbelltown, and at Liverpool high end procedures and vascular suites for percutaneous work
- Thoracic work, Campbelltown: more than just pleurodesis. The preferred site is Campbelltown (as 50% of Liverpool work is from Campbelltown) integrated with Liverpool
- District wide services e.g. Rectal and Upper GI work well but require strengthening/enhancement

- Medical Centre Model of Care: Elective Endoscopies, eyes etc and periop clinics could be done in medical centres to deal with workload demand. Although there is theatre capacity at Liverpool, the cost of undertaking this work in a high level facility (with high fixed costs under ABF) suggests this work should be done elsewhere (run by the LHD or by private providers). At Bankstown-Lidcombe, the site is land-locked and a PPP option could be considered. However we need to know the implications under ABF funding before a decision is made.

1.3 Data issues include: a need for information about surgical casemix and ensured data quality; Surginet rollout to address manual data collection (on load, utilisation and throughput); outpatient workload data (including anaesthetics); and consideration of neurointerventional and cath lab work that is not booked through the same system but is part of demand. This has implications for Anaesthetists who are called away from emergency work for cath. work, etc.

1.4 Workforce planning: a group is being convened to consider needs for 5 -10 years.

2. Models of Care

2.1 High Volume Short Stay: Campbelltown supports this. It is feasible with a 2nd endo suite with minimal expenditure in the short term, but in the longer term additional space to meet demand is required. Bankstown-Lidcombe supports this however there are no peri-operative facilities and space is an issue i.e. possible use of staff specialists suite.

2.2 Minor Surgery: Hands could be done in an ambulatory care setting providing periop and anaesthetic support is provided. A plan is proposed for Liverpool.

2.3 Day Ophthalmology: a non-inpatient model has been implemented at Bankstown but not elsewhere. Appropriate for cataract work but would need theatre space for complex eye work e.g. trauma (an issue if moved off site). Useful in the longer term for the South West Growth Centre in an Integrated Primary Community Care Centre.

2.4 Routine endoscopy: could also be done in an IPCCC and would take the load. NB The implications of doing work off-site under an ABF model are not clear.

2.5 Rapid Response Fractured Neck of Femur: considerable concerns with this model including the lack of an adequate bed base at Fairfield, Fairfield's current focus/expertise in medicine, need for additional rehabilitation and geriatric support, the impact on theatres requiring higher level anaesthetics and a list (currently has satellite registration with full registration expected by 2014), pre-op assessment and post op care and the risk of increased mortality and morbidity associated with patients with many comorbidities. This is also an issue at Campbelltown and Bankstown-Lidcombe and needs to be considered within the context of acute versus elective work and the lack of resources for elective surgery at Liverpool and Fairfield.

The plan should consider role delineation, emergency surgery and a trauma model at Liverpool i.e. a trauma centre and the implications of this, and Campbelltown.

3. New Clinical Services

3.1 Endovascular radiology at Bankstown – an issue is that balloon dilations need to be organised the day before due to the lack of support. Need to consider access to radiologists (allied health), an issue at all facilities.

3.2 For Fairfield, the volume of **minor plastics** does not support a move. Potentially dental surgery could move from Liverpool to Fairfield. Needs discussion with dental practitioners.

3.3 Endovascular work at Bankstown-Lidcombe and Campbelltown: supported. Considerable work goes to RPAH but could be managed by Bankstown and Liverpool. Cardiac Cath labs use Liverpool and RPAH cardiologists and can have surgical work at Liverpool. Need cath labs at Bankstown-Lidcombe for local residents and surgical work provided locally.

3.4 Breast Centre: see 1.2 above. Need a District-wide service to achieve the community's needs.

3.5 Urology: Urologists need to work out where it should be done (Campbelltown or Fairfield or elsewhere) but requires cross District discussion.

3.6 Bariatric Surgery: a high cost with lots of investment. Should we do this e.g. at Campbelltown or contract with other LHDs?

3.7 ENT work: lots of paediatric work done at Campbelltown and Liverpool but requires theatre time. Need some focus on this issue.

3.8 Interventional radiology: a District-wide service. This is the preferred model.

4. Realignment

4.1 Head and Neck: predominantly thyroids (80% of H&N). They need to be done at both Campbelltown and Bankstown/Lidcombe.

4.2 Paediatric Surgery: requires discussion about whether we require a 3rd Kids Hospital, how to deal with emergency and elective work and level of support available. Liverpool elective work could be done at Campbelltown but need a critical mass which considers emergency, workforce and support.

4.3 General Surgery: continue at Bankstown-Lidcombe; at Liverpool a decreasing need due to subspecialisation and will move to other sites; at Campbelltown an increase but will also expect increased subspecialisation. Noted that all surgeons are included on the general surgery roster and do other general surgery e.g. laparoscopic col.

4.4 Ophthalmology: see above.

4.5 Breast centre: see above.

4.6 Dental: needs on-site access for facio-maxillary/trauma but extractions could be done elsewhere.

4.7 Cancer Institute: small volume low incidence cancer related work needs to be done at high volume centres. SWSLHD is doing this and will need to continue this direction.

4.8 Plastics at Liverpool: requires consideration the association with emergency and trauma.

4.9 Bowral VMOs: will need to be consulted – may need more content on Bowral.

4.10 IT infrastructure: e.g. PACS and imaging will need to be addressed.

5. CONSULTATION

Services have 3 months to consult. Specifically:

- the Surgical and Procedural Care Plan will be amended and distributed with a covering memo in the week after Easter.
- discussion is required at to where work is concentrated, how it is delivered and staff moving across the District and networks
- GMs, Directors of Surgery and Anaesthetics need to consult in writing and in discussion and via forums. Implications for appointments, the facility and the LHD to ensure a District wide approach need to be considered.
- District level support may be required and should be identified by GMs. GMs will need to develop a plan for consultation for the next GMs meeting, possible problems and where they will require support
- Stream directors should check with each facility to see how discussions are going.

Attachment B - Population Growth and Ageing to 2021 – LGAs of SWSLHD

2011											
LGA	**0-14**	**% of Pop**	**15-44**	**% of Pop**	**45-69**	**% of Pop**	**70-84**	**% of Pop**	**85+**	**% of Pop**	**Total Pop**
Bankstown	40,921	22.03%	77,844	41.91%	48,843	26.29%	14,312	7.70%	3,843	2.07%	185,762
Camden	16,396	24.31%	30,162	44.72%	16,715	24.78%	3,314	4.91%	854	1.27%	67,441
Campbelltown	34,786	22.46%	68,305	44.11%	43,324	27.98%	7,070	4.57%	1,379	0.89%	154,864
Fairfield	39,672	20.64%	82,234	42.79%	54,353	28.28%	13,320	6.93%	2,587	1.35%	192,166
Liverpool	44,479	23.80%	84,026	44.96%	47,258	25.28%	9,462	5.06%	1,683	0.90%	186,908
Wingecarribee	8,994	18.96%	15,088	31.82%	16,791	35.41%	5,381	11.35%	1,171	2.47%	47,425
Wollondilly	10,479	23.23%	18,820	41.72%	13,016	28.86%	2,311	5.12%	482	1.07%	45,109
Total SWSLHD	**195,727**	**22.25%**	**376,481**	**42.80%**	**240,300**	**27.32%**	**55,169**	**6.27%**	**11,998**	**1.36%**	**879,674**
NSW	1,376,717	19.10%	2,977,617	41.31%	2,123,179	29.46%	584,873	8.11%	145,256	2.02%	7,207,641
2021											
LGA	**0-14**	**% of Pop**	**15-44**	**% of Pop**	**45-69**	**% of Pop**	**70-84**	**% of Pop**	**85+**	**% of Pop**	**Total Pop**
Bankstown	45,203	22.44%	83,516	41.46%	51,933	25.78%	16,401	8.14%	4,388	2.18%	201,440
Camden	29,874	23.71%	51,601	40.96%	33,722	26.77%	8,811	6.99%	1,962	1.56%	125,970
Campbelltown	42,083	22.60%	78,868	42.35%	49,557	26.61%	13,551	7.28%	2,167	1.16%	186,225
Fairfield	42,076	20.59%	84,533	41.36%	56,726	27.76%	17,177	8.40%	3,854	1.89%	204,366
Liverpool	55,071	23.63%	99,913	42.88%	60,584	26.00%	14,581	6.26%	2,860	1.23%	233,009
Wingecarribee	9,546	17.77%	15,151	28.20%	18,690	34.79%	8,558	15.93%	1,781	3.32%	53,727
Wollondilly	12,195	22.79%	21,630	40.43%	15,161	28.34%	3,817	7.13%	697	1.30%	53,501
Total SWSLHD	**236,048**	**22.31%**	**435,212**	**41.13%**	**286,374**	**27.06%**	**82,895**	7.83%	**17,709**	**1.67%**	**1,058,238**
NSW	1,518,850	18.97%	3,150,158	39.34%	2,344,965	29.28%	804,762	10.05%	189,565	2.37%	8,008,299

Attachment C - Surgery Futures

The NSW Surgical Services Taskforce released in January 2011 *Surgery Futures, A Plan for Greater Sydney.* The recommended directions for future development of surgical services include development of:

- high volume short stay surgery (HVSS) units
- centres for ophthalmic surgery
- specialty centres with appropriate networks
- hip and knee joint centres
- streaming of planned and emergency services
- new investment in surgery targeted to population growth areas

HVSS surgery includes planned treatments requiring admission up to 72 hours, including both day only (DO) and Extended day Only (EDO) surgery (23-hour surgery). It involves defined protocols and case mix; designated operating theatres, beds, staff and recurrent funding.

Surgery Futures recommends that a HVSS service be considered for Campbelltown Hospital and that BLH will need to continue in the shorter term to provide HVSS services to meet demand. In the longer term both BLH and Campbelltown Hospital should absorb HVSS services from Liverpool to create capacity at Liverpool Hospital for development of more specialised surgery services. Note that the Liverpool Hospital Stage 2 Phase 1 development currently underway was planned to meet demand to 2016 only. Scope to increase the operating theatre complex capacity in a subsequent phase is only at the margin (additional 2 theatres) and would only be sufficient to meet demand to the end of the decade. Government is yet to consider funding for subsequent phases of the Liverpool Stage 2 development. Also note that the Campbelltown Hospital redevelopment Phase 1 proposal does not envisage a HVSS unit.

Surgery Futures recommends that Liverpool Hospital not develop as an eye centre, with Campbelltown Hospital considered as an appropriate site for an eye centre. It is suggested that patients going to Liverpool hospital for eye surgery should access either Campbelltown Hospital or BLH in the future. Note that the Campbelltown Hospital redevelopment Phase 1 proposal does not envisage establishing an eye unit.

Surgery Futures recommendations with respect to the development of networked specialty centres include:

- Neurosurgery – Liverpool Hospital to remain as the specialist centre with a small amount of spinal neurosurgery continuing at BLH within a HVSS model of care and continuing to support Fairfield Hospital as the joint arthroplasty centre for south west Sydney
- Neuroradiology – Liverpool Hospital to remain as only site in south west Sydney
- Cardiothoracic Surgery - Liverpool Hospital to remain as only site in south west Sydney, provision of interventional cardiology can be considered in some sites which do not provide cardiothoracic surgery services. Note that the Campbelltown Hospital redevelopment Phase 1 proposes establishment of cardiac catheterisation and vascular endoscopy. This has also been proposed for BLH in the current clinical services redevelopment planning process.
- Gynae-oncology – presently provided at a small number of tertiary hospitals, including Liverpool Hospital, further review could be undertaken in context of development of cancer centres and the NSW Cancer Plan

- Paediatric Surgery – reasonable to expect that paediatric surgery be undertaken at Campbelltown Hospital and BLH
- Urology – cancer urology should remain at the main cancer centre at Liverpool Hospital. Planning for a HVSS unit at Campbelltown Hospital should include urology

- Hip and Knee Arthroplasty Centres – Fairfield Hospital has a reasonable load of joint arthroplasty surgery and could be developed to take more, as could BLH by accommodating some patients currently going to Canterbury and Liverpool hospitals. This could preclude development of an arthroplasty centre at Campbelltown Hospital
- Cancer Surgery – opportunities to review in line with the development of integrated cancer centres, maximising investment and improving access to multidisciplinary care
- Vascular surgery – critical driver for development is the relationship with interventional radiology services and investment in hybrid technologies
- Bariatric Surgery – needs to be provided in line with a State plan specifying locations

With regard to streaming of planned and elective surgery, *Surgery Futures* reports strong motivation to continue progress with emergency surgery service reforms, including the orthopaedic trauma management system centred at Liverpool Hospital.

Attachment D - SWSLHD Resident Demand (Public and Private hospitals)

SWSLHD Resident Demand (Public and Private hospitals)
Current (2010-11) & Projected (2020-21) Surgical and Procedural Activity
All Ages

SRG	ESRG	2010-11[1]					2020-21[2]					Increase Projected		
		DO Seps	ON Seps	ON B'days	ON ALOS	ON Beds	DO Seps	ON Seps	ON B'days	ON ALOS	ON Beds	DO Seps %	ON Seps %	ON Beds
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	1,103	1,062	4,616	4.35	14.88	1,387	1,530	6,923	4.53	22.32	25.76%	44.07%	7.44
	122 Percutaneous Coronary Angioplasty	133	1,228	3,910	3.18	12.60	96	2,034	5,633	2.77	18.16		65.65%	5.55
	129 Other Interventional Cardiology	182	521	2,653	5.09	8.55	228	782	3,912	5.00	12.61	25.36%	50.04%	4.06
15 Gastroenterology	152 Gastroscopy	7,343	828	4,966	6.00	16.01	10,031	1,071	6,355	5.93	20.48	36.61%	29.34%	4.48
	153 ERCP	190	371	2,833	7.64	9.13	192	519	3,732	7.19	12.03	1.30%	39.93%	2.90
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	7,647	377	1,541	4.09	4.97	11,207	525	2,469	4.71	7.96	46.55%	39.16%	2.99
	162 Other Gastroscopy	3,636	364	1,860	5.11	6.00	5,195	321	1,482	4.61	4.78	42.87%	-11.73%	-1.22
24 Respiratory Medicine	244 Respiratory System OR Procedures	32	373	1,008	2.70	3.25	14	524	1,131	2.16	3.64	-56.84%	40.56%	0.39
41 Breast Surgery	411 Breast Surgery	534	473	1,629	3.44	5.25	640	635	1,547	2.44	4.99	19.78%	34.27%	-0.26
42 Cardiothoracic Surgery	421 Coronary Bypass		353	4,259	12.07	13.73		365	4,387	12.01	14.14		3.46%	0.41
	429 Other Cardiothoracic Surgery	7	586	6,725	11.48	21.68		761	8,851	11.64	28.53		29.79%	6.85
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resection	19	949	10,881	11.47	35.07	10	1,242	14,959	12.04	48.21	-46.42%	30.90%	13.14
	439 Other Colorectal Surgery	2,535	929	2,212	2.38	7.13	3,183	1,027	2,548	2.48	8.21	25.57%	10.54%	1.08
44 Upper GIT Surgery	441 Cholecystectomy	50	1,907	4,903	2.57	15.80	23	2,300	4,995	2.17	16.10	-53.68%	20.62%	0.30
	449 Other Upper GIT Surgery	102	1,141	7,947	6.96	25.61	112	1,627	8,550	5.25	27.56	9.92%	42.64%	1.94
45 Head and Neck Surgery	451 Thyroid Procedures	3	490	991	2.02	3.19		571	984	1.72	3.17		16.44%	-0.02
	459 Other Head and Neck Surgery	250	325	898	2.76	2.89	385	428	1,311	3.06	4.22	53.83%	31.62%	1.33
46 Neurosurgery	462 Craniotomy	2	470	5,920	12.60	19.08		597	8,468	14.19	27.30		26.95%	8.21
	469 Other Neurosurgery	157	1,587	7,283	4.59	23.47	216	1,580	8,912	5.64	28.73	37.68%	-0.47%	5.25
47 Dentistry	471 Dental Extractions and Restorations	2,824	116	194	1.67	0.63	4,304	114	200	1.76	0.65	52.39%	-1.78%	0.02
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	340	1,422	1,518	1.07	4.89	411	1,855	1,859	1.00	5.99	21.00%	30.44%	1.10
	482 Myringotomy W Tube Insertion	423	8	30	3.75	0.10	620				0.00	46.56%		-0.10
	489 Other Procedural ENT	799	1,392	1,814	1.30	5.85	1,075	1,582	1,790	1.13	5.77	34.51%	13.62%	-0.08

[1] Source: FlowInfo V11.0

[2] Source: *aIM* 2010

SRG	ESRG	2010-11[1]					2020-21[2]					Increase Projected		
		DO Seps	ON Seps	ON B'days	ON ALOS	ON Beds	DO Seps	ON Seps	ON B'days	ON ALOS	ON Beds	DO Seps %	ON Seps %	ON Beds
	492 Wrist and Hand Procedures incl Carpal Tunnel	2,019	475	816	1.72	2.63	2,799	605	935	1.55	3.01	38.65%	27.29%	0.38
	493 Hip and Knee Replacement	8	2,416	17,472	7.23	56.32		3,105	20,150	6.49	64.95		28.52%	8.63
	494 Knee Procedures	2,130	669	1,220	1.82	3.93	3,042	727	1,215	1.67	3.92	42.84%	8.74%	-0.02
49 Orthopaedics	495 Other Orthopaedics - Surgical	1,610	4,225	21,395	5.06	68.96	2,321	5,087	24,847	4.88	80.09	44.17%	20.40%	11.13
	503 Glaucoma and Lens Procedures	5,352	181	310	1.71	1.00	9,835	295	439	1.49	1.42	83.76%	63.06%	0.42
50 Ophthalmology	509 Other Eye Procedures	2,206	534	1,081	2.02	3.48	4,105	593	1,250	2.11	4.03	86.10%	11.05%	0.55
	511 Microvascular Tissue Transfer or Skin Grafts	757	522	3,847	7.37	12.40	1,142	612	4,415	7.22	14.23	50.89%	17.15%	1.83
	512 Skin, Subcutaneous Tissue and Breast Procedure	2,691	623	1,582	2.54	5.10	3,854	668	1,434	2.15	4.62	43.21%	7.30%	-0.48
	513 Maxillo-Facial Surgery	54	169	399	2.36	1.29	80	226	475	2.10	1.53	47.91%	33.99%	0.25
51 Plastic and Reconstruct Surg	519 Other Plastic and Reconstructive Surgery	467	564	1,846	3.27	5.95	538	513	1,938	3.78	6.25	15.13%	-9.07%	0.30
	521 Cystourethroscopy	2,358				0.00	3,292				0.00	39.59%		0.00
	523 TURP	8	687	2,644	3.85	8.52	16	907	3,128	3.45	10.08	96.12%	32.01%	1.56
52 Urology	529 Other Urological Procedures	1,693	1,557	5,991	3.85	19.31	2,230	1,786	8,235	4.61	26.54	31.73%	14.69%	7.23
	531 Vein Ligation and Stripping	121	317	385	1.21	1.24	148	260	281	1.08	0.91	22.53%	-17.85%	-0.34
53 Vascular Surgery	539 Other Vascular Surgery Procedures	181	1,009	8,435	8.36	27.19	203	1,143	10,109	8.84	32.58	11.97%	13.30%	5.39
	543 Appendicectomy	9	1,053	3,350	3.18	10.80		1,106	3,357	3.04	10.82		5.02%	0.02
	545 Inguinal and Femoral Hernia Procedures Age>0	359	1,067	1,423	1.33	4.59	653	1,268	1,380	1.09	4.45	81.76%	18.86%	-0.14
54 Non Subspecialty Surgery	549 Other Non-specialty Surgery	1,393	2,379	14,364	6.04	46.30	3,207	2,775	17,513	6.31	56.45	130.24%	16.63%	10.15
61 Transplantation	611 Transplantation		56	1,158	20.68	3.73		47	904	19.39	2.91		-16.75%	-0.82
62 Extensive Burns	621 Extensive Burns	45	48	570	11.88	1.84	33	89	949	10.60	3.06	-27.16%	86.42%	1.22
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours		312	9,881	31.67	31.85		538	18,280	33.97	58.92		72.49%	27.07
	711 Abortion W DandC, Aspiration Curettage or Hyste	1,007	274	380	1.39	1.22	1,241	253	357	1.41	1.15	23.23%	-7.65%	-0.07
	712 Endoscopic Procedures for Female Reproductive	608	134	241	1.80	0.78	412	156	303	1.94	0.98	-32.21%	16.72%	0.20
	713 Conisation, Vagina, Cervix and Vulva Procedures	803	136	244	1.79	0.79	1,020	111	230	2.07	0.74	27.04%	-18.26%	-0.04
	714 Diagnostic Curettage or Diagnostic Hysteroscopy	1,316	27	57	2.11	0.18	1,526	50	134	2.67	0.43	15.98%	86.15%	0.25
	715 Hysterectomy	9	820	3,018	3.68	9.73		1,112	3,997	3.60	12.88		35.57%	3.15
71 Gynaecology	716 Other Gynaecological Surgery	3,069	1,262	3,375	2.67	10.88	4,443	1,655	3,925	2.37	12.65	44.78%	31.15%	1.77
72 Obstetrics	723 Caesarean Delivery	3	3,071	15,071	4.91	48.58	7	4,251	18,816	4.43	60.65	142.33%	38.44%	12.07
99 Unallocated	999 Unallocated	93	241	2,950	12.24	9.51	93	192	2,313	12.05	7.46	0.00%	-20.33%	-2.05
All Adult Surgical & Procedural Activity		**58,680**	**42,100**	**204,096**	**4.85**	**657.84**	**85,569**	**52,121**	**252,308**	**4.84**	**813.24**	**45.82%**	**23.80%**	**155.40**

Attachment E - SWSLHD Facilities - Current (2010-11) & Projected (2020-21) Surgical Activity - Adults (>15) Overnight Stays

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	648	3,575	5.52	11.52	971	5,475	5.64	17.65	49.88%	6.13
	122 Percutaneous Coronary Angioplasty	766	2,631	3.43	8.48	1,318	4,130	3.13	13.31	72.01%	4.83
	129 Other Interventional Cardiology	220	1,635	7.43	5.27	302	2,168	7.19	6.99	37.11%	1.72
15 Gastroenterology	152 Gastroscopy	735	4,765	6.48	15.36	894	5,682	6.36	18.32	21.61%	2.96
	153 ERCP	390	2,861	7.34	9.22	524	3,779	7.21	12.18	34.36%	2.96
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	279	1,341	4.81	4.32	349	1,997	5.73	6.44	25.00%	2.12
	162 Other Gastroscopy	298	1,594	5.35	5.14	243	1,179	4.85	3.80	-18.39%	-1.34
24 Respiratory Medicine	244 Respiratory System OR Procedures	53	465	8.77	1.50	50	507	10.18	1.64	-5.94%	0.14
41 Breast Surgery	411 Breast Surgery	235	814	3.46	2.62	346	830	2.40	2.68	47.32%	0.05
42 Cardiothoracic Surgery	421 Coronary Bypass	241	3,042	12.62	9.80	236	2,895	12.25	9.33	-1.90%	-0.47
	429 Other Cardiothoracic Surgery	287	3,573	12.45	11.52	389	4,649	11.95	14.99	35.53%	3.47
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resection	655	7,815	11.93	25.19	897	11,372	12.67	36.66	36.99%	11.47
	439 Other Colorectal Surgery	596	1,545	2.59	4.98	601	1,657	2.76	5.34	0.88%	0.36
44 Upper GIT Surgery	441 Cholecystectomy	1,197	3,691	3.08	11.90	1,429	3,603	2.52	11.61	19.39%	-0.28
	449 Other Upper GIT Surgery	450	5,167	11.48	16.65	613	5,430	8.86	17.50	36.18%	0.85
45 Head and Neck Surgery	451 Thyroid Procedures	245	485	1.98	1.56	284	513	1.80	1.65	16.11%	0.09
	459 Other Head and Neck Surgery	127	452	3.56	1.46	159	611	3.83	1.97	25.43%	0.51
46 Neurosurgery	462 Craniotomy	309	4,142	13.40	13.35	421	6,604	15.67	21.29	36.40%	7.94
	469 Other Neurosurgery	427	2,474	5.79	7.97	547	3,689	6.74	11.89	28.17%	3.91
47 Dentistry	471 Dental Extractions and Restorations	15	47	3.13	0.15	20	64	3.15	0.21	36.33%	0.06
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	116	163	1.41	0.53	137	151	1.10	0.49	18.20%	-0.04
	489 Other Procedural ENT	272	506	1.86	1.63	341	448	1.31	1.44	25.41%	-0.19
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunnel	255	556	2.18	1.79	293	528	1.80	1.70	15.07%	-0.09
	493 Hip and Knee Replacement	1,214	9,936	8.18	32.03	1,603	11,498	7.17	37.06	32.05%	5.04

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
49 Orthopaedics	494 Knee Procedures	208	664	3.19	2.14	196	518	2.64	1.67	-5.68%	-0.47
	495 Other Orthopaedics - Surgical	1,982	14,696	7.41	47.37	2,552	18,333	7.18	59.09	28.75%	11.72
50 Ophthalmology	503 Glaucoma and Lens Procedures	51	113	2.22	0.36	99	165	1.67	0.53	94.22%	0.17
	509 Other Eye Procedures	63	182	2.89	0.59	102	300	2.93	0.97	62.14%	0.38
51 Plastic and Reconstructive Surg	511 Microvascular Tissue Transfer or Skin Grafts	270	2,749	10.18	8.86	309	2,928	9.48	9.44	14.41%	0.58
	512 Skin, Subcutaneous Tissue and Breast Procedure	207	737	3.56	2.38	122	377	3.08	1.22	-40.95%	-1.16
	513 Maxillo-Facial Surgery	83	240	2.89	0.77	88	186	2.12	0.60	5.77%	-0.17
	519 Other Plastic and Reconstructive Surgery	308	1,075	3.49	3.46	221	931	4.21	3.00	-28.25%	-0.46
52 Urology	523 TURP	343	1,526	4.45	4.92	454	1,752	3.86	5.65	32.22%	0.73
	529 Other Urological Procedures	617	2,835	4.59	9.14	657	4,039	6.14	13.02	6.54%	3.88
53 Vascular Surgery	531 Vein Ligation and Stripping	119	133	1.12	0.43	59	67	1.13	0.22	-50.00%	-0.21
	539 Other Vascular Surgery Procedures	811	7,612	9.39	24.54	907	8,847	9.76	28.52	11.80%	3.98
54 Non Subspecialty Surgery	543 Appendicectomy	716	2,257	3.15	7.27	733	2,252	3.07	7.26	2.40%	-0.02
	545 Inguinal and Femoral Hernia Procedures Age>0	516	745	1.44	2.40	526	617	1.17	1.99	1.86%	-0.41
	549 Other Non-specialty Surgery	1,322	9,255	7.00	29.83	1,504	11,695	7.78	37.70	13.74%	7.87
62 Extensive Burns	621 Extensive Burns	2	21	10.50	0.07	5	60	11.03	0.19	174.00%	0.13
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours	247	7,380	29.88	23.79	410	13,939	34.01	44.93	65.94%	21.14
71 Gynaecology	711 Abortion W DandC, Aspiration Curettage or Hyste	256	353	1.38	1.14	234	333	1.42	1.07	-8.57%	-0.06
	712 Endoscopic Procedures for Female Reproductive S	56	119	2.13	0.38	69	156	2.28	0.50	22.34%	0.12
	713 Conisation, Vagina, Cervix and Vulva Procedures	98	172	1.76	0.55	86	186	2.17	0.60	-12.51%	0.05
	714 Diagnostic Curettage or Diagnostic Hysteroscopy	21	58	2.76	0.19	35	111	3.19	0.36	66.19%	0.17
	715 Hysterectomy	429	1,538	3.59	4.96	483	1,814	3.75	5.85	12.62%	0.89
	716 Other Gynaecological Surgery	624	1,762	2.82	5.68	809	1,998	2.47	6.44	29.60%	0.76
72 Obstetrics	723 Caesarean Delivery	2,291	11,093	4.84	35.76	2,980	12,504	4.20	40.30	30.06%	4.55
99 Unallocated	999 Unallocated	157	2,371	15.10	7.64	157	2,069	13.18	6.67	0.00%	-0.97
All Adult Surgical & Procedural Overnight Stay Activity		**21,827**	**132,961**	**6.09**	**428.56**	**26,765**	**165,643**	**6.19**	**533.90**	**22.63%**	**105.34**

Liverpool Hospital - Current (2010-11) & Projected (2020-21) Surgical Activity - Adults (>15) Overnight Stays

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	353	1,742	4.93	5.61	510	2,451	4.81	7.90	44.42%	2.28
	122 Percutaneous Coronary Angioplasty	681	2,226	3.27	7.17	1,219	3,669	3.01	11.82	78.94%	4.65
	129 Other Interventional Cardiology	184	1,255	6.82	4.05	233	1,608	6.89	5.18	26.86%	1.14
15 Gastroenterology	152 Gastroscopy	258	1,910	7.40	6.16	338	2,125	6.28	6.85	31.05%	0.69
	153 ERCP	205	1,415	6.90	4.56	308	2,069	6.71	6.67	50.30%	2.11
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	80	441	5.51	1.42	118	738	6.24	2.38	47.98%	0.96
	162 Other Gastroscopy	124	759	6.12	2.45	104	508	4.91	1.64	-16.48%	-0.81
24 Respiratory Medicine	244 Respiratory System OR Procedures	30	283	9.43	0.91	32	343	10.82	1.11	5.70%	0.19
41 Breast Surgery	411 Breast Surgery	54	277	5.13	0.89	96	246	2.57	0.79	77.07%	-0.10
42 Cardiothoracic Surgery	421 Coronary Bypass	241	3,042	12.62	9.80	236	2,889	12.25	9.31	-2.11%	-0.49
	429 Other Cardiothoracic Surgery	278	3,478	12.51	11.21	383	4,566	11.93	14.72	37.65%	3.51
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resection	178	2,566	14.42	8.27	217	3,188	14.72	10.27	21.66%	2.00
	439 Other Colorectal Surgery	148	417	2.82	1.34	148	477	3.22	1.54	0.18%	0.19
44 Upper GIT Surgery	441 Cholecystectomy	328	1,288	3.93	4.15	348	1,114	3.20	3.59	6.22%	-0.56
	449 Other Upper GIT Surgery	250	2,837	11.35	9.14	299	2,720	9.09	8.77	19.65%	-0.38
45 Head and Neck Surgery	451 Thyroid Procedures	175	368	2.10	1.19	189	340	1.80	1.10	7.77%	-0.09
	459 Other Head and Neck Surgery	109	412	3.78	1.33	123	504	4.11	1.63	12.49%	0.30
46 Neurosurgery	462 Craniotomy	309	4,142	13.40	13.35	421	6,595	15.68	21.26	36.12%	7.90
	469 Other Neurosurgery	385	2,197	5.71	7.08	486	3,331	6.85	10.74	26.36%	3.66
47 Dentistry	471 Dental Extractions and Restorations	14	39	2.79	0.13	19	60	3.14	0.19	35.36%	0.07
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	63	99	1.57	0.32	62	76	1.24	0.25	-2.37%	-0.07
	489 Other Procedural ENT	153	353	2.31	1.14	153	242	1.59	0.78	-0.20%	-0.36
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunnel	163	391	2.40	1.26	172	330	1.92	1.07	5.56%	-0.20
	493 Hip and Knee Replacement	88	1,007	11.44	3.25	143	1,751	12.21	5.64	62.95%	2.40

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
	494 Knee Procedures	30	191	6.37	0.62	37	171	4.68	0.55	21.73%	-0.06
49 Orthopaedics	495 Other Orthopaedics - Surgical	810	6,054	7.47	19.51	1,115	9,094	8.15	29.31	37.70%	9.80
	503 Glaucoma and Lens Procedures	28	69	2.46	0.22	61	113	1.85	0.36	117.71%	0.14
50 Ophthalmology	509 Other Eye Procedures	51	146	2.86	0.47	82	249	3.05	0.80	59.98%	0.33
	511 Microvascular Tissue Transfer or Skin Grafts	180	1,784	9.91	5.75	226	2,282	10.08	7.35	25.72%	1.60
	512 Skin, Subcutaneous Tissue and Breast Procedures	116	446	3.84	1.44	52	190	3.64	0.61	-55.14%	-0.83
	513 Maxillo-Facial Surgery	81	213	2.63	0.69	87	183	2.11	0.59	7.04%	-0.10
51 Plastic and Reconstructive Surg	519 Other Plastic and Reconstructive Surgery	200	608	3.04	1.96	146	586	4.01	1.89	-27.01%	-0.07
	523 TURP	38	225	5.92	0.73	48	165	3.45	0.53	26.00%	-0.19
52 Urology	529 Other Urological Procedures	262	1,534	5.85	4.94	311	2,032	6.54	6.55	18.60%	1.61
	531 Vein Ligation and Stripping	5	5	1.00	0.02	1	3	2.28	0.01	-76.20%	-0.01
53 Vascular Surgery	539 Other Vascular Surgery Procedures	581	5,378	9.26	17.33	672	6,363	9.46	20.51	15.73%	3.17
	543 Appendicectomy	222	754	3.40	2.43	228	717	3.15	2.31	2.74%	-0.12
	545 Inguinal and Femoral Hernia Procedures Age>0	111	199	1.79	0.64	112	157	1.41	0.51	0.61%	-0.13
54 Non Subspecialty Surgery	549 Other Non-specialty Surgery	570	4,975	8.73	16.04	696	6,393	9.18	20.61	22.13%	4.57
62 Extensive Burns	621 Extensive Burns	1	13	13.00	0.04	3	54	15.52	0.17	249.00%	0.13
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours	145	4,325	29.83	13.94	260	9,012	34.62	29.05	79.52%	15.11
	711 Abortion W DandC, Aspiration Curettage or Hystero	86	130	1.51	0.42	66	98	1.48	0.32	-22.84%	-0.10
	712 Endoscopic Procedures for Female Reproductive Sy	24	57	2.38	0.18	24	56	2.30	0.18	1.33%	0.00
	713 Conisation, Vagina, Cervix and Vulva Procedures	35	66	1.89	0.21	34	103	3.06	0.33	-3.74%	0.12
	714 Diagnostic Curettage or Diagnostic Hysteroscopy	12	35	2.92	0.11	11	34	3.17	0.11	-9.50%	0.00
	715 Hysterectomy	162	585	3.61	1.89	202	861	4.26	2.78	24.85%	0.89
71 Gynaecology	716 Other Gynaecological Surgery	229	644	2.81	2.08	336	938	2.79	3.02	46.62%	0.95
72 Obstetrics	723 Caesarean Delivery	712	4,352	6.11	14.03	975	4,495	4.61	14.49	36.94%	0.46
99 Unallocated	999 Unallocated	101	1,459	14.45	4.70	93	1,082	11.63	3.49	-7.92%	-1.22
All Adult Surgical & Procedural Overnight Stay Activity		**9,643**	**67,191**	**6.97**	**216.57**	**12,234**	**87,372**	**7.14**	**281.62**	**26.87%**	**65.05**

Bankstown-Lidcombe Hospital - Current (2010-11) & Projected (2020-21) Surgical Activity - Adults (>15) Overnight Stays

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
	121 Invasive Cardiac Inves Proc	37	253	6.84	0.82	82	506	6.18	1.63	121.62%	0.82
	122 Percutaneous Coronary Angioplasty					14	53	3.86	0.17		0.17
12 Interventional Cardiology	129 Other Interventional Cardiology	5	34	6.80	0.11	13	101	7.90	0.33	156.80%	0.22
	152 Gastroscopy	288	1,749	6.07	5.64	281	1,885	6.70	6.08	-2.29%	0.44
15 Gastroenterology	153 ERCP	120	984	8.20	3.17	103	739	7.20	2.38	-14.38%	-0.79
	161 Other Colonoscopy	96	379	3.95	1.22	90	535	5.94	1.72	-6.20%	0.50
16 Diagnostic GI Endoscopy	162 Other Gastroscopy	74	356	4.81	1.15	56	284	5.05	0.92	-24.00%	-0.23
24 Respiratory Medicine	244 Respiratory System OR Procedures	13	94	7.23	0.30	8	80	9.45	0.26	-35.08%	-0.05
41 Breast Surgery	411 Breast Surgery	56	147	2.63	0.47	95	204	2.14	0.66	70.52%	0.18
	421 Coronary Bypass										
42 Cardiothoracic Surgery	429 Other Cardiothoracic Surgery	4	38	9.50	0.12	4	36	10.04	0.12	-10.25%	-0.01
	431 Major S and L Bowel Procs incl Rectal Resection	265	2,937	11.08	9.47	348	4,248	12.20	13.69	31.34%	4.22
43 Colorectal Surgery	439 Other Colorectal Surgery	139	344	2.47	1.11	142	458	3.23	1.48	2.06%	0.37
	441 Cholecystectomy	284	749	2.64	2.41	329	787	2.39	2.54	15.82%	0.12
44 Upper GIT Surgery	449 Other Upper GIT Surgery	123	1,544	12.55	4.98	193	1,770	9.17	5.70	56.93%	0.73
	451 Thyroid Procedures	42	71	1.69	0.23	54	95	1.76	0.31	28.90%	0.08
45 Head and Neck Surgery	459 Other Head and Neck Surgery	16	37	2.31	0.12	24	78	3.23	0.25	51.06%	0.13
	462 Craniotomy					1	10	11.34	0.03		0.03
46 Neurosurgery	469 Other Neurosurgery	42	277	6.60	0.89	49	237	4.80	0.76	17.26%	-0.13
47 Dentistry	471 Dental Extractions and Restorations	1	8	8.00	0.03	1	3	4.41	0.01	-34.00%	-0.02
	481 Tonsillectomy or Adenoidectomy	29	40	1.38	0.13	20	22	1.10	0.07	-29.59%	-0.06
48 Ear, Nose and Throat	489 Other Procedural ENT	69	102	1.48	0.33	98	115	1.17	0.37	42.04%	0.04
	492 Wrist and Hand Procedures incl Carpal Tunnel	83	148	1.78	0.48	90	156	1.74	0.50	8.14%	0.03
49 Orthopaedics	493 Hip and Knee Replacement	335	3,048	9.10	9.82	473	3,667	7.76	11.82	41.05%	1.99

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
49 Orthopaedics	494 Knee Procedures	63	201	3.19	0.65	63	162	2.56	0.52	0.41%	-0.13
	495 Other Orthopaedics - Surgical	453	4,479	9.89	14.44	580	4,460	7.70	14.38	27.93%	-0.06
50 Ophthalmology	503 Glaucoma and Lens Procedures	22	43	1.95	0.14	32	43	1.35	0.14	45.68%	0.00
	509 Other Eye Procedures	9	31	3.44	0.10	11	27	2.53	0.09	19.67%	-0.01
51 Plastic and Reconstructive Surg	511 Microvascular Tissue Transfer or Skin Grafts	40	585	14.63	1.89	48	441	9.10	1.42	21.10%	-0.46
	512 Skin, Subcutaneous Tissue and Breast Procedures	51	129	2.53	0.42	29	81	2.75	0.26	-42.59%	-0.16
	513 Maxillo-Facial Surgery	2	27	13.50	0.09	1	3	2.81	0.01	-45.50%	-0.08
	519 Other Plastic and Reconstructive Surgery	89	328	3.69	1.06	53	239	4.55	0.77	-40.97%	-0.29
52 Urology	523 TURP	233	1,022	4.39	3.29	205	809	3.95	2.61	-12.12%	-0.69
	529 Other Urological Procedures	171	580	3.39	1.87	150	1,041	6.93	3.36	-12.18%	1.49
53 Vascular Surgery	531 Vein Ligation and Stripping	84	92	1.10	0.30	32	36	1.11	0.12	-61.45%	-0.18
	539 Other Vascular Surgery Procedures	210	1,986	9.46	6.40	205	2,082	10.15	6.71	-2.30%	0.31
54 Non Subspecialty Surgery	543 Appendicectomy	130	377	2.90	1.22	127	401	3.16	1.29	-2.20%	0.08
	545 Inguinal and Femoral Hernia Procedures Age>0	191	246	1.29	0.79	190	207	1.09	0.67	-0.68%	-0.13
	549 Other Non-specialty Surgery	286	1,870	6.54	6.03	324	2,585	7.99	8.33	13.16%	2.30
62 Extensive Burns	621 Extensive Burns	1	8	8.00	0.03	1	2	3.45	0.01	-31.00%	-0.02
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours	76	2,267	29.83	7.31	107	3,628	33.97	11.69	40.50%	4.39
71 Gynaecology	711 Abortion W DandC, Aspiration Curettage or Hystero	57	73	1.28	0.24	57	82	1.43	0.26	0.02%	0.03
	712 Endoscopic Procedures for Female Reproductive Sy	12	23	1.92	0.07	16	40	2.55	0.13	31.33%	0.06
	713 Conisation, Vagina, Cervix and Vulva Procedures	22	33	1.50	0.11	14	29	2.01	0.09	-34.27%	-0.01
	714 Diagnostic Curettage or Diagnostic Hysteroscopy					8	35	4.15	0.11		0.11
	715 Hysterectomy	86	295	3.43	0.95	79	292	3.69	0.94	-7.78%	-0.01
	716 Other Gynaecological Surgery	115	333	2.90	1.07	141	321	2.29	1.04	22.23%	-0.04
72 Obstetrics	723 Caesarean Delivery	432	1,770	4.10	5.71	497	1,919	3.86	6.19	14.96%	0.48
99 Unallocated	999 Unallocated	24	386	16.08	1.24	28	602	21.50	1.94	16.67%	0.70
All Adult Surgical & Procedural Overnight Stay Activity		**4,980**	**30,523**	**6.13**	**98.38**	**5,566**	**35,636**	**6.40**	**114.86**	**11.76%**	**16.48**

Campbelltown Hospital - Current (2010-11) & Projected (2020-21) Surgical Activity - Adults (>15) Overnight Stays

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	133	842	6.33	2.71	218	1,411	6.47	4.55	64.05%	1.83
	122 Percutaneous Coronary Angioplasty	81	359	4.43	1.16	84	402	4.79	1.30	3.69%	0.14
	129 Other Interventional Cardiology	21	230	10.95	0.74	41	327	8.03	1.06	94.24%	0.31
15 Gastroenterology	152 Gastroscopy	113	795	7.04	2.56	191	1,191	6.25	3.84	68.66%	1.28
	153 ERCP	45	333	7.40	1.07	71	608	8.59	1.96	57.31%	0.89
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	55	315	5.73	1.02	90	443	4.93	1.43	63.24%	0.41
	162 Other Gastroscopy	63	317	5.03	1.02	50	236	4.71	0.76	-20.33%	-0.26
24 Respiratory Medicine	244 Respiratory System OR Procedures	9	67	7.44	0.22	7	30	4.53	0.10	-26.22%	-0.12
41 Breast Surgery	411 Breast Surgery	53	183	3.45	0.59	77	189	2.47	0.61	44.91%	0.02
42 Cardiothoracic Surgery	421 Coronary Bypass										
	429 Other Cardiothoracic Surgery	4	42	10.50	0.14	3	47	17.40	0.15	-32.50%	0.02
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resection	148	1,871	12.64	6.03	244	2,907	11.94	9.37	64.55%	3.34
	439 Other Colorectal Surgery	122	428	3.51	1.38	163	403	2.47	1.30	33.39%	-0.08
44 Upper GIT Surgery	441 Cholecystectomy	309	859	2.78	2.77	441	1,106	2.51	3.56	42.60%	0.80
	449 Other Upper GIT Surgery	55	609	11.07	1.96	81	666	8.23	2.15	47.27%	0.18
45 Head and Neck Surgery	451 Thyroid Procedures	4	6	1.50	0.02	20	32	1.62	0.10	391.25%	0.08
	459 Other Head and Neck Surgery	1	1	1.00	0.00	8	13	1.64	0.04	666.00%	0.04
46 Neurosurgery	462 Craniotomy										
	469 Other Neurosurgery					7	96	12.96	0.31		0.31
47 Dentistry	471 Dental Extractions and Restorations										
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	24	24	1.00	0.08	45	42	0.94	0.14	86.79%	0.06
	489 Other Procedural ENT	50	51	1.02	0.16	90	91	1.01	0.29	80.80%	0.13
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunnel	1	1	1.00	0.00	10	13	1.31	0.04	871.00%	0.04
	493 Hip and Knee Replacement	39	821	21.05	2.65	78	891	11.47	2.87	99.15%	0.23
49 Orthopaedics	494 Knee Procedures	47	163	3.47	0.53	35	98	2.77	0.32	-24.77%	-0.21
	495 Other Orthopaedics - Surgical	409	2,945	7.20	9.49	539	3,479	6.46	11.21	31.73%	1.72

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
	494 Knee Procedures	47	163	3.47	0.53	35	98	2.77	0.32	-24.77%	-0.21
49 Orthopaedics	495 Other Orthopaedics - Surgical	409	2,945	7.20	9.49	539	3,479	6.46	11.21	31.73%	1.72
	503 Glaucoma and Lens Procedures	1	1	1.00	0.00						
50 Ophthalmology	509 Other Eye Procedures					3	4	1.08	0.01		0.01
	511 Microvascular Tissue Transfer or Skin Grafts	18	254	14.11	0.82	13	67	5.21	0.22	-28.22%	-0.60
	512 Skin, Subcutaneous Tissue and Breast Procedures	31	152	4.90	0.49	20	53	2.60	0.17	-34.52%	-0.32
	513 Maxillo-Facial Surgery										
51 Plastic and Reconstructive Surg	519 Other Plastic and Reconstructive Surgery	7	120	17.14	0.39	11	55	4.89	0.18	59.43%	-0.21
	523 TURP	72	279	3.88	0.90	148	571	3.87	1.84	104.97%	0.94
52 Urology	529 Other Urological Procedures	177	706	3.99	2.28	159	779	4.91	2.51	-10.44%	0.23
	531 Vein Ligation and Stripping	2	8	4.00	0.03	3	2	0.92	0.01	27.00%	-0.02
53 Vascular Surgery	539 Other Vascular Surgery Procedures	10	162	16.20	0.52	21	308	14.62	0.99	111.00%	0.47
	543 Appendicectomy	248	806	3.25	2.60	242	726	3.00	2.34	-2.46%	-0.26
	545 Inguinal and Femoral Hernia Procedures Age>0	64	116	1.81	0.37	87	104	1.20	0.34	35.56%	-0.04
54 Non Subspecialty Surgery	549 Other Non-specialty Surgery	259	1,560	6.02	5.03	266	1,640	6.17	5.29	2.58%	0.26
62 Extensive Burns	621 Extensive Burns					1	2	1.55	0.00		0.00
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours	26	788	30.31	2.54	42	1,291	30.45	4.16	63.08%	1.62
	711 Abortion W DandC, Aspiration Curettage or Hystero	57	67	1.18	0.22	59	81	1.38	0.26	2.72%	0.04
	712 Endoscopic Procedures for Female Reproductive Sy	9	20	2.22	0.06	16	33	2.07	0.11	76.00%	0.04
	713 Conisation, Vagina, Cervix and Vulva Procedures	24	45	1.88	0.15	24	35	1.44	0.11	-0.08%	-0.03
	714 Diagnostic Curettage or Diagnostic Hysteroscopy	5	18	3.60	0.06	10	28	2.73	0.09	105.40%	0.03
	715 Hysterectomy	88	319	3.63	1.03	125	409	3.28	1.32	41.67%	0.29
71 Gynaecology	716 Other Gynaecological Surgery	168	476	2.83	1.53	185	413	2.23	1.33	10.05%	-0.20
72 Obstetrics	723 Caesarean Delivery	707	3,210	4.54	10.35	946	3,817	4.03	12.30	33.80%	1.96
99 Unallocated	999 Unallocated	23	452	19.65	1.46	29	291	10.03	0.94	26.09%	-0.52
All Adult Surgical & Procedural Overnight Stay Activity		**3,782**	**20,821**	**5.51**	**67.11**	**4,998**	**25,429**	**5.09**	**81.96**	**32.16%**	**14.85**

Fairfield Hospital - Current (2010-11) & Projected (2020-21) Surgical Activity - Adults (>15) Overnight Stays

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	91	550	6.04	1.77	141	946	6.71	3.05	54.95%	1.28
	122 Percutaneous Coronary Angioplasty	4	46	11.50	0.15	0	2	4.64	0.01	-90.25%	-0.14
	129 Other Interventional Cardiology	9	101	11.22	0.33	13	112	8.76	0.36	41.78%	0.03
15 Gastroenterology	152 Gastroscopy	52	256	4.92	0.83	43	252	5.80	0.81	-16.37%	-0.01
	153 ERCP	19	122	6.42	0.39	39	331	8.53	1.07	104.16%	0.67
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	33	145	4.39	0.47	36	199	5.51	0.64	9.24%	0.17
	162 Other Gastroscopy	24	99	4.13	0.32	19	94	4.87	0.30	-19.25%	-0.01
24 Respiratory Medicine	244 Respiratory System OR Procedures	1	21	21.00	0.07	3	54	17.76	0.18	206.00%	0.11
41 Breast Surgery	411 Breast Surgery	50	136	2.72	0.44	57	127	2.25	0.41	13.14%	-0.03
42 Cardiothoracic Surgery	421 Coronary Bypass										
	429 Other Cardiothoracic Surgery										
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resection	30	274	9.13	0.88	56	660	11.74	2.13	87.50%	1.24
	439 Other Colorectal Surgery	174	339	1.95	1.09	127	271	2.14	0.87	-27.18%	-0.22
44 Upper GIT Surgery	441 Cholecystectomy	217	671	3.09	2.16	222	388	1.75	1.25	2.37%	-0.91
	449 Other Upper GIT Surgery	19	169	8.89	0.54	33	231	6.97	0.74	74.42%	0.20
45 Head and Neck Surgery	451 Thyroid Procedures	6	12	2.00	0.04	10	16	1.66	0.05	62.67%	0.01
	459 Other Head and Neck Surgery	1	2	2.00	0.01	3	5	1.56	0.02	235.00%	0.01
46 Neurosurgery	462 Craniotomy										
	469 Other Neurosurgery					3	18	6.12	0.06		
47 Dentistry	471 Dental Extractions and Restorations										
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy										
	489 Other Procedural ENT										
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunnel	2	2	1.00	0.01	5	6	1.23	0.02	155.50%	0.01
	493 Hip and Knee Replacement	631	4331	6.86	13.96	680	3,809	5.60	12.28	7.79%	-1.68

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
49 Orthopaedics	494 Knee Procedures	50	69	1.38	0.22	52	74	1.42	0.24	4.46%	0.02
	495 Other Orthopaedics - Surgical	176	331	1.88	1.07	156	439	2.82	1.42	-11.52%	0.35
50 Ophthalmology	503 Glaucoma and Lens Procedures										
	509 Other Eye Procedures	1	3	3.00	0.01						
51 Plastic and Reconstructive Surg	511 Microvascular Tissue Transfer or Skin Grafts	24	101	4.21	0.33	14	88	6.19	0.28	-40.62%	-0.04
	512 Skin, Subcutaneous Tissue and Breast Procedures	6	7	1.17	0.02	17	46	2.67	0.15	186.50%	0.13
	513 Maxillo-Facial Surgery										
	519 Other Plastic and Reconstructive Surgery	5	10	2.00	0.03	5	31	6.28	0.10	0.00%	0.07
52 Urology	523 TURP					53	208	3.90	0.67		
	529 Other Urological Procedures	5	9	1.80	0.03	35	174	4.96	0.56	602.00%	0.53
53 Vascular Surgery	531 Vein Ligation and Stripping	17	17	1.00	0.05	12	11	0.94	0.04	-28.71%	-0.02
	539 Other Vascular Surgery Procedures	8	75	9.38	0.24	5	67	13.14	0.22	-36.25%	-0.03
54 Non Subspecialty Surgery	543 Appendicectomy	72	230	3.19	0.74	101	309	3.07	0.99	39.72%	0.25
	545 Inguinal and Femoral Hernia Procedures Age>0	119	148	1.24	0.48	94	101	1.08	0.33	-20.78%	-0.15
	549 Other Non-specialty Surgery	149	630	4.23	2.03	160	793	4.96	2.56	7.25%	0.53
62 Extensive Burns	621 Extensive Burns										
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours										
71 Gynaecology	711 Abortion W DandC, Aspiration Curettage or Hyster	53	80	1.51	0.26	49	69	1.40	0.22	-7.09%	-0.04
	712 Endoscopic Procedures for Female Reproductive S	6	14	2.33	0.05	9	19	2.08	0.06	49.83%	0.02
	713 Conisation, Vagina, Cervix and Vulva Procedures	15	26	1.73	0.08	10	14	1.46	0.05	-34.27%	-0.04
	714 Diagnostic Curettage or Diagnostic Hysteroscopy	3	3	1.00	0.01	5	13	2.82	0.04	52.67%	0.03
	715 Hysterectomy	66	264	4.00	0.85	45	149	3.34	0.48	-32.44%	-0.37
	716 Other Gynaecological Surgery	83	241	2.90	0.78	100	219	2.18	0.71	21.05%	-0.07
72 Obstetrics	723 Caesarean Delivery	336	1329	3.96	4.28	412	1658	4.02	5.34	22.62%	1.06
99 Unallocated	999 Unallocated	4	31	7.75	0.10	6	93	15.50	0.30	50.00%	0.20
All Adult Surgical & Procedural Overnight Stay Activity		**2,561**	**10,894**	**4.25**	**35.11**	**2,831**	**12,099**	**4.27**	**39.00**	**10.56%**	**3.88**

Bowral & District Hospital - Current (2010-11) & Projected (2020-21) Surgical Activity - Adults (>15) Overnight Stays

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
	121 Invasive Cardiac Inves Proc	34	188	5.53	0.61	20	162	7.99	0.52	-40.44%	-0.08
	122 Percutaneous Coronary Angioplasty					1	5	5.09	0.01		
12 Interventional Cardiology	129 Other Interventional Cardiology	1	15	15.00	0.05	2	20	10.78	0.06	82.00%	0.01
	152 Gastroscopy	24	55	2.29	0.18	40	230	5.71	0.74	67.54%	0.56
15 Gastroenterology	153 ERCP	1	7	7.00	0.02	4	31	8.74	0.10	256.00%	0.08
	161 Other Colonoscopy	15	61	4.07	0.20	14	83	5.72	0.27	-3.47%	0.07
16 Diagnostic GI Endoscopy	162 Other Gastroscopy	13	63	4.85	0.20	14	56	4.06	0.18	6.23%	-0.02
24 Respiratory Medicine	244 Respiratory System OR Procedures										
41 Breast Surgery	411 Breast Surgery	22	71	3.23	0.23	22	64	2.93	0.21	-1.23%	-0.02
	421 Coronary Bypass					1	6	12.12	0.02		0.02
42 Cardiothoracic Surgery	429 Other Cardiothoracic Surgery	1	15	15.00	0.05						
	431 Major S and L Bowel Procs incl Rectal Resection	34	167	4.91	0.54	33	370	11.24	1.19	-3.21%	0.65
43 Colorectal Surgery	439 Other Colorectal Surgery	13	17	1.31	0.05	22	48	2.21	0.15	66.77%	0.10
	441 Cholecystectomy	59	124	2.10	0.40	89	208	2.33	0.67	50.88%	0.27
44 Upper GIT Surgery	449 Other Upper GIT Surgery	3	8	2.67	0.03	7	43	6.60	0.14	116.67%	0.11
	451 Thyroid Procedures	18	28	1.56	0.09	12	29	2.37	0.09	-31.50%	0.00
45 Head and Neck Surgery	459 Other Head and Neck Surgery					2	11	7.05	0.03		0.03
	462 Craniotomy										
46 Neurosurgery	469 Other Neurosurgery					1	7	5.31	0.02		0.02
47 Dentistry	471 Dental Extractions and Restorations					1	2	2.23	0.01		0.01
	481 Tonsillectomy or Adenoidectomy					10	10	1.00	0.03		0.03
48 Ear, Nose and Throat	489 Other Procedural ENT										
	492 Wrist and Hand Procedures incl Carpal Tunnel	6	14	2.33	0.05	17	23	1.35	0.07	179.67%	0.03
49 Orthopaedics	493 Hip and Knee Replacement	121	729	6.02	2.35	229	1,381	6.02	4.45	89.57%	2.10
	494 Knee Procedures	18	40	2.22	0.13	9	13	1.48	0.04	-51.00%	-0.09
49 Orthopaedics	495 Other Orthopaedics - Surgical	134	887	6.62	2.86	162	861	5.31	2.78	21.12%	-0.08

SRG	ESRG	2010-11				2020-21				Change Proj.	
		Seps	Beddays	ALOS	Beds (85%)	Seps	Beddays	ALOS	Beds (85%)	Seps (%)	Beds (No.)
	494 Knee Procedures	18	40	2.22	0.13	9	13	1.48	0.04	-51.00%	-0.09
49 Orthopaedics	495 Other Orthopaedics - Surgical	134	887	6.62	2.86	162	861	5.31	2.78	21.12%	-0.08
	503 Glaucoma and Lens Procedures					6	9	1.57	0.03		0.03
50 Ophthalmology	509 Other Eye Procedures	2	2	1.00	0.01	7	20	3.05	0.06	226.00%	0.06
	511 Microvascular Tissue Transfer or Skin Grafts	8	25	3.13	0.08	7	50	7.12	0.16	-12.38%	0.08
	512 Skin, Subcutaneous Tissue and Breast Procedures	3	3	1.00	0.01	3	8	2.37	0.03	14.00%	0.02
	513 Maxillo-Facial Surgery										
51 Plastic and Reconstructive Surg	519 Other Plastic and Reconstructive Surgery	7	9	1.29	0.03	6	21	3.29	0.07	-9.86%	0.04
	523 TURP										
52 Urology	529 Other Urological Procedures	2	6	3.00	0.02	3	12	4.42	0.04	41.00%	0.02
	531 Vein Ligation and Stripping	11	11	1.00	0.04	11	15	1.30	0.05	2.45%	0.01
53 Vascular Surgery	539 Other Vascular Surgery Procedures	2	11	5.50	0.04	3	27	9.32	0.09	45.50%	0.05
	543 Appendicectomy	44	90	2.05	0.29	35	99	2.79	0.32	-19.43%	0.03
	545 Inguinal and Femoral Hernia Procedures Age>0	31	36	1.16	0.12	43	47	1.09	0.15	39.39%	0.04
54 Non Subspecialty Surgery	549 Other Non-specialty Surgery	58	220	3.79	0.71	58	285	4.88	0.92	0.67%	0.21
62 Extensive Burns	621 Extensive Burns					0	2	7.80	0.01		0.01
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours					0	8	20.50	0.03		0.03
	711 Abortion W DandC, Aspiration Curettage or Hystero	3	3	1.00	0.01	3	4	1.37	0.01	-3.00%	0.00
	712 Endoscopic Procedures for Female Reproductive Sy	5	5	1.00	0.02	4	9	2.38	0.03	-28.00%	0.01
	713 Conisation, Vagina, Cervix and Vulva Procedures	2	2	1.00	0.01	4	5	1.34	0.02	87.50%	0.01
	714 Diagnostic Curettage or Diagnostic Hysteroscopy	1	2			1	1	1.45	0.00	-12.00%	0.00
	715 Hysterectomy	27	75	2.78	0.24	32	103	3.18	0.33	19.74%	0.09
71 Gynaecology	716 Other Gynaecological Surgery	29	68	2.34	0.22	47	106	2.26	0.34	62.07%	0.12
72 Obstetrics	723 Caesarean Delivery	104	432	4.15	1.39	150	615	4.10	1.98	44.23%	0.59
99 Unallocated	999 Unallocated	5	43	8.60	0.14	1	1	1.00	0.00	-80.00%	-0.14
All Adult Surgical & Procedural Overnight Stay Activity		**861**	**3,532**	**4.10**	**11.38**	**1,136**	**5,108**	**4.49**	**16.46**	**31.99%**	**5.09**

Attachment F - SWSLHD Facilities - Current (2010-11) & Projected (2020-21) Surgical and Procedural Activity - Day Only Adults (>15)

SRG	ESRG	Liverpool			Bankstown			Campbelltown			Fairfield			Bowral			SWSLHD Total		
		10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	380	544	43.24%													380	544	43.24%
	122 Percutaneous Coronary Angioplasty	101	78	-22.73%													101	78	-22.73%
	129 Other Interventional Cardiology	67	105	57.45%													67	105	57.45%
15 Gastroenterology	152 Gastroscopy	213	714	235.06%	374	533	42.60%	490	841	71.56%	467	338	-27.60%	148	204	38.08%	1692	2,630	55.44%
	153 ERCP	159	154	-3.03%	26	40	54.69%		0								185	194	5.09%
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	181	707	290.56%	574	753	31.12%	970	1572	62.07%	427	522	22.36%	303	321	5.91%	2455	3,875	57.84%
	162 Other Gastroscopy	181	476	163.06%	126	271	115.35%	280	514	83.56%	179	142	-20.46%	107	111	3.62%	873	1,515	73.50%
24 Respiratory Medicine	244 Respiratory System OR Procedures																		
41 Breast Surgery	411 Breast Surgery	136	145	6.34%	95	50	-46.96%	31	88	185.23%	36	39	9.08%	10	13	25.80%	308	335	8.86%
42 Cardiothoracic Surgery	421 Coronary Bypass																		
	429 Other Cardiothoracic Surgery	2		-100.00%													2	0	-100.00%
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resecti	3	1	-54.33%	1	1	-18.00%	1	0	-100.00%	2	2	-13.00%				7	4	-43.86%
	439 Other Colorectal Surgery	52	153	193.69%	349	371	6.40%	269	532	97.90%	308	257	-16.46%	160	229	42.94%	1138	1,542	35.54%
44 Upper GIT Surgery	441 Cholecystectomy				1	0	-59.00%	29	13	-54.76%		1		11	1	-90.64%	41	16	-61.51%
	449 Other Upper GIT Surgery	16	30	89.81%	37	16	-56.70%	4	6	44.50%	2	2	-6.00%	1	2	145.00%	60	56	-5.83%
45 Head and Neck Surgery	451 Thyroid Procedures							1	0	-100.00%				2		-100.00%	3	0	-100.00%
	459 Other Head and Neck Surgery	15	39	157.00%	9	10	13.44%	8	19	137.38%	4	9	112.75%	2	3	68.50%	38	80	109.55%
46 Neurosurgery	462 Craniotomy																		
	469 Other Neurosurgery	20	52	159.55%	2	13	569.00%	5	2	-54.20%	4	4	-12.25%	2	10	414.50%	33	81	146.61%
47 Dentistry	471 Dental Extractions and Restorations	97	114	17.26%					0						18		97	131	35.46%
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	4	5	13.75%	2	1	-72.50%	3	1	-68.33%					0		9	6	-32.67%
	482 Myringotomy W Tube Insertion	2	11	430.50%	6	12	105.17%		7								8	30	274.62%
	489 Other Procedural ENT	46	68	47.67%	44	54	22.52%	14	17	23.21%	1	2	121.00%	2	1	-53.00%	107	142	32.93%
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunne	580	712	22.73%	177	254	43.69%	45	135	200.73%	39	84	115.74%	58	82	40.93%	899	1,267	40.98%
	493 Hip and Knee Replacement				1		-100.00%		0		2		-100.00%	1		-100.00%	4	0	-100.00%

SRG	ESRG	Liverpool			Bankstown			Campbelltown			Fairfield			Bowral			SWSLHD Total		
		10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.
49 Orthopaedics	494 Knee Procedures	17	30	73.88%	188	209	11.14%	105	296	181.47%	235	214	-8.92%	50	82	64.34%	595	830	39.54%
	495 Other Orthopaedics - Surgical	217	282	30.02%	84	187	122.44%	101	213	111.36%	70	117	66.99%	65	70	7.45%	537	869	61.86%
50 Ophthalmology	503 Glaucoma and Lens Procedures	273	715	161.95%	361	916	153.87%	457	1107	142.26%				237	367	54.79%	1328	3,106	133.85%
	509 Other Eye Procedures	52	160	208.23%	44	87	97.77%	57	173	204.32%		10		5	14	185.80%	158	445	181.94%
51 Plastic and Reconstructive Surg	511 Microvascular Tissue Transfer or Skin Grafts	50	69	37.32%	51	71	40.08%	48	78	62.83%	20	21	4.05%	31	40	30.10%	200	279	39.70%
	512 Skin, Subcutaneous Tissue and Breast Proced	164	194	18.20%	205	258	25.78%	210	498	137.23%	91	154	69.70%	73	78	6.22%	743	1,182	59.06%
	513 Maxillo-Facial Surgery	10	19	90.20%					0								10	19	90.20%
	519 Other Plastic and Reconstructive Surgery	187	150	-19.65%	10	14	43.20%	7	28	299.43%		4		13	10	-26.46%	217	206	-5.20%
52 Urology	521 Cystourethroscopy	284	279	-1.85%	430	557	29.55%	272	509	87.16%		97					986	1,442	46.27%
	523 TURP		1			1		1	3	190.00%		2					1	6	550.00%
	529 Other Urological Procedures	90	76	-15.49%	198	224	13.18%	139	232	66.85%	1	70	6863.00%	3	7	126.00%	431	608	41.18%
53 Vascular Surgery	531 Vein Ligation and Stripping		1		5	5	1.60%	3	8	162.00%	43	69	60.60%		0		51	83	63.02%
	539 Other Vascular Surgery Procedures	55	34	-37.45%	10	9	-5.80%	2	2	3.00%	1	4	263.00%		1		68	50	-25.78%
54 Non Subspecialty Surgery	543 Appendicectomy							3	0	-100.00%				2		-100.00%	5	0	-100.00%
	545 Inguinal and Femoral Hernia Procedures Age	20	66	229.65%	26	32	21.58%	51	110	116.45%	19	49	156.79%	15	27	78.67%	131	284	116.43%
	549 Other Non-specialty Surgery	120	280	133.63%	96	206	114.98%	123	344	179.91%	42	104	148.50%	39	68	74.74%	420	1,004	138.94%
62 Extensive Burns	621 Extensive Burns	1	1	-24.00%					0						1		1	2	66.00%
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours																		
71 Gynaecology	711 Abortion W DandC, Aspiration Curettage or H	166	189	14.14%	77	97	26.13%	185	218	17.82%	69	81	17.26%	28	45	62.36%	525	631	20.18%
	712 Endoscopic Procedures for Female Reproduct	89	63	-29.08%	61	37	-40.02%	103	73	-28.67%	46	25	-46.07%	16	13	-21.19%	315	211	-33.14%
	713 Conisation, Vagina, Cervix and Vulva Procedu	161	214	32.81%	65	63	-3.72%	100	136	35.77%	54	66	23.02%	18	41	130.33%	398	520	30.67%
	714 Diagnostic Curettage or Diagnostic Hysterosc	284	301	6.01%	96	91	-5.15%	155	197	26.94%	98	100	2.03%	70	74	5.46%	703	763	8.49%
	715 Hysterectomy				1		-100.00%	2	0	-100.00%	1		-100.00%	1		-100.00%	5	0	-100.00%
	716 Other Gynaecological Surgery	203	297	46.49%	98	137	40.16%	143	294	105.50%	95	74	-22.26%	26	65	151.54%	565	868	53.60%
72 Obstetrics	723 Caesarean Delivery							1		-100.00%			#DIV/0!	1		-100.00%	2	0	-100.00%
99 Unallocated	999 Unallocated	8	13	62.50%	7	3	-57.14%	7	9	28.57%	1	1	0.00%	1	1	0.00%	24	27	12.50%
All Adult Surgical & Procedural Day Only Activity		**4,706**	**7,541**	**60.25%**	**3,937**	**5,586**	**41.89%**	**4,425**	**8,278**	**87.06%**	**2,357**	**2,665**	**13.07%**	**1,501**	**1,999**	**33.19%**	**16,926**	**26,069**	**54.02%**

Attachment G - SWSLHD Hospitals - Current (10-11) & Projected (20-21) Surgical & Procedural Activity - Day Only Child (<16)

ESRG	Liverpool			Bankstown			Campbelltown			Fairfield			Bowral			SWSLHD Total		
	10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.	10-11	20-21	% diff.
121 Invasive Cardiac Inves Proc		1					1	0	-100.00%		0		1		-100.00%	2	1	-74.50%
152 Gastroscopy		1		2	2	20.00%		2			1			0		2	5	172.00%
161 Other Colonoscopy	2	2	22.00%	1	1	-38.00%	4	2	-46.25%		0		1	0	-98.00%	8	5	-34.62%
162 Other Gastroscopy		5		3	4	23.67%		6			0			1		3	16	428.00%
244 Respiratory System OR Procedures	1		-100.00%	1	0	-52.00%		2		1		-100.00%		0		3	3	-6.00%
411 Breast Surgery	1	1	29.00%		0			2			1					1	4	309.00%
439 Other Colorectal Surgery	3	3	-11.00%	3	2	-48.00%		2		1	0	-59.00%		0		7	6	-8.00%
459 Other Head and Neck Surgery	12	10	-12.75%	2	1	-29.50%	4	5	18.25%		1			1			18	
471 Dental Extractions and Restorations	4	15	274.25%				138	0	-100.00%					44		142	59	-58.30%
481 Tonsillectomy or Adenoidectomy	16	27	66.62%	9	11	17.33%	21	31	47.24%					4			72	
482 Myringotomy W Tube Insertion	15	27	81.73%	11	19	70.91%	22	77	249.18%							48	123	156.00%
489 Other Procedural ENT	20	29	46.75%	10	25	149.40%	14	15	9.50%		1		1	0	-61.00%	45	71	57.29%
492 Wrist and Hand Procedures incl Carpal Tunnel	56	64	14.23%	2	7	235.00%		3			2		2	2	1.00%	60	78	29.75%
494 Knee Procedures	1	0	-100.00%	2	1	-58.00%	3	3	-1.33%	1	3	156.00%	2	3	65.50%	9	10	7.44%
495 Other Orthopaedics - Surgical	65	85	30.86%	14	27	96.14%	18	38	109.83%	1	4	298.00%	10	12	18.00%	108	166	53.77%
509 Other Eye Procedures	4	13	229.75%	11	11	3.45%	32	49	53.22%					1		47	75	58.77%
511 Microvascular Tissue Transfer or Skin Grafts	2	5	128.00%		0			0			0			0			5	
512 Skin, Subcutaneous Tissue and Breast Procedu	28	26	-8.29%	15	13	-12.00%	8	14	76.25%	3	8	158.33%	5	5	0.40%	59	66	11.44%
519 Other Plastic and Reconstructive Surgery	32	33	1.91%	1	3	193.00%		0			0		2	0	-95.50%	35	36	2.97%
521 Cystourethroscopy				1	1	-4.00%	2	1	-37.50%		0					3	2	-26.33%
529 Other Urological Procedures	27	41	52.07%	2	1	-44.00%	20	7	-64.55%	1	3	249.00%		1		50	53	6.98%
545 Inguinal and Femoral Hernia Procedures Age>(	26	43	64.42%	1	2	91.00%		7			1		3	2	-42.33%	30	54	81.20%
549 Other Non-specialty Surgery	46	66	44.20%	7	29	311.43%	10	64	542.10%	6	16	174.33%	5	14	172.20%	74	189	155.96%
713 Conisation, Vagina, Cervix and Vulva Procedure	1	1	13.00%		0		2	2	11.00%		0			0		3	4	27.33%
All Child Surgical & Procedural Day Only Activity	**362**	**497**	**37.36%**	**98**	**161**	**63.85%**	**299**	**332**	**10.95%**	**14**	**42**	**199.93%**	**32**	**91**	**184.37%**	**739**	**1,123**	**51.90%**

Attachment H - SWSLHD Hospitals - Current (10-11) & Projected (20-21) Surgical & Procedural Activity – Overnight Child (<16)

ESRG	Liverpool						BLH						Fairfield					
	ON Seps		ON Bdays		ON Beds		ON Seps		ON Bdays		ON Beds		ON Seps		ON Bdays		ON Beds	
	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21
152 Gastroscopy		1		3	0.00	0.01		1		11	0.00	0.04		0		0	0.00	0.00
162 Other Gastroscopy	4	3	5	6	0.02	0.02	3	1	4	3	0.01	0.01					0.00	0.00
244 Respiratory System OR Procedures	20	32	23	32	0.08	0.12	37	18	39	18	0.14	0.07					0.00	0.00
431 Major S and L Bowel Procs incl Rectal Resectior	2	1	23	3	0.08	0.01	1	1	7	4	0.03	0.01		0		0	0.00	0.00
439 Other Colorectal Surgery	1	2	2	7	0.01	0.03	3	1	6	1	0.02	0.00	1	2	2	3	0.01	0.01
441 Cholecystectomy		1		1	0.00	0.00		1		3	0.00	0.01		2		4	0.00	0.01
449 Other Upper GIT Surgery		2		7	0.00	0.03	1	1	1	6	0.00	0.02					0.00	0.00
459 Other Head and Neck Surgery	6	4	9	7	0.03	0.02		0		0	0.00	0.00					0.00	0.00
462 Craniotomy	1	2	48	23	0.18	0.08					0.00	0.00					0.00	0.00
471 Dental Extractions and Restorations	1	1	4	1	0.01	0.00					0.00	0.00					0.00	0.00
481 Tonsillectomy or Adenoidectomy	124	175	130	178	0.47	0.65	42	58	44	58	0.16	0.21					0.00	0.00
489 Other Procedural ENT	36	24	47	26	0.17	0.10	17	16	18	16	0.07	0.06					0.00	0.00
492 Wrist and Hand Procedures incl Carpal Tunnel	9	14	16	19	0.06	0.07	6	6	11	8	0.04	0.03					0.00	0.00
494 Knee Procedures	2	2	2	5	0.01	0.02	2	1	2	2	0.01	0.01	1	1	1	1	0.00	0.00
495 Other Orthopaedics - Surgical	95	111	305	296	1.11	1.08	20	35	35	85	0.13	0.31		3		4	0.00	0.02
509 Other Eye Procedures	2	4	6	12	0.02	0.04	1	1	1	1	0.00	0.00					0.00	0.00
511 Microvascular Tissue Transfer or Skin Grafts	6	6	50	28	0.18	0.10	2	3	3	13	0.01	0.05	1	0	2	0	0.01	0.00
512 Skin, Subcutaneous Tissue and Breast Procedu	5	2	12	5	0.04	0.02		1		1	0.00	0.00		0		0	0.00	0.00
519 Other Plastic and Reconstructive Surgery	17	20	23	27	0.08	0.10	8	3	12	4	0.04	0.02					0.00	0.00
529 Other Urological Procedures	13	8	41	19	0.15	0.07	9	6	10	6	0.04	0.02	4	3	4	3	0.01	0.01
543 Appendicectomy	31	32	101	103	0.37	0.38	35	39	79	120	0.29	0.44	12	19	41	53	0.15	0.19
545 Inguinal and Femoral Hernia Procedures Age>(	0	1		1	0.00	0.00	1	2	1	2	0.00	0.01	1	0	1	0	0.00	0.00
549 Other Non-specialty Surgery	41	49	95	110	0.35	0.40	8	6	16	16	0.06	0.06	8	3	19	6	0.07	0.02
621 Extensive Burns					0.00	0.00		1		7	0.00	0.02		0		0	0.00	0.00
712 Endoscopic Procedures for Female Reproductiv	1	2	4	5	0.01	0.02	1	2	2	8	0.01	0.03		0		0	0.00	0.00
713 Conisation, Vagina, Cervix and Vulva Procedure	1	1	2	1	0.01	0.00					0.00	0.00		1		1	0.00	0.00
716 Other Gynaecological Surgery	1	2	1	7	0.00	0.03		1		2	0.00	0.01		1		1	0.00	0.00
All Child Surgical & Procedural Day Only Activity	**419**	**501**	**949**	**930**	**3.47**	**3.40**	**197**	**205**	**291**	**394**	**1.06**	**1.44**	**28**	**35**	**70**	**77**	**0.26**	**0.28**

ESRG	Campbelltown						Bowral						Total SWSLHD Hospitals					
	ON Seps		ON Bdays		ON Beds		ON Seps		ON Bdays		ON Beds		ON Seps		ON Bdays		ON Beds	
	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21	10-11	20-21
152 Gastroscopy	3	1	13	5	0.05	0.02	1		1		0.00	0.00	4	3	14	19	0.05	0.07
162 Other Gastroscopy	2	1	10	3	0.04	0.01					0.00	0.00	9	5	19	11	0.07	0.04
244 Respiratory System OR Procedures	33	53	40	53	0.15	0.19		2		2	0.00	0.01	90	104	102	105	0.37	0.38
431 Major S and L Bowel Procs incl Rectal Resectior	1	1	10	2	0.04	0.01		0		0	0.00	0.00	4	2	40	10	0.15	0.04
439 Other Colorectal Surgery	2	4	3	7	0.01	0.02		1		2	0.00	0.01	7	10	13	19	0.05	0.07
441 Cholecystectomy	2	3	7	5	0.03	0.02	1	0	1	0	0.00	0.00	3	7	8	13	0.03	0.05
449 Other Upper GIT Surgery		1		5	0.00	0.02		1		3	0.00	0.01	1	4	1	22	0.00	0.08
459 Other Head and Neck Surgery		1		1	0.00	0.00					0.00	0.00	6	5	9	8	0.03	0.03
462 Craniotomy					0.00	0.00					0.00	0.00	1	2	48	23	0.18	0.08
471 Dental Extractions and Restorations					0.00	0.00		0		0	0.00	0.00	1	1	4	1	0.01	0.00
481 Tonsillectomy or Adenoidectomy	81	112	84	112	0.31	0.41		31		31	0.00	0.11	247	376	258	378	0.94	1.38
489 Other Procedural ENT	10	12	10	12	0.04	0.04					0.00	0.00	63	52	75	54	0.27	0.20
492 Wrist and Hand Procedures incl Carpal Tunnel	2	3	5	3	0.02	0.01	1	1	2	1	0.01	0.00	18	25	34	31	0.12	0.11
494 Knee Procedures	4	4	7	7	0.03	0.03	1	1	1	2	0.00	0.01	10	9	13	16	0.05	0.06
495 Other Orthopaedics - Surgical	58	54	154	107	0.56	0.39	13	15	30	29	0.11	0.10	186	218	524	521	1.91	1.90
509 Other Eye Procedures	2	5	2	5	0.01	0.02		1		1	0.00	0.00	5	11	9	19	0.03	0.07
511 Microvascular Tissue Transfer or Skin Grafts	2	1	13	2	0.05	0.01	1	0	3	0	0.01	0.00	12	10	71	43	0.26	0.16
512 Skin, Subcutaneous Tissue and Breast Procedu	3	1	9	1	0.03	0.00					0.00	0.00	8	4	21	7	0.08	0.03
519 Other Plastic and Reconstructive Surgery		0		0	0.00	0.00		1		1	0.00	0.00	25	24	35	33	0.13	0.12
529 Other Urological Procedures	10	5	14	5	0.05	0.02		0		0	0.00	0.00	36	22	69	34	0.25	0.12
543 Appendicectomy	54	81	156	225	0.57	0.82	29	15	54	39	0.20	0.14	161	187	431	541	1.57	1.98
545 Inguinal and Femoral Hernia Procedures Age>(	0	1		1	0.00	0.00		0		0	0.00	0.00	2	4	2	4	0.01	0.02
549 Other Non-specialty Surgery	19	18	46	52	0.17	0.19	4	4	16	10	0.06	0.04	80	80	192	194	0.70	0.71
621 Extensive Burns	1	1	2	3	0.01	0.01					0.00	0.00	1	3	2	10	0.01	0.04
712 Endoscopic Procedures for Female Reproductiv	1	3	2	8	0.01	0.03		0		0	0.00	0.00	3	7	8	21	0.03	0.08
713 Conisation, Vagina, Cervix and Vulva Procedure	0	1		1	0.00	0.00	1		1		0.00	0.00	2	2	3	3	0.01	0.01
716 Other Gynaecological Surgery	4	3	17	10	0.06	0.04	1	0	5	0	0.02	0.00	6	7	23	20	0.08	0.07
All Child Surgical & Procedural Day Only Activity	**294**	**370**	**604**	**636**	**2.21**	**2.32**	**53**	**72**	**114**	**121**	**0.42**	**0.44**	**991**	**1184**	**2028**	**2159**	**7.41**	**7.89**

Attachment I - Major Flows of Patients for Surgical/Procedural Care (2021-22 projected) Adults (>15) Overnight Stays

i1: Bankstown LGA Residents

SRG	ESRG	Hospital																			
		Bankstown-Lidcombe			SESI Private			SSW Private			Royal Prince Alfred			Liverpool			Concord			Canterbury		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	60	367	1.18	30	62	0.20	36	73	0.23	47	165	0.53	14	68	0.22	19	75	0.24	4	24	0.08
	122 Percutaneous Coronary Angioplasty	11	38	0.12	29	54	0.18	61	121	0.39	118	286	0.92	63	172	0.55	19	49	0.16	1	6	0.02
	129 Other Interventional Cardiology	9	68	0.22	14	41	0.13	28	81	0.26	59	285	0.92	9	48	0.15	14	57	0.18			0.00
15 Gastroenterology	152 Gastroscopy	152	1,043	3.36	9	26	0.08	8	22	0.07	3	17	0.06	10	65	0.21	5	27	0.09	5	29	0.09
	153 ERCP	66	495	1.60	1	6	0.02	1	4	0.01	5	27	0.09	8	49	0.16	6	34	0.11	0	3	0.01
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	57	358	1.15	10	22	0.07	12	29	0.09	3	16	0.05	4	23	0.07	6	36	0.12	4	17	0.05
	162 Other Gastroscopy	33	172	0.55	2	9	0.03	1	2	0.01	0	2	0.00	3	13	0.04	2	12	0.04	2	10	0.03
24 Resp Medicine	244 Respiratory System OR Procedures	6	60	0.19	2	6	0.02	2	5	0.02	0	6	0.02	2	18	0.06	2	16	0.05			0.00
41 Breast Surgery	411 Breast Surgery	67	151	0.49	11	28	0.09	18	46	0.15	9	22	0.07	3	8	0.03	6	16	0.05	1	3	0.01
42 Cardiothoracic Surgery	421 Coronary Bypass			0.00	6	77	0.25	12	136	0.44	31	342	1.10	9	112	0.36			0.00			0.00
	429 Other Cardiothoracic Surgery	3	34	0.11	15	170	0.55	23	256	0.83	34	369	1.19	22	244	0.79	5	61	0.20			0.00
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resect	146	1,927	6.21	18	169	0.55	18	166	0.53	9	104	0.34	7	98	0.31	13	165	0.53	5	60	0.19
	439 Other Colorectal Surgery	67	216	0.70	10	20	0.06	36	75	0.24	3	11	0.04	6	17	0.06	8	23	0.07	15	30	0.10
44 Upper GIT Surgery	441 Cholecystectomy	190	480	1.55	64	96	0.31	65	103	0.33	9	18	0.06	7	28	0.09	11	33	0.10	21	44	0.14
	449 Other Upper GIT Surgery	73	723	2.33	61	119	0.38	38	76	0.25	11	102	0.33	17	143	0.46	25	176	0.57	2	11	0.04
45 Head and Neck Surgery	451 Thyroid Procedures	22	42	0.13	27	43	0.14	6	9	0.03	5	8	0.03	9	15	0.05	11	19	0.06	3	4	0.01
	459 Other Head and Neck Surgery	14	56	0.18	18	35	0.11	5	8	0.03	5	18	0.06	10	42	0.13	3	11	0.03	1	1	0.00
46 Neurosurgery	462 Craniotomy	1	10	0.03	8	71	0.23			0.00	15	187	0.60	56	875	2.82	2	33	0.11			0.00
	469 Other Neurosurgery	23	121	0.39	70	355	1.14	46	238	0.77	11	62	0.20	38	292	0.94	10	49	0.16	11	52	0.17
47 Dentistry	471 Dental Extractions and Restorations	0	2	0.01	7	8	0.03	2	3	0.01	0	1	0.00	2	4	0.01	1	2	0.01			0.00
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	12	14	0.05	16	16	0.05	18	18	0.06			0.00	0	0	0.00	1	1	0.00	3	3	0.01
	489 Other Procedural ENT	45	53	0.17	81	85	0.28	68	71	0.23	10	14	0.04	2	3	0.01	6	10	0.03	6	6	0.02
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunn	52	89	0.29	21	27	0.09	9	11	0.04	4	7	0.02	7	13	0.04	1	3	0.01	2	3	0.01
	493 Hip and Knee Replacement	239	2,004	6.46	190	1,135	3.66	53	314	1.01	1	11	0.04	5	54	0.17	22	154	0.50	17	97	0.31
	494 Knee Procedures	29	97	0.31	40	56	0.18	27	35	0.11	1	5	0.02	0	2	0.01	4	7	0.02	5	6	0.02
	495 Other Orthopaedics - Surgical	377	3,123	10.07	142	354	1.14	97	210	0.68	15	100	0.32	50	422	1.36	18	116	0.38	24	133	0.43

SRG	ESRG	Hospital																				
		Bankstown-Lidcombe			SESI Private			SSW Private			Royal Prince Alfred			Liverpool			Concord			Canterbury		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
	503 Glaucoma and Lens Procedures	11	13	0.04	4	4	0.01	40	43	0.14	1	3	0.01	4	9	0.03	2	2	0.01			0.00
50 Ophthalmology	509 Other Eye Procedures	6	18	0.06	10	11	0.04	8	8	0.03	1	4	0.01	5	19	0.06	2	4	0.01			0.00
	511 Microvascular Tissue Transfer or Skin Grafts	29	270	0.87	24	108	0.35	14	62	0.20	11	84	0.27	14	128	0.41	4	31	0.10	0	1	0.00
	512 Skin, Subcutaneous Tissue and Breast Proce	11	34	0.11	39	74	0.24	17	31	0.10	4	11	0.04	2	7	0.02	3	9	0.03	2	5	0.02
51 Plastic and	513 Maxillo-Facial Surgery	1	2	0.01	6	9	0.03	1	3	0.01	1	2	0.01	6	16	0.05	3	6	0.02	0	1	0.00
Reconst Surg	519 Other Plastic and Reconstructive Surgery	37	191	0.62	20	90	0.29	9	44	0.14	6	31	0.10	6	19	0.06	4	19	0.06	1	4	0.01
	523 TURP	75	328	1.06	19	60	0.19	31	97	0.31	2	10	0.03	1	2	0.01	8	23	0.07	2	7	0.02
52 Urology	529 Other Urological Procedures	77	580	1.87	53	181	0.58	61	211	0.68	44	242	0.78	6	41	0.13	28	166	0.54	11	38	0.12
53 Vascular	531 Vein Ligation and Stripping	14	15	0.05	4	4	0.01	26	28	0.09	2	2	0.01	0	0	0.00	7	9	0.03	2	1	0.00
Surgery	539 Other Vascular Surgery Procedures	117	1,280	4.13	9	45	0.15	11	57	0.18	17	151	0.49	52	445	1.43	42	336	1.08			0.00
	543 Appendicectomy	94	289	0.93	4	9	0.03	2	4	0.01	3	8	0.03	6	21	0.07	3	8	0.02	11	30	0.10
54 Non	545 Inguinal and Femoral Hernia Procedures Age	102	109	0.35	55	58	0.19	73	78	0.25	3	6	0.02	4	8	0.03	6	8	0.03	12	13	0.04
Subspecialty Surg	549 Other Non-specialty Surgery	183	1,603	5.17	53	211	0.68	59	240	0.77	31	243	0.78	40	355	1.14	31	259	0.83	12	41	0.13
61 Transplantation	611 Transplantation			0.00			0.00			0.00	4	77	0.25			0.00			0.00			0.00
62 Extensive Burns	621 Extensive Burns	0	0	0.00			0.00			0.00			0.00			0.00	6	74	0.24	0	0	0.00
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours	47	1,526	4.92	0	15	0.05	2	67	0.22	13	438	1.41	16	546	1.76	6	203	0.65			0.00
	711 Abortion W DandC, Aspiration Curettage or H	42	60	0.19	2	3	0.01	0	1	0.00	1	2	0.01	0	1	0.00			0.00	3	4	0.01
	712 Endoscopic Procedures for Female Reproduc	10	26	0.08	9	14	0.05	2	3	0.01	1	1	0.00	1	2	0.01	0	0	0.00	1	2	0.01
	713 Conisation, Vagina, Cervix and Vulva Proced	10	22	0.07	1	2	0.01			0.00	1	3	0.01	1	2	0.01			0.00	2	2	0.01
	714 Diagnostic Curettage or Diagnostic Hysteros	6	25	0.08	1	1	0.00	1	1	0.00			0.00	1	3	0.01			0.00	0	1	0.00
	715 Hysterectomy	44	161	0.52	67	233	0.75	12	41	0.13	14	56	0.18	8	33	0.11	1	4	0.01	10	32	0.10
71 Gynaecology	716 Other Gynaecological Surgery	83	195	0.63	84	184	0.59	16	35	0.11	30	86	0.28	15	41	0.13	9	31	0.10	12	24	0.08
72 Obstetrics	723 Caesarean Delivery	407	1,571	5.06	187	925	2.98	18	90	0.29	47	214	0.69	28	128	0.41			0.00	49	197	0.63
99 Unallocated	999 Unallocated	20	507	1.63	1	10	0.03	2	2	0.01	2	15	0.05	2	13	0.04	6	45	0.15	5	36	0.12
All Adult Surgical & Procedural Overnight Stay Activity		**3,179**	**20,567**	**66.29**	**1,555**	**5,342**	**17.22**	**1,098**	**3,258**	**10.50**	**644**	**3,873**	**12.48**	**579**	**4,667**	**15.04**	**390**	**2,420**	**7.80**	**265**	**981**	**3.16**

i2: Fairfield LGA Residents - Major Flows of Patients for Surgical/Procedural Care (2021-22 projected) - Adults (>15) Overnight Stays

SRG	ESRG	Hospital																				
		Liverpool			Fairfield			SWS Private			SW Private			Bankstown-Lidcombe			SESI Private			Westmead		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	115	588	1.90	112	756	2.44	11	22	0.07	6	10	0.03	1	7	0.02	8	16	0.05	23	89	0.29
	122 Percutaneous Coronary Angioplasty	285	866	2.79	0	2	0.01	48	89	0.29	3	4	0.01			0.00	3	5	0.02	17	65	0.21
	129 Other Interventional Cardiology	63	435	1.40	12	106	0.34	22	65	0.21	4	12	0.04	1	7	0.02	4	12	0.04	13	88	0.28
15 Gastroenterology	152 Gastroscopy	94	601	1.94	32	200	0.65	6	16	0.05	6	17	0.05	59	388	1.25	3	8	0.03	7	45	0.15
	153 ERCP	84	599	1.93	32	276	0.89			0.00			0.00	9	58	0.19			0.00	3	21	0.07
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	27	179	0.58	25	144	0.46	2	5	0.02	6	13	0.04	6	35	0.11	2	5	0.02	3	18	0.06
	162 Other Gastroscopy	25	129	0.42	15	73	0.23			0.00	1	3	0.01	7	35	0.11	0	1	0.00	2	11	0.04
24 Resp Medicine	244 Respiratory System OR Procedures	7	84	0.27	3	51	0.16	0	0	0.00	1	1	0.00	0	1	0.00			0.00	0	3	0.01
41 Breast Surgery	411 Breast Surgery	20	52	0.17	44	101	0.32	13	31	0.10	8	20	0.07	4	8	0.03	1	2	0.01	7	19	0.06
42 Cardiothoracic Surgery	421 Coronary Bypass	55	683	2.20			0.00	4	54	0.17	2	19	0.06			0.00	2	24	0.08	2	25	0.08
	429 Other Cardiothoracic Surgery	95	1,181	3.81			0.00	10	105	0.34	1	9	0.03			0.00	4	47	0.15	11	130	0.42
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resect	59	879	2.83	38	469	1.51	19	186	0.60	6	60	0.19	67	777	2.51	8	78	0.25	5	70	0.23
	439 Other Colorectal Surgery	33	112	0.36	81	185	0.60	24	50	0.16	36	72	0.23	19	64	0.21	3	6	0.02	1	3	0.01
44 Upper GIT Surgery	441 Cholecystectomy	78	286	0.92	160	283	0.91	37	56	0.18	50	79	0.26	20	43	0.14	5	8	0.02	4	15	0.05
	449 Other Upper GIT Surgery	75	711	2.29	25	178	0.57	31	58	0.19	42	75	0.24	29	264	0.85	16	49	0.16	7	48	0.15
45 Head and Neck Surgery	451 Thyroid Procedures	43	83	0.27	6	9	0.03	11	17	0.06	4	7	0.02	6	10	0.03	16	25	0.08	4	8	0.03
	459 Other Head and Neck Surgery	29	123	0.40	2	3	0.01	4	6	0.02	6	13	0.04	2	3	0.01	9	17	0.05	7	28	0.09
46 Neurosurgery	462 Craniotomy	81	1,308	4.22			0.00			0.00	3	27	0.09			0.00	5	40	0.13	10	152	0.49
	469 Other Neurosurgery	91	643	2.07	1	9	0.03	43	205	0.66	21	106	0.34	5	20	0.06	32	160	0.51	11	78	0.25
47 Dentistry	471 Dental Extractions and Restorations	3	8	0.03			0.00	1	2	0.01	2	2	0.01			0.00	2	2	0.01	3	7	0.02
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	17	22	0.07			0.00	35	34	0.11	3	3	0.01			0.00	3	3	0.01	1	1	0.00
	489 Other Procedural ENT	38	53	0.17			0.00	70	73	0.23	12	12	0.04	3	3	0.01	19	20	0.06	6	9	0.03
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunn	32	62	0.20	2	3	0.01	12	14	0.05	9	10	0.03	3	5	0.02	4	5	0.02	2	6	0.02
	493 Hip and Knee Replacement	59	726	2.34	173	998	3.22	70	403	1.30	25	152	0.49	23	151	0.49	22	128	0.41	3	34	0.11
	494 Knee Procedures	8	49	0.16	16	25	0.08	33	44	0.14	22	29	0.09	0	0	0.00	3	4	0.01	0	0	0.00
	495 Other Orthopaedics - Surgical	314	2,825	9.11	49	161	0.52	83	185	0.60	71	143	0.46	9	63	0.20	25	51	0.17	23	167	0.54

SRG	ESRG	Hospital																				
		Liverpool			Fairfield			SWS Private			SW Private			Bankstown-Lidcombe			SESI Private			Westmead		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
50 Ophthalmology	503 Glaucoma and Lens Procedures	20	38	0.12			0.00	3	3	0.01	11	12	0.04	3	6	0.02			0.00	1	1	0.00
	509 Other Eye Procedures	19	60	0.19			0.00	10	11	0.04	6	7	0.02	0	2	0.01	3	3	0.01	2	11	0.04
51 Plastic and Reconst Surg	511 Microvascular Tissue Transfer or Skin Grafts	40	412	1.33	8	44	0.14	5	18	0.06	14	50	0.16	1	9	0.03	5	19	0.06	6	47	0.15
	512 Skin, Subcutaneous Tissue and Breast Proce	13	44	0.14	11	31	0.10	13	24	0.08	23	41	0.13	2	5	0.02	15	26	0.08	2	8	0.03
	513 Maxillo-Facial Surgery	11	26	0.08			0.00	2	3	0.01	5	8	0.03			0.00	2	3	0.01	4	10	0.03
	519 Other Plastic and Reconstructive Surgery	27	143	0.46	3	22	0.07	5	17	0.06	7	26	0.08	1	2	0.01	2	8	0.03	2	7	0.02
52 Urology	523 TURP	14	44	0.14	31	124	0.40	22	67	0.22	15	46	0.15	22	73	0.23	33	103	0.33	4	20	0.06
	529 Other Urological Procedures	52	392	1.26	25	125	0.40	24	84	0.27	8	27	0.09	14	82	0.26	54	190	0.61	9	49	0.16
53 Vascular Surgery	531 Vein Ligation and Stripping	1	1	0.00	5	5	0.02	12	12	0.04	3	4	0.01	3	3	0.01	0	0	0.00			0.00
	539 Other Vascular Surgery Procedures	128	1,208	3.90	4	53	0.17	5	27	0.09	2	9	0.03	7	66	0.21	2	7	0.02	17	177	0.57
54 Non Subspecialty Surg	543 Appendicectomy	44	150	0.48	74	230	0.74	1	2	0.01	1	4	0.01	4	13	0.04			0.00	4	11	0.04
	545 Inguinal and Femoral Hernia Procedures Age	28	42	0.14	64	68	0.22	40	41	0.13	61	64	0.21	6	6	0.02	3	3	0.01	3	3	0.01
	549 Other Non-specialty Surgery	158	1,491	4.81	106	560	1.81	35	127	0.41	49	185	0.60	30	205	0.66	12	50	0.16	14	120	0.39
61 Transplant	611 Transplantation			0.00			0.00			0.00			0.00			0.00			0.00	2	37	0.12
62 Extensive Burns	621 Extensive Burns	1	9	0.03			0.00			0.00	1	2	0.01			0.00			0.00			0.00
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours	53	1,813	5.84			0.00	0	10	0.03	1	21	0.07	24	844	2.72	0	9	0.03	10	358	1.15
71 Gynaecology	711 Abortion W DandC, Aspiration Curettage or H	10	15	0.05	40	55	0.18	1	2	0.01	0	0	0.00	0	1	0.00			0.00	3	4	0.01
	712 Endoscopic Procedures for Female Reproduc	2	5	0.02	5	11	0.04	2	3	0.01	2	2	0.01			0.00	1	2	0.01	1	1	0.00
	713 Conisation, Vagina, Cervix and Vulva Proced	5	12	0.04	7	11	0.04	1	2	0.01	0	0	0.00	1	2	0.01			0.00	1	4	0.01
	714 Diagnostic Curettage or Diagnostic Hysteros	2	5	0.02	4	12	0.04	0	1	0.00	0	1	0.00			0.00			0.00	1	2	0.01
	715 Hysterectomy	44	191	0.61	20	68	0.22	29	103	0.33	17	60	0.19	6	21	0.07	6	20	0.06	8	36	0.12
	716 Other Gynaecological Surgery	66	192	0.62	60	134	0.43	35	80	0.26	27	56	0.18	12	25	0.08	14	31	0.10	15	46	0.15
72 Obstetrics	723 Caesarean Delivery	112	520	1.68	337	1,364	4.40	53	263	0.85	44	216	0.69	7	28	0.09	4	22	0.07	47	256	0.83
99 Unallocated	999 Unallocated	23	342	1.10	3	28	0.09	3	3	0.01	3	30	0.10	2	45	0.15	1	2	0.01	1	1	0.00
All Adult Surgical & Procedural Overnight Stay Activity		**2,702**	**20,446**	**65.90**	**1,635**	**6,977**	**22.49**	**892**	**2,623**	**8.45**	**648**	**1,769**	**5.70**	**420**	**3,380**	**10.89**	**356**	**1,214**	**3.91**	**331**	**2,349**	**7.57**

i3: Liverpool LGA Residents - Major Flows of Patients for Surgical/Procedural Care (2021-22 projected) - Adults (>15) O'night Stays

SRG	ESRG	Hospital																				
		Liverpool			SWS Private			SESI Private			Fairfield			SW Private			Bankstown-Lidcombe			RPAH		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	233	1,139	3.67	28	56	0.18	13	25	0.08	15	95	0.31	7	14	0.05	3	16	0.05	12	41	0.13
	122 Percutaneous Coronary Angioplasty	377	1,316	4.24	76	137	0.44	8	14	0.04			0.00	4	8	0.03	1	3	0.01	8	22	0.07
	129 Other Interventional Cardiology	72	570	1.84	27	80	0.26	7	21	0.07			0.00	6	16	0.05			0.00	13	53	0.17
15 Gastroenterology	152 Gastroscopy	155	983	3.17	10	30	0.10	6	19	0.06	6	23	0.07	3	9	0.03	9	52	0.17	2	13	0.04
	153 ERCP	93	677	2.18			0.00	0	2	0.01	3	26	0.08			0.00	2	11	0.03	1	6	0.02
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	60	368	1.19	6	16	0.05	7	15	0.05	7	31	0.10	4	10	0.03	6	30	0.10	1	2	0.01
	162 Other Gastroscopy	50	238	0.77	1	4	0.01	1	3	0.01	3	12	0.04			0.00	2	10	0.03	1	6	0.02
24 Resp Medicine	244 Respiratory System OR Procedures	11	147	0.47	1	5	0.02	1	4	0.01	0	3	0.01			0.00			0.00	1	2	0.01
41 Breast Surgery	411 Breast Surgery	48	124	0.40	28	72	0.23	2	7	0.02	6	12	0.04	8	18	0.06	4	8	0.03	0	1	0.00
42 Cardiothoracic Surgery	421 Coronary Bypass	62	819	2.64	8	85	0.28	3	32	0.10			0.00	1	6	0.02			0.00	4	39	0.13
	429 Other Cardiothoracic Surgery	87	1,079	3.48	12	134	0.43	9	96	0.31			0.00	2	16	0.05			0.00	7	81	0.26
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resect	106	1,546	4.98	21	192	0.62	19	180	0.58	8	80	0.26	6	53	0.17	40	441	1.42	6	75	0.24
	439 Other Colorectal Surgery	84	268	0.86	49	98	0.32	6	12	0.04	29	57	0.18	16	30	0.10	14	43	0.14	4	10	0.03
44 Upper GIT Surgery	441 Cholecystectomy	207	625	2.01	87	132	0.42	25	37	0.12	29	58	0.19	16	23	0.07	32	62	0.20	3	5	0.02
	449 Other Upper GIT Surgery	106	1,009	3.25	57	100	0.32	39	75	0.24	3	25	0.08	55	94	0.30	16	131	0.42	11	81	0.26
45 Head and Neck Surgery	451 Thyroid Procedures	64	113	0.36	11	17	0.05	29	46	0.15	1	2	0.01	2	3	0.01	7	12	0.04	7	11	0.04
	459 Other Head and Neck Surgery	31	121	0.39	5	8	0.03	23	42	0.14	0	1	0.00	4	6	0.02	2	4	0.01	3	10	0.03
46 Neurosurgery	462 Craniotomy	97	1,531	4.93			0.00	3	26	0.08			0.00	2	18	0.06			0.00	6	63	0.20
	469 Other Neurosurgery	120	872	2.81	73	344	1.11	63	293	0.94	1	3	0.01	15	73	0.24	5	19	0.06	7	45	0.15
47 Dentistry	471 Dental Extractions and Restorations	9	30	0.10	1	2	0.01	1	2	0.01			0.00	3	4	0.01			0.00			0.00
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	23	26	0.09	53	52	0.17	8	8	0.03			0.00	2	2	0.01	1	1	0.00	0	0	0.00
	489 Other Procedural ENT	50	79	0.25	121	125	0.40	27	28	0.09			0.00	11	11	0.04	3	4	0.01	8	11	0.03
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunn	51	100	0.32	18	22	0.07	2	3	0.01	1	2	0.00	8	9	0.03	5	8	0.03	1	1	0.00
	493 Hip and Knee Replacement	49	617	1.99	119	713	2.30	41	233	0.75	173	968	3.12	14	83	0.27	26	168	0.54	1	8	0.03
	494 Knee Procedures	15	70	0.22	51	65	0.21	13	17	0.05	12	18	0.06	8	10	0.03	4	7	0.02	1	2	0.01
	495 Other Orthopaedics - Surgical	375	3,225	10.39	156	312	1.00	54	108	0.35	47	134	0.43	66	131	0.42	19	139	0.45	12	75	0.24

SRG	ESRG	Hospital																				
		Liverpool			SWS Private			SESI Private			Fairfield			SW Private			Bankstown-Lidcombe			RPAH		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
50 Ophthalmology	503 Glaucoma and Lens Procedures	17	31	0.10	5	5	0.02	7	7	0.02			0.00	2	2	0.01	1	3	0.01			0.00
	509 Other Eye Procedures	24	76	0.24	7	7	0.02	2	2	0.01			0.00	6	8	0.03			0.00	1	2	0.00
51 Plastic and Reconst Surg	511 Microvascular Tissue Transfer or Skin Grafts	63	673	2.17	16	72	0.23	7	25	0.08	5	31	0.10	4	14	0.05	2	21	0.07	4	29	0.09
	512 Skin, Subcutaneous Tissue and Breast Proce	21	83	0.27	33	62	0.20	27	49	0.16	4	9	0.03	26	46	0.15	3	8	0.03	3	11	0.03
	513 Maxillo-Facial Surgery	16	32	0.10	2	3	0.01	2	3	0.01			0.00	6	11	0.04			0.00	0	2	0.01
	519 Other Plastic and Reconstructive Surgery	41	162	0.52	9	36	0.12	7	26	0.08	1	5	0.01	12	44	0.14	1	3	0.01	2	12	0.04
52 Urology	523 TURP	22	83	0.27	27	82	0.26	48	145	0.47	16	54	0.18	3	10	0.03	16	58	0.19	1	4	0.01
	529 Other Urological Procedures	90	649	2.09	35	122	0.39	97	335	1.08	7	29	0.09	8	26	0.09	10	58	0.19	17	94	0.30
53 Vascular Surgery	531 Vein Ligation and Stripping			0.00	33	35	0.11	1	1	0.00	3	3	0.01	3	3	0.01	1	2	0.01			0.00
	539 Other Vascular Surgery Procedures	154	1,502	4.84	10	48	0.16	9	35	0.11	1	10	0.03	2	7	0.02	9	72	0.23	6	47	0.15
54 Non Subspecialty Surg	543 Appendicectomy	142	432	1.39	5	10	0.03	0	1	0.00	11	33	0.11	2	4	0.01	6	19	0.06			0.00
	545 Inguinal and Femoral Hernia Procedures Age	64	88	0.28	85	88	0.28	12	12	0.04	13	16	0.05	28	29	0.09	16	16	0.05	3	3	0.01
	549 Other Non-specialty Surgery	247	2,301	7.42	77	284	0.92	34	135	0.43	26	122	0.39	25	94	0.30	23	150	0.48	15	118	0.38
61 Transplant	611 Transplantation			0.00			0.00			0.00			0.00			0.00			0.00	6	121	0.39
62 Extensive Burns	621 Extensive Burns	1	11	0.03			0.00			0.00	0	0	0.00			0.00			0.00			0.00
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours	79	2,774	8.94	1	23	0.07	2	50	0.16			0.00			0.00	5	201	0.65	5	164	0.53
71 Gynaecology	711 Abortion W DandC, Aspiration Curettage or I	48	70	0.23	3	4	0.01	1	1	0.00	6	8	0.03			0.00	2	2	0.01			0.00
	712 Endoscopic Procedures for Female Reproduc	15	35	0.11	5	7	0.02	8	12	0.04	2	3	0.01	1	2	0.01	1	2	0.01	1	2	0.01
	713 Conisation, Vagina, Cervix and Vulva Proced	14	38	0.12	2	3	0.01	0	0	0.00	1	1	0.00			0.00	0	0	0.00	1	4	0.01
	714 Diagnostic Curettage or Diagnostic Hysteros	7	23	0.07	1	2	0.01			0.00	0	1	0.00			0.00	0	0	0.00			0.00
	715 Hysterectomy	82	348	1.12	63	217	0.70	19	66	0.21	13	42	0.14	13	46	0.15	7	25	0.08	8	32	0.10
	716 Other Gynaecological Surgery	135	376	1.21	57	122	0.39	34	69	0.22	19	41	0.13	15	30	0.10	10	22	0.07	11	30	0.10
72 Obstetrics	723 Caesarean Delivery	616	2,840	9.15	158	785	2.53	46	226	0.73	30	120	0.39	30	149	0.48	12	47	0.15	14	65	0.21
99 Unallocated	999 Unallocated	20	260	0.84	3	13	0.04	1	6	0.02	1	1	0.00			0.00	1	12	0.04	1	2	0.01
All Adult Surgical & Procedural Overnight Stay Activity		**4,552**	**30,574**	**98.55**	**1,656**	**4,830**	**15.57**	**775**	**2,555**	**8.24**	**504**	**2,079**	**6.70**	**448**	**1,173**	**3.78**	**326**	**1,892**	**6.10**	**221**	**1,405**	**4.53**

i4: Campbelltown LGA Residents - Major Flows of Patients for Surgical/Procedural Care (2021-22 proj.) - Adults (>15) O'night Stays

SRG	ESRG	Hospital																				
		Campbelltown			Liverpool			SW Private			SWS Private DPC			SESI Private			Fairfield			SW Private		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	127	819	2.64	66	297	0.96	31	68	0.22			0.00	12	24	0.08	1	9	0.03	13	25	0.08
	122 Percutaneous Coronary Angioplasty	44	221	0.71	196	539	1.74	86	159	0.51			0.00	5	9	0.03			0.00	4	7	0.02
	129 Other Interventional Cardiology	11	93	0.30	44	291	0.94	30	90	0.29			0.00	8	22	0.07			0.00	0	1	0.00
15 Gastroenterology	152 Gastroscopy	103	657	2.12	42	259	0.83	6	18	0.06	13	19	0.06	3	9	0.03	1	2	0.01	1	2	0.01
	153 ERCP	37	302	0.97	41	264	0.85			0.00			0.00	1	2	0.01			0.00			0.00
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	48	222	0.72	13	76	0.24	9	18	0.06	17	23	0.07	2	5	0.02	0	1	0.00	2	6	0.02
	162 Other Gastroscopy	27	134	0.43	14	67	0.22	1	3	0.01	2	7	0.02	1	4	0.01	1	3	0.01			0.00
24 Resp Medicine	244 Respiratory System OR Procedures	5	22	0.07	6	45	0.15	3	9	0.03	1	1	0.00	1	2	0.01			0.00			0.00
41 Breast Surgery	411 Breast Surgery	41	98	0.32	16	41	0.13	19	50	0.16	16	27	0.09	3	7	0.02	1	1	0.00	2	4	0.01
42 Cardiothoracic Surgery	421 Coronary Bypass			0.00	51	598	1.93	6	70	0.22			0.00	7	88	0.28			0.00	2	28	0.09
	429 Other Cardiothoracic Surgery	2	38	0.12	79	867	2.80	17	183	0.59			0.00	7	82	0.26			0.00			0.00
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resect	116	1,387	4.47	24	367	1.18	5	48	0.16	22	166	0.53	6	56	0.18	1	7	0.02	1	11	0.03
	439 Other Colorectal Surgery	85	223	0.72	15	52	0.17	21	41	0.13	23	35	0.11	3	5	0.02	3	5	0.02	3	5	0.02
44 Upper GIT Surgery	441 Cholecystectomy	257	674	2.17	35	106	0.34	48	71	0.23	71	87	0.28	11	15	0.05	1	4	0.01	4	6	0.02
	449 Other Upper GIT Surgery	47	404	1.30	50	422	1.36	17	31	0.10	27	35	0.11	36	80	0.26	1	2	0.01	29	50	0.16
45 Head and Neck Surgery	451 Thyroid Procedures	9	15	0.05	35	62	0.20	6	10	0.03	2	2	0.01	21	33	0.11			0.00	0	1	0.00
	459 Other Head and Neck Surgery	4	7	0.02	20	79	0.26	6	13	0.04	1	1	0.00	18	34	0.11			0.00	3	5	0.02
46 Neurosurgery	462 Craniotomy			0.00	76	1,115	3.60			0.00			0.00	5	40	0.13			0.00	1	11	0.04
	469 Other Neurosurgery	3	42	0.14	96	652	2.10	71	335	1.08	5	8	0.03	71	341	1.10			0.00	5	23	0.07
47 Dentistry	471 Dental Extractions and Restorations			0.00	3	9	0.03	4	5	0.02	2	2	0.01	1	1	0.00			0.00	1	1	0.00
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	24	22	0.07	11	14	0.05	30	29	0.09	14	13	0.04	8	8	0.03			0.00	1	1	0.00
	489 Other Procedural ENT	41	40	0.13	24	45	0.15	55	58	0.19	31	29	0.09	24	25	0.08			0.00	3	3	0.01
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunn	7	9	0.03	32	61	0.20	13	16	0.05	4	4	0.01	9	10	0.03	0	0	0.00	3	3	0.01
	493 Hip and Knee Replacement	34	389	1.25	14	165	0.53	133	764	2.46	19	68	0.22	48	272	0.88	159	883	2.84	7	38	0.12
	494 Knee Procedures	15	52	0.17	5	19	0.06	41	56	0.18	39	49	0.16	5	7	0.02	11	13	0.04	4	4	0.01
	495 Other Orthopaedics - Surgical	254	1,580	5.09	134	997	3.21	110	224	0.72	107	160	0.52	56	113	0.37	23	56	0.18	34	75	0.24

SRG	ESRG	Hospital																				
		Campbelltown			Liverpool			SW Private			SWS Private DPC			SESI Private			Fairfield			SW Private		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
50 Ophthalmology	503 Glaucoma and Lens Procedures			0.00	8	13	0.04	24	25	0.08	1	1	0.00	2	2	0.01			0.00	0	1	0.00
	509 Other Eye Procedures	2	2	0.01	16	48	0.16	6	6	0.02			0.00	1	1	0.00			0.00	3	4	0.01
51 Plastic and Reconst Surg	511 Microvascular Tissue Transfer or Skin Grafts	5	29	0.09	45	452	1.46	15	60	0.19	6	9	0.03	3	10	0.03	0	4	0.01	3	9	0.03
	512 Skin, Subcutaneous Tissue and Breast Proce	12	32	0.10	8	31	0.10	27	50	0.16	11	14	0.05	15	27	0.09			0.00	11	20	0.06
	513 Maxillo-Facial Surgery			0.00	28	56	0.18	1	2	0.01			0.00	4	7	0.02			0.00	3	5	0.01
	519 Other Plastic and Reconstructive Surgery	2	14	0.04	28	100	0.32	10	41	0.13	0	0	0.00	1	5	0.02			0.00	7	19	0.06
52 Urology	523 TURP	71	282	0.91	7	22	0.07	16	51	0.16	32	100	0.32	11	31	0.10	0	1	0.00	2	4	0.01
	529 Other Urological Procedures	79	377	1.22	72	452	1.46	27	89	0.29	48	142	0.46	33	120	0.39			0.00	3	12	0.04
53 Vascular Surgery	531 Vein Ligation and Stripping	2	2	0.01	0	1	0.00	27	29	0.09	2	1	0.00	1	1	0.00	0	0	0.00	0	1	0.00
	539 Other Vascular Surgery Procedures	12	167	0.54	126	1,095	3.53	17	77	0.25			0.00	7	32	0.10			0.00	3	12	0.04
54 Non Subspecialty Surg	543 Appendicectomy	125	371	1.20	18	56	0.18	3	7	0.02	2	4	0.01	0	1	0.00	0	1	0.00	0	1	0.00
	545 Inguinal and Femoral Hernia Procedures Age	45	52	0.17	6	7	0.02	49	51	0.16	48	42	0.14	5	5	0.02	2	2	0.01	4	4	0.01
	549 Other Non-specialty Surgery	138	866	2.79	115	1,007	3.24	39	148	0.48	35	100	0.32	17	64	0.21	2	5	0.01	10	38	0.12
61 Transplant	611 Transplantation			0.00			0.00			0.00			0.00			0.00			0.00			0.00
62 Extensive Burns	621 Extensive Burns	0	1	0.00	1	25	0.08			0.00			0.00			0.00			0.00	1	6	0.02
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours	21	699	2.25	48	1,677	5.40	2	64	0.21			0.00	1	35	0.11			0.00	3	104	0.34
71 Gynaecology	711 Abortion W DandC, Aspiration Curettage or I	39	54	0.17	5	7	0.02	1	1	0.00			0.00	0	0	0.00	1	1	0.00			0.00
	712 Endoscopic Procedures for Female Reproduc	10	23	0.07	3	8	0.02	4	6	0.02	5	8	0.02	1	1	0.00	0	1	0.00			0.00
	713 Conisation, Vagina, Cervix and Vulva Proced	10	14	0.05	6	22	0.07	1	3	0.01	1	1	0.00			0.00	1	1	0.00			0.00
	714 Diagnostic Curettage or Diagnostic Hysteros	6	18	0.06	1	1	0.00	0	1	0.00	1	1	0.00	1	1	0.00			0.00			0.00
	715 Hysterectomy	69	223	0.72	37	159	0.51	34	117	0.38	48	151	0.49	11	39	0.13	6	19	0.06	8	27	0.09
	716 Other Gynaecological Surgery	94	210	0.68	47	136	0.44	39	90	0.29	51	96	0.31	11	23	0.07	8	15	0.05	11	25	0.08
72 Obstetrics	723 Caesarean Delivery	546	2,204	7.10	110	511	1.65	88	436	1.40			0.00	12	62	0.20	2	9	0.03	4	20	0.06
99 Unallocated	999 Unallocated	12	205	0.66	17	222	0.72			0.00			0.00	1	3	0.01			0.00			0.00
All Adult Surgical & Procedural Overnight Stay Activity		**2,645**	**13,297**	**42.86**	**1,896**	**13,618**	**43.89**	**1,197**	**3,719**	**11.99**	**705**	**1,408**	**4.54**	**510**	**1,769**	**5.70**	**224**	**1,045**	**3.37**	**201**	**617**	**1.99**

i5: Camden LGA Residents - Major Flows of Patients for Surgical/Procedural Care (2021-22 projected) - Adults (>15) O'night Stays

SRG	ESRG	Hospital																				
		Campbelltown			SWS Private			SWS Private DPC			Liverpool			SESI Private			SW Private			NSCC Private		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	58	380	1.22	35	69	0.22			0.00	33	141	0.46	3	6	0.02	10	19	0.06	5	10	0.03
	122 Percutaneous Coronary Angioplasty	28	131	0.42	81	147	0.47			0.00	98	248	0.80	5	8	0.03	5	8	0.03	3	5	0.02
	129 Other Interventional Cardiology	18	146	0.47	27	80	0.26			0.00	19	112	0.36	9	28	0.09	3	9	0.03	9	24	0.08
15 Gastroenterology	152 Gastroscopy	64	403	1.30	8	22	0.07	11	22	0.07	13	81	0.26	3	8	0.03			0.00			0.00
	153 ERCP	25	232	0.75	1	3	0.01			0.00	21	116	0.37			0.00			0.00			0.00
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	33	175	0.56	10	21	0.07	15	20	0.06	5	37	0.12	3	5	0.02			0.00			0.00
	162 Other Gastroscopy	13	62	0.20	1	4	0.01	2	9	0.03	2	10	0.03	1	6	0.02			0.00			0.00
24 Resp Medicine	244 Respiratory System OR Procedures	2	7	0.02	1	4	0.01	1	3	0.01	2	9	0.03	1	4	0.01	1	1	0.00			0.00
41 Breast Surgery	411 Breast Surgery	24	62	0.20	15	37	0.12	10	19	0.06	5	13	0.04	3	8	0.03	6	16	0.05	2	4	0.01
42 Cardiothoracic Surgery	421 Coronary Bypass			0.00	2	20	0.06			0.00	23	259	0.83	6	68	0.22	3	30	0.10			0.00
	429 Other Cardiothoracic Surgery			0.00	14	139	0.45			0.00	35	422	1.36	7	73	0.24	4	38	0.12			0.00
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resect	86	1,034	3.33	7	59	0.19	12	115	0.37	9	140	0.45	4	31	0.10			0.00	1	12	0.04
	439 Other Colorectal Surgery	46	111	0.36	17	36	0.12	32	45	0.14	1	7	0.02	5	9	0.03	2	6	0.02			0.00
44 Upper GIT Surgery	441 Cholecystectomy	110	276	0.89	56	83	0.27	73	89	0.29	5	18	0.06	6	8	0.03	6	9	0.03			0.00
	449 Other Upper GIT Surgery	25	200	0.64	39	61	0.20	41	37	0.12	16	150	0.48	26	56	0.18	24	51	0.16	2	2	0.01
45 Head and Neck Surgery	451 Thyroid Procedures	9	14	0.05	4	7	0.02	1	1	0.00	14	26	0.08	18	28	0.09			0.00	1	2	0.01
	459 Other Head and Neck Surgery	1	2	0.01	3	6	0.02	2	2	0.01	15	67	0.22	11	20	0.06	4	7	0.02	5	10	0.03
46 Neurosurgery	462 Craniotomy			0.00			0.00			0.00	31	479	1.55	6	53	0.17	1	8	0.03	3	32	0.10
	469 Other Neurosurgery	3	38	0.12	72	344	1.11	3	4	0.01	45	260	0.84	48	236	0.76	3	13	0.04	24	120	0.39
47 Dentistry	471 Dental Extractions and Restorations			0.00	3	4	0.01	3	3	0.01	1	3	0.01	3	4	0.01	1	1	0.00			0.00
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	11	11	0.03	25	24	0.08	13	12	0.04	5	7	0.02	5	5	0.02	1	1	0.00	1	1	0.00
	489 Other Procedural ENT	23	25	0.08	47	48	0.16	36	34	0.11	9	18	0.06	21	22	0.07	2	2	0.00	8	9	0.03
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunn	2	4	0.01	11	14	0.05	7	8	0.03	18	34	0.11	3	3	0.01	4	5	0.02	3	4	0.01
	493 Hip and Knee Replacement	33	374	1.21	103	619	2.00	71	259	0.84	2	24	0.08	52	299	0.96	20	116	0.37	15	88	0.28
	494 Knee Procedures	10	17	0.06	25	34	0.11	52	64	0.21	1	5	0.02	9	12	0.04	6	8	0.03	4	4	0.01
	495 Other Orthopaedics - Surgical	183	1,326	4.28	85	206	0.66	125	172	0.55	67	489	1.58	56	140	0.45	33	67	0.22	53	111	0.36

SRG	ESRG	Hospital																				
		Campbelltown			SWS Private			SWS Private DPC			Liverpool			SESI Private			SW Private			NSCC Private		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
	503 Glaucoma and Lens Procedures			0.00	16	16	0.05			0.00	2	4	0.01	2	2	0.01	6	7	0.02			0.00
50 Ophthalmology	509 Other Eye Procedures	1	1	0.00	5	5	0.02			0.00	7	15	0.05	2	2	0.01	4	4	0.01	4	4	0.01
	511 Microvascular Tissue Transfer or Skin Grafts	4	18	0.06	8	37	0.12	7	10	0.03	28	281	0.91	5	20	0.06	3	11	0.04	2	6	0.02
	512 Skin, Subcutaneous Tissue and Breast Proce	5	13	0.04	22	38	0.12	17	21	0.07	4	11	0.04	28	52	0.17	21	38	0.12	5	9	0.03
51 Plastic and	513 Maxillo-Facial Surgery			0.00	1	1	0.00			0.00	7	11	0.04	2	4	0.01	2	4	0.01	4	6	0.02
Reconst Surg	519 Other Plastic and Reconstructive Surgery	7	35	0.11	10	39	0.12	2	9	0.03	16	68	0.22	7	25	0.08	6	20	0.07	1	3	0.01
	523 TURP	27	120	0.39	14	40	0.13	33	132	0.43	3	8	0.03	18	56	0.18	3	9	0.03	1	5	0.02
52 Urology	529 Other Urological Procedures	38	226	0.73	20	63	0.20	39	128	0.41	30	160	0.52	50	182	0.59	7	24	0.08	1	3	0.01
53 Vascular	531 Vein Ligation and Stripping			0.00	25	26	0.08	2	1	0.00			0.00	3	3	0.01	1	1	0.00	1	1	0.00
Surgery	539 Other Vascular Surgery Procedures	8	135	0.44	16	82	0.26	1	2	0.01	77	816	2.63	3	14	0.04	6	26	0.09	3	12	0.04
	543 Appendicectomy	88	269	0.87	5	10	0.03	3	4	0.01	5	13	0.04	1	2	0.01			0.00			0.00
54 Non	545 Inguinal and Femoral Hernia Procedures Age	18	28	0.09	47	51	0.16	50	44	0.14	1	2	0.01	4	4	0.01	5	5	0.02	3	3	0.01
Subspecialty Surg	549 Other Non-specialty Surgery	84	537	1.73	38	137	0.44	34	101	0.33	44	403	1.30	16	63	0.20	22	87	0.28	6	27	0.09
61 Transplant	611 Transplantation			0.00			0.00			0.00			0.00			0.00			0.00			0.00
62 Extensive Burns	621 Extensive Burns	0	1	0.00			0.00			0.00			0.00			0.00			0.00			0.00
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours	10	282	0.91			0.00			0.00	20	700	2.26	5	176	0.57			0.00	1	27	0.09
	711 Abortion W DandC, Aspiration Curettage or H	14	19	0.06	1	1	0.00	0	0	0.00			0.00	0	1	0.00	0	1	0.00			0.00
	712 Endoscopic Procedures for Female Reproduc	3	5	0.02	3	5	0.02	4	6	0.02	1	1	0.00	4	5	0.02	1	2	0.01	1	1	0.00
	713 Conisation, Vagina, Cervix and Vulva Proced	10	14	0.05			0.00	3	3	0.01	1	4	0.01	1	1	0.00			0.00			0.00
	714 Diagnostic Curettage or Diagnostic Hysteros	3	9	0.03			0.00	2	3	0.01			0.00			0.00			0.00			0.00
	715 Hysterectomy	37	123	0.40	41	145	0.47	56	175	0.57	7	32	0.10	9	32	0.10	6	19	0.06			0.00
71 Gynaecology	716 Other Gynaecological Surgery	61	139	0.45	42	91	0.29	64	122	0.39	18	48	0.15	24	51	0.16	11	27	0.09	4	9	0.03
72 Obstetrics	723 Caesarean Delivery	305	1,230	3.97	174	863	2.78			0.00	47	215	0.69	28	136	0.44	9	44	0.14	6	28	0.09
99 Unallocated	999 Unallocated	4	30	0.10	1	1	0.00			0.00	3	52	0.17	1	2	0.01			0.00	1	2	0.01
All Adult Surgical & Procedural Overnight Stay Activity		**1,535**	**8,262**	**26.63**	**1,181**	**3,746**	**12.07**	**829**	**1,680**	**5.42**	**817**	**6,020**	**19.40**	**526**	**1,972**	**6.36**	**251**	**742**	**2.39**	**180**	**583**	**1.88**

i6: Wingecarribee LGA Residents - Major Flows of Patients for Surgical/Procedural Care (2021-22 proj.) - Adults (>15) O'night Stays

SRG	ESRG	Hospital																				
		SWS Private			Bowral			SESI Private			Liverpool			NSCC Private			RPAH			St Vincent's		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	19	42	0.13	15	124	0.40	17	37	0.12	5	22	0.07	6	13	0.04	3	11	0.04	2	10	0.03
	122 Percutaneous Coronary Angioplasty	38	74	0.24	0	2	0.01	10	23	0.07	53	132	0.43	8	20	0.06	4	10	0.03			0.00
	129 Other Interventional Cardiology	31	90	0.29	1	16	0.05	9	27	0.09	6	33	0.11	9	28	0.09	7	31	0.10	3	12	0.04
15 Gastroenterology	152 Gastroscopy	21	107	0.35	34	194	0.63	6	17	0.05	4	26	0.08	1	3	0.01	1	4	0.01	2	11	0.04
	153 ERCP			0.00	4	31	0.10	1	5	0.02	21	132	0.43	0	2	0.01	1	4	0.01	1	5	0.02
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	25	87	0.28	10	53	0.17	6	13	0.04	2	10	0.03	0	1	0.00	1	4	0.01			0.00
	162 Other Gastroscopy	10	52	0.17	11	45	0.15	4	16	0.05	1	6	0.02			0.00			0.00	1	8	0.02
24 Resp Medicine	244 Respiratory System OR Procedures	0	0	0.00	0	0	0.00	1	4	0.01	1	4	0.01			0.00			0.00	0	2	0.01
41 Breast Surgery	411 Breast Surgery	33	93	0.30	17	49	0.16	4	9	0.03			0.00	4	11	0.03	3	7	0.02			0.00
42 Cardiothoracic Surgery	421 Coronary Bypass	6	81	0.26	1	6	0.02	3	37	0.12	10	108	0.35	1	16	0.05	2	16	0.05			0.00
	429 Other Cardiothoracic Surgery	16	182	0.59			0.00	10	117	0.38	16	181	0.58	1	15	0.05	6	69	0.22	4	52	0.17
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resect	45	466	1.50	25	282	0.91	14	137	0.44	2	35	0.11	4	39	0.12	5	64	0.21	5	59	0.19
	439 Other Colorectal Surgery	19	51	0.16	16	36	0.12	4	10	0.03	0	1	0.00	2	4	0.01	2	6	0.02	1	2	0.01
44 Upper GIT Surgery	441 Cholecystectomy	94	198	0.64	59	142	0.46	4	8	0.02	1	4	0.01	1	2	0.01	1	3	0.01			0.00
	449 Other Upper GIT Surgery	81	285	0.92	5	35	0.11	18	58	0.19	4	36	0.12	10	37	0.12	3	18	0.06	5	33	0.11
45 Head and Neck Surgery	451 Thyroid Procedures	8	14	0.04	8	21	0.07	7	11	0.04	1	2	0.01	8	13	0.04			0.00	1	3	0.01
	459 Other Head and Neck Surgery	6	11	0.04	1	10	0.03	11	20	0.06	1	5	0.02	5	11	0.03	1	3	0.01	5	23	0.08
46 Neurosurgery	462 Craniotomy			0.00			0.00	5	53	0.17	11	173	0.56	1	11	0.03	6	68	0.22	0	7	0.02
	469 Other Neurosurgery	3	14	0.04	1	7	0.02	74	406	1.31	10	70	0.23	8	43	0.14	2	14	0.04	2	10	0.03
47 Dentistry	471 Dental Extractions and Restorations	2	4	0.01	1	2	0.01	9	11	0.04			0.00			0.00			0.00			0.00
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	1	1	0.00	5	5	0.02	12	12	0.04	0	1	0.00	1	1	0.00			0.00	2	3	0.01
	489 Other Procedural ENT	3	3	0.01			0.00	55	59	0.19	0	1	0.00	6	7	0.02	2	2	0.01	9	14	0.05
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunn	15	19	0.06	11	15	0.05	8	10	0.03	1	3	0.01	3	3	0.01			0.00			0.00
	493 Hip and Knee Replacement	214	1,358	4.38	109	704	2.27	35	212	0.68	1	6	0.02	28	167	0.54	1	9	0.03	1	7	0.02
	494 Knee Procedures	10	17	0.05	5	8	0.03	1	1	0.00	2	6	0.02	5	7	0.02			0.00			0.00
	495 Other Orthopaedics - Surgical	131	705	2.27	92	551	1.78	40	100	0.32	8	69	0.22	32	85	0.27	2	15	0.05	5	51	0.16

SRG	ESRG	Hospital																				
		SWS Private			Bowral			SESI Private			Liverpool			NSCC Private			RPAH			St Vincent's		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
50 Ophthalmology	503 Glaucoma and Lens Procedures	24	25	0.08	4	7	0.02	7	7	0.02	1	2	0.01	0	0	0.00			0.00			0.00
	509 Other Eye Procedures	14	15	0.05	5	19	0.06	2	2	0.01	1	3	0.01	13	14	0.05			0.00			0.00
51 Plastic and Reconst Surg	511 Microvascular Tissue Transfer or Skin Grafts	27	149	0.48	6	37	0.12	4	21	0.07	4	39	0.13	2	9	0.03	1	4	0.01	1	6	0.02
	512 Skin, Subcutaneous Tissue and Breast Proce	8	15	0.05	3	8	0.03	12	24	0.08	0	1	0.00	5	9	0.03	2	6	0.02	0	1	0.00
	513 Maxillo-Facial Surgery	2	3	0.01			0.00	2	4	0.01	1	2	0.01	1	1	0.00	0	1	0.00			0.00
	519 Other Plastic and Reconstructive Surgery	19	98	0.31	5	17	0.05	3	12	0.04	2	7	0.02	1	6	0.02	1	7	0.02			0.00
52 Urology	523 TURP	27	87	0.28			0.00	60	179	0.58			0.00	2	5	0.02	0	1	0.00	3	10	0.03
	529 Other Urological Procedures	32	112	0.36	2	11	0.04	91	328	1.06	15	85	0.27	3	11	0.03	1	5	0.01	4	23	0.07
53 Vascular Surgery	531 Vein Ligation and Stripping	19	21	0.07	9	12	0.04	3	3	0.01			0.00	1	1	0.00	0	0	0.00			0.00
	539 Other Vascular Surgery Procedures	10	63	0.20	2	24	0.08	24	118	0.38	26	276	0.89	10	59	0.19	9	75	0.24	1	4	0.01
54 Non Subspecialty Surg	543 Appendicectomy	13	40	0.13	25	74	0.24	0	1	0.00			0.00	0	1	0.00			0.00			0.00
	545 Inguinal and Femoral Hernia Procedures Age	86	94	0.30	28	29	0.09	5	5	0.02	0	0	0.00	2	2	0.01			0.00			0.00
	549 Other Non-specialty Surgery	117	618	1.99	40	215	0.69	19	84	0.27	14	140	0.45	12	50	0.16	7	60	0.19	1	7	0.02
61 Transplant	611 Transplantation			0.00			0.00			0.00			0.00			0.00	2	30	0.10	0	6	0.02
62 Extensive Burns	621 Extensive Burns			0.00	0	2	0.01			0.00			0.00			0.00			0.00			0.00
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours			0.00	0	8	0.03	4	114	0.37	9	326	1.05			0.00	1	49	0.16	2	65	0.21
71 Gynaecology	711 Abortion W DandC, Aspiration Curettage or I	0	0	0.00	2	2	0.01			0.00			0.00	0	0	0.00			0.00			0.00
	712 Endoscopic Procedures for Female Reproduc	5	7	0.02	2	5	0.02	1	2	0.01			0.00	1	1	0.00			0.00			0.00
	713 Conisation, Vagina, Cervix and Vulva Proced	2	4	0.01	2	3	0.01			0.00	0	1	0.00	1	2	0.01	0	1	0.00			0.00
	714 Diagnostic Curettage or Diagnostic Hysteros	1	1	0.00	1	1	0.00			0.00			0.00	1	1	0.00			0.00			0.00
	715 Hysterectomy	37	136	0.44	19	61	0.20	6	20	0.07	2	9	0.03	2	8	0.03	1	5	0.01			0.00
	716 Other Gynaecological Surgery	40	98	0.31	30	66	0.21	16	35	0.11	2	6	0.02	7	18	0.06	5	19	0.06	1	2	0.01
72 Obstetrics	723 Caesarean Delivery	1	4	0.01	88	363	1.17	5	26	0.08	3	12	0.04	5	24	0.08	2	7	0.02			0.00
99 Unallocated	999 Unallocated	7	72	0.23			0.00	1	1	0.00	1	48	0.15			0.00			0.00	1	1	0.00
All Adult Surgical & Procedural Overnight Stay Activity		**1,318**	**5,615**	**18.10**	**708**	**3,303**	**10.65**	**634**	**2,399**	**7.73**	**244**	**2,021**	**6.51**	**215**	**761**	**2.45**	**83**	**628**	**2.02**	**64**	**436**	**1.40**

i7: Wollondilly LGA Residents - Major Flows of Patients for Surgical/Procedural Care (2021-22 projected) - Adults (>15) O'night Stays

SRG	ESRG	Hospital																				
		SWS Private			Campbelltown			Liverpool			Bowral			SWS Private DPC			SESI Private			SW Private		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	8	16	0.05	18	115	0.37	6	24	0.08	5	33	0.11			0.00	3	6	0.02	5	10	0.03
	122 Percutaneous Coronary Angioplasty	38	72	0.23	7	30	0.10	39	93	0.30	0	2	0.01			0.00	1	2	0.01	2	4	0.01
	129 Other Interventional Cardiology	11	33	0.11	9	73	0.24	6	34	0.11	0	4	0.01			0.00	1	4	0.01	3	8	0.03
15 Gastroenterology	152 Gastroscopy	8	30	0.10	16	97	0.31	4	25	0.08	5	27	0.09	1	6	0.02	2	7	0.02	2	4	0.01
	153 ERCP			0.00	5	47	0.15	8	51	0.16			0.00			0.00	0	1	0.00			0.00
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	4	10	0.03	5	29	0.09	2	17	0.05	4	27	0.09	3	4	0.01	1	2	0.01			0.00
	162 Other Gastroscopy	1	6	0.02	7	28	0.09	2	8	0.03	2	8	0.03	1	1	0.00	0	1	0.00	1	2	0.01
24 Resp Medicine	244 Respiratory System OR Procedures	1	3	0.01	0	0	0.00	2	22	0.07			0.00	0	0	0.00	0	0	0.00			0.00
41 Breast Surgery	411 Breast Surgery	7	19	0.06	9	19	0.06	1	2	0.01	2	8	0.03	6	10	0.03	1	4	0.01	1	3	0.01
42 Cardiothoracic Surgery	421 Coronary Bypass	3	31	0.10			0.00	8	100	0.32			0.00			0.00	1	14	0.04	2	18	0.06
	429 Other Cardiothoracic Surgery	10	102	0.33	1	9	0.03	14	176	0.57			0.00			0.00	4	39	0.13	1	7	0.02
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resect	11	120	0.39	18	213	0.69	1	23	0.07	6	66	0.21	3	25	0.08	3	25	0.08	3	24	0.08
	439 Other Colorectal Surgery	11	26	0.08	7	16	0.05	0	1	0.00	5	10	0.03	4	6	0.02	1	1	0.00	4	9	0.03
44 Upper GIT Surgery	441 Cholecystectomy	29	48	0.15	27	69	0.22	1	2	0.01	25	52	0.17	19	23	0.07	2	3	0.01	8	11	0.04
	449 Other Upper GIT Surgery	35	99	0.32	4	28	0.09	6	43	0.14	0	2	0.01	5	8	0.03	11	29	0.10	7	13	0.04
45 Head and Neck Surgery	451 Thyroid Procedures	3	5	0.02	1	2	0.01	4	7	0.02	4	8	0.03			0.00	9	15	0.05	4	5	0.02
	459 Other Head and Neck Surgery	1	2	0.01	1	2	0.01	5	18	0.06	0	0	0.00			0.00	5	9	0.03	1	2	0.01
46 Neurosurgery	462 Craniotomy			0.00			0.00	16	246	0.79			0.00			0.00	4	35	0.11	1	11	0.03
	469 Other Neurosurgery	25	121	0.39	1	15	0.05	18	110	0.35			0.00	4	6	0.02	22	111	0.36	7	32	0.10
47 Dentistry	471 Dental Extractions and Restorations			0.00			0.00	1	2	0.01	0	0	0.00	1	1	0.00	1	2	0.00	2	2	0.01
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	5	5	0.02	4	4	0.01	2	3	0.01	1	1	0.00	3	3	0.01	5	5	0.02	1	1	0.00
	489 Other Procedural ENT	19	19	0.06	6	6	0.02	5	7	0.02			0.00	11	10	0.03	18	19	0.06	4	4	0.01
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunn	5	7	0.02	0	1	0.00	9	17	0.05	4	5	0.02	1	1	0.00	4	4	0.01	3	4	0.01
	493 Hip and Knee Replacement	72	439	1.41	8	95	0.30	1	16	0.05	39	229	0.74	9	29	0.09	19	102	0.33	16	94	0.30
	494 Knee Procedures	17	21	0.07	4	8	0.02	2	5	0.02	1	1	0.00	11	14	0.04	1	1	0.00	7	9	0.03
	495 Other Orthopaedics - Surgical	41	110	0.36	49	310	1.00	18	96	0.31	31	156	0.50	44	71	0.23	18	34	0.11	24	43	0.14

SRG	ESRG	Hospital																				
		SWS Private			Campbelltown			Liverpool			Bowral			SWS Private DPC			SESI Private			SW Private		
		Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds	Seps	B'days	Beds
	503 Glaucoma and Lens Procedures	11	11	0.04			0.00	1	2	0.01			0.00	0	0	0.00	0	1	0.00			0.00
50 Ophthalmology	509 Other Eye Procedures	2	2	0.01	0	0	0.00	2	7	0.02	1	1	0.00	0	0	0.00	0	0	0.00	1	1	0.00
	511 Microvascular Tissue Transfer or Skin Grafts	8	36	0.12	2	11	0.04	7	70	0.23	1	9	0.03	0	0	0.00	1	3	0.01	4	14	0.04
	512 Skin, Subcutaneous Tissue and Breast Proce	9	16	0.05	1	2	0.01	1	3	0.01			0.00	2	3	0.01	7	13	0.04	8	15	0.05
51 Plastic and	513 Maxillo-Facial Surgery			0.00			0.00	3	6	0.02			0.00			0.00	2	2	0.01	0	1	0.00
Reconst Surg	519 Other Plastic and Reconstructive Surgery	8	35	0.11			0.00	3	12	0.04	1	3	0.01	1	1	0.00	1	2	0.01	2	6	0.02
	523 TURP	9	27	0.09	14	55	0.18			0.00			0.00	11	33	0.11	6	15	0.05	2	6	0.02
52 Urology	529 Other Urological Procedures	9	32	0.10	15	72	0.23	13	78	0.25			0.00	20	53	0.17	15	54	0.17	6	20	0.06
53 Vascular	531 Vein Ligation and Stripping	12	13	0.04			0.00			0.00	2	2	0.01			0.00	1	1	0.00	1	1	0.00
Surgery	539 Other Vascular Surgery Procedures	2	10	0.03	0	2	0.01	26	255	0.82	0	3	0.01	0	1	0.00	3	10	0.03	2	7	0.02
	543 Appendicectomy	4	11	0.04	19	60	0.19	2	5	0.02	9	23	0.07			0.00	0	1	0.00	1	2	0.01
54 Non	545 Inguinal and Femoral Hernia Procedures Age	29	32	0.10	4	4	0.01	1	2	0.01	11	11	0.04	10	9	0.03	3	3	0.01	6	6	0.02
Subspecialty Surg	549 Other Non-specialty Surgery	33	137	0.44	24	153	0.49	19	186	0.60	14	56	0.18	10	27	0.09	7	26	0.09	13	51	0.16
61 Transplant	611 Transplantation			0.00			0.00			0.00			0.00			0.00			0.00			0.00
62 Extensive Burns	621 Extensive Burns			0.00			0.00			0.00			0.00			0.00			0.00			0.00
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours	0	13	0.04	3	70	0.23	8	283	0.91			0.00			0.00	1	25	0.08	0	13	0.04
	711 Abortion W DandC, Aspiration Curettage or I	0	1	0.00	4	5	0.02			0.00	1	2	0.01			0.00			0.00			0.00
	712 Endoscopic Procedures for Female Reproduc	3	6	0.02	1	1	0.00	1	1	0.00	1	3	0.01	1	1	0.00			0.00	0	0	0.00
	713 Conisation, Vagina, Cervix and Vulva Proced	1	2	0.01	2	3	0.01	1	1	0.00			0.00			0.00			0.00			0.00
	714 Diagnostic Curettage or Diagnostic Hysteros	1	1	0.00	1	2	0.01			0.00			0.00	1	1	0.00			0.00			0.00
	715 Hysterectomy	19	66	0.21	9	29	0.09	2	6	0.02	8	26	0.09	12	38	0.12	3	9	0.03	5	17	0.06
71 Gynaecology	716 Other Gynaecological Surgery	17	34	0.11	14	30	0.10	7	19	0.06	11	27	0.09	13	24	0.08	6	13	0.04	7	14	0.05
72 Obstetrics	723 Caesarean Delivery	21	104	0.34	69	279	0.90	14	64	0.20	43	178	0.57			0.00	6	32	0.10	16	79	0.26
99 Unallocated	999 Unallocated			0.00	1	7	0.02	5	60	0.19			0.00			0.00			0.00			0.00
All Adult Surgical & Procedural Overnight Stay Activity		**563**	**1,933**	**6.23**	**386**	**2,001**	**6.45**	**296**	**2,208**	**7.12**	**240**	**984**	**3.17**	**207**	**409**	**1.32**	**198**	**682**	**2.20**	**182**	**572**	**1.84**

Attachment J - Major Flows of Children (<16) for Surgical/Procedural Care, Day Only & Overnight Stays, SWSLHD residents, 2010-11

J1: Emergency Admissions

SRG	ESRG	Hospital															
		Childrens Westmead				Sydney Childrens				SWSLHD Hospital				Other Public Hospital			
		DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc		1	11	0.04		1	15	0.05				0.00	4			0.00
	122 Percutaneous Coronary Angioplasty				0.00				0.00				0.00				0.00
	129 Other Interventional Cardiology				0.00		1	34	0.11				0.00				0.00
15 Gastroenterology	152 Gastroscopy		3	29	0.09		1	4	0.01		2	4	0.01				0.00
	153 ERCP				0.00				0.00				0.00				0.00
16 Diagnostic GI Endoscopy	161 Other Colonoscopy		2	19	0.06	1			0.00		2	14	0.05				0.00
	162 Other Gastroscopy	3	5	7	0.02		3	3	0.01		8	10	0.03				0.00
24 Resp Medicine	244 Respiratory System OR Procedures		2	51	0.16				0.00				0.00				0.00
41 Breast Surgery	411 Breast Surgery				0.00				0.00				0.00				0.00
42 Cardiothoracic Surgery	421 Coronary Bypass				0.00				0.00				0.00				0.00
	429 Other Cardiothoracic Surgery		5	99	0.32		3	41	0.13				0.00				0.00
43 Colorectal Surgery	431Major S and L Bowel Procs incl Rectal Resection		2	17	0.05		3	138	0.44		2	24	0.08				0.00
	439 Other Colorectal Surgery	1	2	7	0.02		3	6	0.02		5	11	0.04		1	1	0.00
44 Upper GIT Surgery	441 Cholecystectomy				0.00				0.00		1	6	0.02		1	1	0.00
	449 Other Upper GIT Surgery		13	129	0.42		7	46	0.15				0.00				0.00
45 Head and Neck Surgery	451 Thyroid Procedures				0.00				0.00				0.00				0.00
	459 Other Head and Neck Surgery				0.00	1			0.00	1	3	6	0.02				0.00
46 Neurosurgery	462 Craniotomy		12	418	1.35		2	19	0.06				0.00				0.00
	469 Other Neurosurgery		7	118	0.38		3	43	0.14				0.00				0.00
47 Dentistry	471 Dental Extractions and Restorations	8	18	43	0.14	3	5	6	0.02		1	4	0.01	2			0.00
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy		1	5	0.02				0.00				0.00	1			0.00
	482 Myringotomy W Tube Insertion		3	14													
	489 Other Procedural ENT	2	3	54	0.17	1			0.00		4	12	0.04				0.00
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunnel	8	3	5	0.02	1			0.00	13	12	22	0.07	1	1	2	0.01
	493 Hip and Knee Replacement				0.00				0.00				0.00				0.00

SRG	ESRG	Hospital															
		Childrens Westmead				Sydney Childrens				SWSLHD Hospital				Other Public Hospital			
		DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds
	494 Knee Procedures	1	1	3	0.01				0.00		1	3	0.01				0.00
49 Orthopaedics	495 Other Orthopaedics - Surgical	1	43	209	0.67	1	14	75	0.24	5	147	460	1.48	1	9	18	0.06
	503 Glaucoma and Lens Procedures				0.00				0.00				0.00				0.00
50 Ophthalmology	509 Other Eye Procedures	4	6	25	0.08		2	9	0.03				0.00		2	2	0.01
	511 Microvascular Tissue Transfer or Skin Grafts	1	4	63	0.20				0.00		8	36	0.12				0.00
	512 Skin, Subcutaneous Tissue and Breast Procedures	1	1	3	0.01	1	3	7	0.02		7	20	0.06				0.00
	513 Maxillo-Facial Surgery		1	3	0.01				0.00				0.00				0.00
	515 Dental and Oral Disease excl extractions	1															
51 Plastic and Reconst Surg	519 Other Plastic and Reconstructive Surgery	21	9	9	0.03	4	3	3	0.01	19	19	29	0.09		3	5	0.02
	521 Cystourethroscopy																
	523 TURP				0.00				0.00				0.00				0.00
52 Urology	529 Other Urological Procedures	4	14	17	0.05	1	6	15	0.05	2	28	35	0.11		1	2	0.01
53 Vascular Surgery	531 Vein Ligation and Stripping				0.00				0.00				0.00				0.00
	539 Other Vascular Surgery Procedures				0.00		1	3	0.01				0.00				0.00
	543 Appendicectomy		48	227	0.73		36	142	0.46		150	401	1.29		16	51	0.16
54 Non Subspecialty Surg	545 Inguinal and Femoral Hernia Procedures Age>0	1			0.00				0.00	1			0.00				0.00
	549 Other Non-specialty Surgery	6	17	110	0.35	2	12	54	0.17	5	58	149	0.48	1	4	8	0.03
61 Transplant	611 Transplantation				0.00				0.00				0.00				0.00
62 Extensive Burns	621 Extensive Burns	4	3	30	0.10				0.00		1	2	0.01				0.00
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours		9	266	0.86		8	268	0.86				0.00				0.00
	711 Abortion W DandC, Aspiration Curettage or Hysterotomy				0.00				0.00		2	4	0.01				0.00
	712 Endoscopic Procedures for Female Reproductive System				0.00				0.00		3	8	0.03				0.00
	713 Conisation, Vagina, Cervix and Vulva Procedures	1	2	2	0.01		1	1	0.00		1	2	0.01	1			0.00
	714 Diagnostic Curettage or Diagnostic Hysteroscopy				0.00				0.00				0.00				0.00
	715 Hysterectomy				0.00				0.00				0.00				0.00
71 Gynaecology	716 Other Gynaecological Surgery		3	5	0.02		1	1	0.00		5	22	0.07				0.00
72 Obstetrics	723 Caesarean Delivery				0.00				0.00				0.00				0.00
99 Unallocated	999 Unallocated		5	123	0.40		2	25	0.08		4	19	0.06				0.00
All Child Surgical & Procedural Emergency Activity		**68**	**248**	**2,121**	**6.79**	**16**	**121**	**958**	**3.09**	**46**	**474**	**1,303**	**4.20**	**11**	**38**	**90**	**0.29**

Major Flows of Children (<16) for Surgical/Procedural Care, Day Only & Overnight Stays, SWSLHD residents, 2010-11

Planned Admissions

SRG	ESRG	Hospital															
		Childrens Westmead				Sydney Childrens				SWSLHD Hospital				Other Public Hospital			
		DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	3	14	28	0.09				0.00				0.00	8	1	1	0.00
	122 Percutaneous Coronary Angioplasty				0.00				0.00				0.00				0.00
	129 Other Interventional Cardiology	9	5	11	0.04		2	17	0.05				0.00				0.00
15 Gastroenterology	152 Gastroscopy	3	5	129	0.42	11	2	18	0.06	2	1	9	0.03				0.00
	153 ERCP				0.00				0.00				0.00				0.00
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	6	1	2	0.01	2			0.00	2			0.00				0.00
	162 Other Gastroscopy	41	7	41	0.13	31	9	14	0.05	7	1	9	0.03	1			0.00
24 Resp Medicine	244 Respiratory System OR Procedures	8	48	62	0.20	4	56	75	0.24	2	78	89	0.29	3	29	32	0.10
41 Breast Surgery	411 Breast Surgery				0.00				0.00	2	1	1	0.00	1			0.00
42 Cardiothoracic Surgery	421 Coronary Bypass				0.00				0.00				0.00				0.00
	429 Other Cardiothoracic Surgery		48	865	2.79		13	99	0.32	1			0.00		2	13	0.04
43 Colorectal Surgery	431Major S and L Bowel Procs incl Rectal Resection		2	6	0.02		5	28	0.09		1	7	0.02				0.00
	439 Other Colorectal Surgery	10	2	5	0.02	2	7	40	0.13	7	2	2	0.01		3	4	0.01
44 Upper GIT Surgery	441 Cholecystectomy		4	11	0.04		1	2	0.01		2	2	0.01		1	1	0.00
	449 Other Upper GIT Surgery		17	116	0.37		6	53	0.17		1	1	0.00				0.00
45 Head and Neck Surgery	451 Thyroid Procedures				0.00				0.00				0.00				0.00
	459 Other Head and Neck Surgery	5	4	10	0.03	3	1	3	0.01	16	3	3	0.01	6	1	1	0.00
46 Neurosurgery	462 Craniotomy		16	245	0.79		7	40	0.13				0.00				0.00
	469 Other Neurosurgery	2	26	167	0.54	2	2	13	0.04				0.00				0.00
47 Dentistry	471 Dental Extractions and Restorations	33	4	5	0.02	16	4	4	0.01	99			0.00	314	2	4	0.01
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	39	39	46	0.15	9	12	15	0.05	45	227	236	0.76	29	93	100	0.32
	482 Myringotomy W Tube Insertion	31	1	9		16				44	1	1		16			
	489 Other Procedural ENT	24	27	82	0.26	6	17	22	0.07	42	55	59	0.19	15	7	8	0.03
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunnel	23	4	11	0.04	6			0.00	46	2	3	0.01	1			0.00
	493 Hip and Knee Replacement				0.00		2	18	0.06				0.00				0.00

SRG	ESRG	Hospital															
		Childrens Westmead				Sydney Childrens				SWSLHD Hospital				Other Public Hospital			
		DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds	DO Seps	ON Seps	ON Bdays	ON Beds
49 Orthopaedics	494 Knee Procedures	1	6	8	0.03	1			0.00	8	7	8	0.03	1	2	2	0.01
	495 Other Orthopaedics - Surgical	33	84	397	1.28	10	18	48	0.15	96	31	46	0.15	4	6	7	0.02
50 Ophthalmology	503 Glaucoma and Lens Procedures	3	3	9	0.03	2			0.00				0.00		2	2	0.01
	509 Other Eye Procedures	58	9	60	0.19	8	2	4	0.01	39	4	4	0.01	10	4	16	0.05
51 Plastic and Reconst Surg	511 Microvascular Tissue Transfer or Skin Grafts	8	8	23	0.07	1	2	22	0.07	2	3	33	0.11	1			0.00
	512 Skin, Subcutaneous Tissue and Breast Procedures	46	2	3	0.01	25	1	2	0.01	49	1	1	0.00	12			0.00
	513 Maxillo-Facial Surgery		10	23	0.07	1	1	1	0.00	1	2	2	0.01		2	2	0.01
	515 Dental and Oral Disease excl extractions																
	519 Other Plastic and Reconstructive Surgery	8	26	50	0.16	1	1	3	0.01	15	1	1	0.00	1			0.00
52 Urology	521 Cystourethroscopy	17				49				3				1			
	523 TURP				0.00				0.00				0.00				0.00
	529 Other Urological Procedures	71	24	70	0.23	29	23	56	0.18	46	6	32	0.10	11	5	5	0.02
53 Vascular Surgery	531 Vein Ligation and Stripping	4	1	1	0.00	4			0.00				0.00				0.00
	539 Other Vascular Surgery Procedures	8	4	20	0.06	1			0.00				0.00				0.00
54 Non Subspecialty Surg	543 Appendicectomy		28	126	0.41				0.00		1	1	0.00		2	4	0.01
	545 Inguinal and Femoral Hernia Procedures Age>0	33			0.00	8	1	1	0.00	30	2	2	0.01	3			0.00
	549 Other Non-specialty Surgery	55	20	58	0.19	22	14	56	0.18	62	8	11	0.04	13	1	1	0.00
61 Transplantation	611 Transplantation		1	114	0.37		1	27	0.09				0.00		1	71	0.23
62 Extensive Burns	621 Extensive Burns	22	5	14	0.05				0.00				0.00				0.00
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours		7	290	0.93		2	39	0.13				0.00				0.00
71 Gynaecology	711 Abortion W DandC, Aspiration Curettage or Hysterotomy				0.00				0.00		1	1	0.00				0.00
	712 Endoscopic Procedures for Female Reproductive System	1			0.00				0.00				0.00		1	3	0.01
	713 Conisation, Vagina, Cervix and Vulva Procedures				0.00				0.00	3	1	1	0.00	1			0.00
	714 Diagnostic Curettage or Diagnostic Hysteroscopy				0.00				0.00				0.00				0.00
	715 Hysterectomy				0.00				0.00				0.00				0.00
	716 Other Gynaecological Surgery		1	3	0.01		2	3	0.01	2	1	1	0.00				0.00
72 Obstetrics	723 Caesarean Delivery				0.00				0.00				0.00				0.00
99 Unallocated	999 Unallocated	1	6	26	0.08		4	5	0.02	1	1	2	0.01				0.00
All Child Surgical & Procedural Planned Activity		**606**	**519**	**3,146**	**10.11**	**270**	**218**	**728**	**2.35**	**672**	**445**	**568**	**1.83**	**452**	**165**	**277**	**0.89**

Attachment K - SWSLHD Facilities Surgical and Procedural Care - Emergency compared to Planned & Other, 2010-11, All Ages

SRG	ESRG	Liverpool			Bankstown			Campbelltown			Fairfield			Bowral			SWSLHD Total		
		Emer	Plan	% Em	Emer	Plan	% Em	Emer	Plan	% Em	Emer	Plan	% Em	Emer	Plan	% Em	10-11	20-21	% diff.
12 Interventional Cardiology	121 Invasive Cardiac Inves Proc	270	83	76.5%	34	3	91.9%	125	8	94.0%	87	4	95.6%	34		100.0%	550	98	84.9%
	122 Percutaneous Coronary Angioplasty	274	408	40.2%				74	7	91.4%	4		100.0%				352	415	45.9%
	129 Other Interventional Cardiology	89	95	48.4%	4	1	80.0%	18	3	85.7%	9		100.0%		1	0.0%	120	100	54.5%
15 Gastroenterology	152 Gastroscopy	202	56	78.3%	207	81	71.9%	94	22	81.0%	18	34	34.6%	18	6	75.0%	539	199	73.0%
	153 ERCP	140	65	68.3%	92	28	76.7%	41	4	91.1%	18	1	94.7%	1		100.0%	292	98	74.9%
16 Diagnostic GI Endoscopy	161 Other Colonoscopy	54	26	67.5%	42	55	43.3%	24	31	43.6%	14	20	41.2%	12	3	80.0%	146	135	52.0%
	162 Other Gastroscopy	107	21	83.6%	56	21	72.7%	57	6	90.5%	23	1	95.8%	12	1	92.3%	255	50	83.6%
24 Respiratory Medicine	244 Respiratory System OR Procedures	17	33	34.0%	7	43	14.0%	4	36	10.0%	1		100.0%				29	112	20.6%
41 Breast Surgery	411 Breast Surgery		55	0.0%		56	0.0%	1	52	1.9%	1	49	2.0%		22	0.0%	2	234	0.8%
42 Cardiothoracic Surgery	421 Coronary Bypass	81	160	33.6%													81	160	33.6%
	429 Other Cardiothoracic Surgery	102	176	36.7%	4		100.0%	4		100.0%				1		100.0%	111	176	38.7%
43 Colorectal Surgery	431 Major S and L Bowel Procs incl Rectal Resection	107	71	60.1%	76	190	28.6%	63	86	42.3%	23	7	76.7%	13	22	37.1%	282	376	42.9%
	439 Other Colorectal Surgery	93	56	62.4%	47	94	33.3%	65	59	52.4%	74	100	42.5%	4	9	30.8%	283	318	47.1%
44 Upper GIT Surgery	441 Cholecystectomy	74	254	22.6%	55	229	19.4%	74	237	23.8%	67	150	30.9%	11	49	18.3%	281	919	23.4%
	449 Other Upper GIT Surgery	109	141	43.6%	36	89	28.8%	37	18	67.3%	10	9	52.6%	3		100.0%	195	257	43.1%
45 Head and Neck Surgery	451 Thyroid Procedures	2	173	1.1%		42	0.0%		4	0.0%		6	0.0%		18	0.0%	2	243	0.8%
	459 Other Head and Neck Surgery	10	105	8.7%	1	15	6.3%		1	0.0%		1	0.0%				11	122	8.3%
46 Neurosurgery	462 Craniotomy	182	127	58.9%													182	127	58.9%
	469 Other Neurosurgery	54	331	14.0%	2	40	4.8%										56	371	13.1%
47 Dentistry	471 Dental Extractions and Restorations	13	2	86.7%	1		100.0%										14	2	87.5%
48 Ear, Nose and Throat	481 Tonsillectomy or Adenoidectomy	12	172	6.5%	1	66	1.5%		103	0.0%							13	341	3.7%
	489 Other Procedural ENT	17	167	9.2%	2	83	2.4%		58	0.0%							19	308	5.8%
49 Orthopaedics	492 Wrist and Hand Procedures incl Carpal Tunnel	127	49	72.2%	72	14	83.7%	2	1	66.7%		2	0.0%	6	2	75.0%	207	68	75.3%
	493 Hip and Knee Replacement	78	10	88.6%	64	271	19.1%	36	3	92.3%	4	627	0.6%	17	104	14.0%	199	1,015	16.4%

SRG	ESRG	Liverpool			Bankstown			Campbelltown			Fairfield			Bowral			SWSLHD Total		
		Emer	Plan	% Em	Emer	Plan	% Em	Emer	Plan	% Em	Emer	Plan	% Em	Emer	Plan	% Em	10-11	20-21	% diff.
49 Orthopaedics	494 Knee Procedures	13	19	40.6%	13	51	20.3%	10	38	20.8%	1	49	2.0%	2	17	10.5%	39	174	18.3%
	495 Other Orthopaedics - Surgical	620	272	69.5%	319	153	67.6%	245	208	54.1%	7	169	4.0%	90	57	61.2%	1281	859	59.9%
50 Ophthalmology	503 Glaucoma and Lens Procedures	3	25	10.7%	3	19	13.6%		1	0.0%							6	45	11.8%
	509 Other Eye Procedures	25	28	47.2%	5	5	50.0%		2	0.0%	1		100.0%		2	0.0%	31	37	45.6%
51 Plastic and Reconstructive Surg	511 Microvascular Tissue Transfer or Skin Grafts	102	83	55.1%	22	20	52.4%	12	8	60.0%	5	19	20.8%	1	7	12.5%	142	137	50.9%
	512 Skin, Subcutaneous Tissue and Breast Procedures	55	63	46.6%	9	42	17.6%	26	7	78.8%	3	3	50.0%		3	0.0%	93	118	44.1%
	513 Maxillo-Facial Surgery	24	59	28.9%	1	1	50.0%										25	60	29.4%
	519 Other Plastic and Reconstructive Surgery	182	34	84.3%	71	26	73.2%	6	1	85.7%	1	4	20.0%	7		100.0%	267	65	80.4%
	523 TURP	4	34	10.5%	6	227	2.6%	1	71	1.4%							11	332	3.2%
	529 Other Urological Procedures	103	168	38.0%	65	111	36.9%	63	122	34.1%	7	1	87.5%	1	1	50.0%	239	403	37.2%
53 Vascular Surgery	531 Vein Ligation and Stripping	1	4	20.0%		84	0.0%	1	1	50.0%		17	0.0%	1	10	9.1%	3	116	2.5%
	539 Other Vascular Surgery Procedures	176	406	30.2%	48	162	22.9%	9	1	90.0%	5	3	62.5%	2		100.0%	240	572	29.6%
54 Non Subspecialty Surgery	543 Appendicectomy	245		100.0%	157	4	97.5%	287	2	99.3%	78	3	96.3%	69	1	98.6%	836	10	98.8%
	545 Inguinal and Femoral Hernia Procedures Age>0	9	102	8.1%	4	188	2.1%	9	55	14.1%	3	117	2.5%	1	30	3.2%	26	492	5.0%
	549 Other Non-specialty Surgery	397	217	64.7%	133	162	45.1%	172	100	63.2%	70	86	44.9%	25	36	41.0%	797	601	57.0%
62 Extensive Burns	621 Extensive Burns	2		100.0%	1		100.0%	1		100.0%							4	0	100.0%
63 Tracheostomy	631 Tracheostomy or Ventilation >95 hours	105	40	72.4%	58	18	76.3%	23	5	82.1%							186	63	74.7%
71 Gynaecology	711 Abortion W DandC, Aspiration Curettage or Hysterotomy	58	29	66.7%	46	11	80.7%	43	14	75.4%	49	4	92.5%	4	1	80.0%	200	59	77.2%
	712 Endoscopic Procedures for Female Reproductive System	7	17	29.2%	8	5	61.5%	3	7	30.0%	3	3	50.0%	1	4	20.0%	22	36	37.9%
	713 Conisation, Vagina, Cervix and Vulva Procedures	21	15	58.3%	19	3	86.4%	16	8	66.7%	10	5	66.7%		3	0.0%	66	34	66.0%
	714 Diagnostic Curettage or Diagnostic Hysteroscopy	3	9	25.0%				2	3	40.0%	2	1	66.7%	1		100.0%	8	13	38.1%
	715 Hysterectomy	3	159	1.9%		86	0.0%	3	85	3.4%	3	63	4.5%		27	0.0%	9	420	2.1%
	716 Other Gynaecological Surgery	45	185	19.6%	47	68	40.9%	70	101	40.9%	24	59	28.9%	7	23	23.3%	193	436	30.7%
72 Obstetrics	723 Caesarean Delivery	3	710	0.4%	12	420	2.8%	6	701	0.8%		336	0.0%	1	103	1.0%	22	2,270	1.0%
99 Unallocated	999 Unallocated	76	29	72.4%	15	9	62.5%	22	3	88.0%	4		100.0%	1	4	20.0%	118	45	72.4%
All Surgical & Procedural ESRGs		**4,496**	**5,543**	**44.8%**	**1,865**	**3,296**	**36.1%**	**1,749**	**2,283**	**43.4%**	**629**	**1,953**	**24.4%**	**346**	**566**	**37.9%**	**9,085**	**13,641**	**40.0%**
All Surgical & Procedural ESRGs excluding Caesarean Delivery		**4,493**	**4,833**	**48.2%**	**1,853**	**2,876**	**39.2%**	**1,743**	**1,582**	**52.4%**	**629**	**1,617**	**28.0%**	**345**	**463**	**42.7%**	**9,063**	**11,371**	**44.4%**

Attachment L - Other Surgical and Procedural Clinical Redesign Processes

State and local clinical redesign projects have also focussed on surgical and procedural care issues normally from a patient flow perspective. Some of these projects have helped shape initiatives arising from Surgery Futures as outlined at Attachment

Other surgical initiatives include the establishment of Surgical Assessment Units (SAU). These units provide a rapid assessment process in quarantined surgical beds for adult patients attending the emergency department who need surgical treatment, reducing surgical patient access block. These patients would typically be in Triage Categories 4 and 5; a stable clinical condition; suitable for ward admission; and requiring a surgical procedure in clinical discipline such as Plastics, Vascular, ENT, Head and Neck, Breast, Upper Gastro-Intestinal Tract, Colorectal, Ophthalmology, Dental, Hepato-Bilary, Maxillo-Facial or General Surgery.

In addition to providing a fast-track route for surgical patients presenting to ED, SAUs can also receive directly those arriving as inter-hospital transfers and those referred from speciality clinics and consulting rooms. Experienced surgical and nursing personnel provide rapid and prioritised assessment and referral for review and/or investigation and early intervention. This includes a includes comprehensive patient assessment to identify risk factors e.g. falls risk, and monitor vital signs to facilitate early discharge and/or consultation and referrals for follow up care e.g. to the Community Acute Post Acute Care program. This requires inter-disciplinary collaborative practices based on leadership, mentoring, team based values and shared governance principles.

More generally, the NSW Health Emergency Surgery program (dating from 2009) provides a framework for separating emergency surgery (unplanned surgery) from elective (planned surgery) to ensure timely access for patients. The Emergency Surgery Guidelines are at http://www.health.nsw.gov.au/policies/gl/2009/pdf/GL2009_009.pdf. They were developed by the Surgical Services Taskforce of the Agency for Clinical Innovation (ACI) in conjunction with NSW Health and have been endorsed by the Royal Australasian College of Surgeons (RACS). They aim to ensure timely access for emergency surgery, reductions in elective surgery cancellations and improved patient safety and outcomes. A key outcome sought is that call backs and overtime for staff is reduced as more emergency surgery is done in daylight hours instead of after hours.

Attachment M - Recent Trends in Models of Care and Clinical Innovation Issues raised by Specialty Groups to inform aIM projections

Extensive consultation was undertaken with clinical specialties during 2010 as part of stakeholder consultations to inform the development of the *aIM* inpatient projection methodology. These consultations focussed on the recent trends in clinical practice and emerging models of care within the clinical disciplines. For surgical and procedural disciplines the major influences on future models of care identified were as follows.

Cardiology/cardiothoracic surgery

- PCI increasingly being used over CABG as a less invasive means of treating coronary heart disease (PCIs have more than doubled in the last decade)
- PCI increasingly being performed on a day basis. This may not show in inpatient data as many will be performed on a non-admitted basis. A 50:50 admitted/non-admitted split should be used as a rule of thumb.
- Some patients will have a „staged PCI" where a number of stents will be inserted on separate occasions
- Stenting has also allowed treatment of patients considered unsuitable for CABG
- In the USA, studies indicate that younger people (<60 years) have a better long term health outcomes by undergoing a coronary artery bypass surgery early rather than stenting and/or re-stenting, although the average length of stay may drift up. The length of stay could also reduce to 4 days for younger patients undergoing bypass surgery
- Percutaneous aortic valve replacement (PAVR) - potential to reduce the LOS for patients requiring surgical valve replacement compared to traditional surgery (which involves sternotomy and several days in ICU)
- The flattening of the total separations in the future for coronary artery bypass (ESRG 421) may be generous, as it may continue to drop with new technology
- Less invasive cardiothoracic surgical/procedural techniques, incl. off-pump CABG, minimally invasive CABG, endoscopic CABG, hybrid revascularisation and transmyocardial revascularisation
- Newer model stents which may decrease risk of thrombosis
- Biodegradable stents (not currently available in Australia)
- Radiofrequency ablation for the treatment of cardiac arrhythmias (early stages – alternative energy sources such as cryoablation and microwave ablation are currently under investigation)
- Percutaneous closure of patent foramen ovale ("hole in the heart") for the prevention of cerebral embolic stroke

Endovascular surgery

- Now commonplace for Vascular surgeons, Neurologists/neurosurgeons, Cardiologists, Cardiac surgeons, Renal physicians, Radiologists
- Conditions treated using endovascular approach – Aneurysms, Arteriovenous malformations, Carotid cavernous sinus fistulae, Vascular tumours, Arterial stenosis (e.g. in place of carotid endarterectomy), Cerebral revascularisation after clotting, Stent grafting, Peripheral vascular disorders, Percutaneous valves

- Approach will lead to shorter LOS for some procedures, for example, day only aortic aneurysm repair is already happening in the USA
- Ratio of vascular to endovascular approach is now 50:50 and is expected to be 75:25 in the next five years
- Currently the ALOS for some procedures does not reflect decreased LOS possible with an increased endovascular approach
- Day only rate likely to increase in 539 Other Vascular Surgery Procedures due to more patients coming in for e.g. angiograms

Renal

- Renal interventional procedures performed by nephrologists and interventional radiologists rather than surgeons e.g. insertion of vascath, angiography and PD catheters

Critical care

- Tracheotomies are undertaken earlier in admission rather than later, e.g. at 3 days rather than at 10 days

Obstetrics

- NSW Health "Towards Normal Birth" initiative aims to reduce the caesarean section rate

Urology

- Brachytherapy treatment for prostate cancer enables reduced admissions for radical prostatectomy for which ALOS is 7-10 days
- Flexible cystoscopies on an outpatient basis reduce admissions
- Laser surgery may be better for TURP patients with anticoagulation therapies, but business case yet to be developed

Neurosurgery

- Insufficient rehab beds lead to increased LOS
- Reduction in specialist nurses leads to increased LOS
- Lack of statewide electronic imaging capabilities leads to Increased LOS

Orthopaedics/musculoskeletal

- Secondary fractures – data from RCTs indicate that appropriate prevention initiatives can reduce fractures, therefore reduce admissions and associated long length of stay
- Fractured NOF, distal radial fractures and osteoporotic fractures best treated by open reduction and internal fixation
- Expect rates of hip replacement to remain flat in the public sector
- Model of rehab for post operative orthopaedics – gaining access to rehab services for major orthopaedic surgery clients at an earlier period post operatively – patients being identified as requiring rehab from pre-operative clinics
- Shift to outpatient care for some orthopaedic procedures

Medical oncology/chemotherapy/nuclear medicine

- The most relevant and important advancement to impact significantly on patient management is PET/CT and to a lesser extent SPECT/CT. The results from these procedures can change patient management from surgical, to

radiotherapy/chemotherapy or in the worst case palliative treatment only. This impacts on both hospital admission rates, and time in hospital.

Plastics

- Skin grafts and lower limb procedures are now predominantly day only
- Most reconstructions for breast tumours are now done at time of breast surgery

Gynaecological oncology

- Interventional radiology is likely to impact on gynaecological oncology in the near future
- Improved outpatient imaging techniques enable more accurate delineation of the extent of disease, therefore enabling more accurate planning of surgery and ideally fewer "wasted" inpatient days gathering this information and defining a treatment plan

Gastroenterology

- Growth of numbers of colonoscopies appears small. Federal bowel cancer screening program may increase numbers. However, many are being done on non-admitted basis, and therefore, numbers shown as admitted only present part of the picture

Colorectal surgery

- The trend in management of colorectal cancer is increasingly directed towards minimally invasive surgery
- This will lead to an increase demand for specialised operating theatre facilities, and LOS may decrease

Upper GI surgery

- More aggressive therapies will prolong length of stay in oncology surgery. These therapies lead to more aggressive surgery with longer in hospital recovery rates and higher complication rates. Examples of this will include vascular resection for pancreatic cancers and more extensive lymph node resections for pancreatic and other upper GI tumours.
- More aggressive therapies particularly neoadjuvent chemoradiation increases the morbidity of the subsequent surgery with anastamotic breakdown and other complications. This may be as high as 400 per cent based on overseas data. Evidence would also show a prolonged recovery period
- The increasing trend in adenocarcinoma of the cardio-oesophageal junction and lower oesophagus may not change the overall incidence of tumours of the stomach and oesophagus which remains stable, but the change in distribution increases the complexity of surgery and length of stay
- Improvements in laparoscopic surgery does hold some promise for decreased length of stay but in upper GI oncology surgery, overseas and local data does not indicate that procedures performed laparoscopically offer any benefit in terms of length of stay. This is true of gastric, oesophageal and pancreatic tumours. The only exception to this would be in the surgical treatment of GIST tumours where lesser resections are able to be
performed which can be done laparoscopically and also laparoscopic resection of liver tumours

- With benign surgery, there is a potential of decreased length of stay in laparoscopic cholecystectomies as the majority of these may be performed as day cases rather than the current EDO/23hr model
- Outcomes in upper GI oncology are directly related to volume of work. UK and European data indicates that not only are outcomes improved with increased volumes but also more patients are offered curative treatment and palliative interventions improving. This means that centres of excellence need to develop and for efficiency should be spread as a network within different campuses. This is consistent with the NSW Cancer institute plan and is consistent with the development we have seen previously in transplant services, and peritonectomy
- For pancreatic cancer there has been a gradual concentration of cases to 2 centres with Bankstown Hospital and RNS Hospital between them now performing 2/3 of the pancreatic resections in NSW. This creation of centres of excellence should be allowed to continue in its gradual evolutionary form This trend will continue and the reality is that should only be 3 resectional units in Sydney. Based on current workloads and outcomes they should be Bankstown, RNS and Westmead
- Similarly for oesophageal and gastric cancers we see concentration in the teaching hospitals and it is unlikely that this major surgery will be performed in major metropolitan hospitals in the future. Again data indicates improved outcomes and increased curative and palliative interventions. This is particularly true as neoadjuvent and adjuvent therapies become available and the creation of MDTC will only increase this trend
- This does not mean that all services should be concentrated in a few "super Hospitals" A networked system will permit designated hospitals to perform at a tertiary or quaternary level for some things and district level for others. This means that a smaller facility may become an elective oncology unit in gastric tumours with other cancers operated on elsewhere. We already see this for elective orthopaedics and it should develop for elective predictable oncology
- Bariatric surgery will become more common and should be as part of a comprehensive program through a metabolic clinic. The Statewide obesity plan as outlined by GMTT and as illustrated by SSWAHS obesity plan indicates the model for this and outlines how this should be concentrated in a few centres, not necessarily teaching hospitals.

Abbreviations

ABF	Activity Based Funding
ABS	Australian Bureau of Statistics
ACI	NSW Agency for Clinical Innovation
aIM	Acute Inpatient Modelling
ALOS	Average Length of Stay
ANZCA	Australian and New Zealand College of Anaesthetists
ARDRG	Australian Refined Diagnosis Related Group
ASA	American Society of Anesthesiologists
ASC	Ambulatory Surgical Centre
AusHFG	Australasian Health Facility Guidelines
BLH	Bankstown-Lidcombe Hospital
CABG	Coronary Artery Bypass Graft
CC	Complications and Comorbidities
CEC	Clinical Excellence Commission
CRGH	Concord Repatriation General Hospital
CSDP	Clinical Services Development Plan
CSP-M	A Clinical Services Plan for Macarthur to 2021
CT	Computed Tomography
DBE	Double Balloon Enteroscopy
DO	Day Only
DRG	Diagnosis Related Group
EBUS	Endoscopic Bronchoscopy Ultrasound
ECT	Electroconvulsive Therapy
ED	Emergency Department
EDO	Extended Day Only
EDWARD	Enterprise Data Warehouse for Analysis, Reporting and Decision Support
ENT	Ear Nose & Throat
ERCP	Endoscopic Retrograde Cholangiopancreatography.
ESRG	Enhanced Service Related Group
EUS	Endoscopic Ultrasound
FOHKS	Fairfield Orthopaedic Hip and Knee Service
FNoF	Fractured Neck of Femur
GI	Gastro Intestinal
GIT	Gastro Intestinal Tract
GM	General Manager
GMTT	Greater Metropolitan Transition Taskforce
GP	General Practitioner
HDU	High Dependency Unit
HSRG	Health Services Research Group
HVSS	High Volume Short Stay
ICU	Intensive Care Unit
IOL	Intra Ocular Lens
IPCC	Integrated Primary and Community Care
KPI	Key Performance Indicator
LGA	Local Government Area
LHD	Local Health District
LOS	Length of Stay
MAA	Motor Accidents Authority
MDT	Multidisciplinary Team
MoH	Ministry of Health
MRI	Magnetic Resonance Imaging
NAPOOS	Non Admitted Patient Occasion of Service
NHPA	National Health Performance Authority
NHS	National Health Service
NICE	National Institute for Health and Care Excellence (UK)
NSW	New South Wales
OPERA	Operational Performance Enterprise Reporting Application
PACS	Picture Archiving and Communications System
PACU	Post Anaesthesia Care Unit
PAVR	Percutaneous Aortic Valve Replacement

PCI	Percutaneous Coronary Intervention
PDP	Project Definition Plan
PET	Positron Emission Tomography
PIXI	Procedures, Investigations & Infusions
PPP	Private Public Partnership
PPP	Pre Procedure Preparation
PRNIP	Privately Referred Non Inpatient
RACS	Royal Australasian College of Surgeons
RCT	Randomised Controlled Trial
RDL	Role Delineation Level
RFA	Radiofrequency Ablation
RIPCC	Regional Integrated Primary and Community Care
RNSH	Royal North Shore Hospital
RPAH	Royal Prince Alfred Hospital
SACU	Surgical Ambulatory Care Unit
SAU	Surgical Assessment Unit
SEIFA	Socio-Economic Indexes for Areas
SEU	Specialist Endoscopy Unit
SLHD	Sydney Local Health District
SPECT	Single Photon Emission Computed Tomography
SPP	Service Procurement Plan
SST	Surgical Services Taskforce (under ACI)
SWGC	South West Growth Centre
SWSLHD	South Western Sydney Local Health District
TURP	Transurethral Resection of the Prostate
UWS	University of Western Sydney
VMO	Visiting Medical Officer

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