Leaders in Healthcare ... Partners in Community Wellbeing

CLINICAL SERVICES PLAN
2015–2022
Northern Sydney Local Health District
PO Box 4007, Royal North Shore LPO, St Leonards, NSW 2065

NSLHD Clinical Services Plan 2015-2022
March 2015

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<td>4/2/15</td>
<td>NSLHD Board for endorsement</td>
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Foreword

In 2012 the Northern Sydney Local Health District (NSLHD) highlighted three key strategic goals:

- To improve integrated care particularly for patients with complex and ongoing health needs
- Organisational reform with an emphasis on the reconfiguration and enhancement of clinical networks to lead and advise on clinical service development
- Development of an academic health sciences centre for Northern Sydney to embed research and education into clinical practice and support transformational change in service delivery.

This new Clinical Services Plan (CSP) 2015-2022 reflects progress against these strategic goals over the last two years and highlights the directions and work to be done over the next five to seven years.

The LHD has benefited from several major capital redevelopments over the last five years with new community health centres and acute, sub-acute and mental health facilities opening across Hornsby Ku-ring-gai, Northern Beaches and North Shore Ryde Health Services. Further capital developments are underway at Hornsby Ku-ring-gai Hospital and in a number of community health services, and planning has commenced for additional major infrastructure developments at Hornsby, Royal North Shore and Ryde as well as the on the Northern Beaches under a public private partnership.

This new infrastructure brings with it responsibilities to ensure that we continue to provide health services that our community requires in the most effective and efficient way, making the best use of these new resources, and allocating available health dollars wisely and sustainably.

This CSP will guide NSLHD in the development of contemporary, evidence-based clinical services over the next five to seven years. It sets out a broad range of recommendations that will be progressively implemented over the life of the plan. The reconfigured and enhanced Clinical Networks in collaboration with consumers, community and local management teams will lead implementation of the recommendations and evaluation of outcomes.

The CSP is a live document that will be subject to regular review; where required recommendations may be revised in response to changed circumstances over time or as a result of improved understanding and insights into the benefits of particular approaches to clinical care.

The CSP is forward looking, laying the foundation for future proofing health care and making essential services sustainable for many years to come. Alongside the development of an academic health sciences centre for Northern Sydney in partnership with the Kolling Institute, affiliated universities and partner organisations, this CSP aims to improve our standards of care and patients experience.

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Chief Executive  
Northern Sydney Local Health District

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Board Chair  
Northern Sydney Local Health District

Date: 31.03.2015
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1 Executive Summary

1.1 Purpose and scope

Local health districts (LHD) and specialty health networks have a responsibility to effectively plan services over the short and long term to enable service delivery that is responsive to the health needs of the people they serve. Such planning needs to be consistent with state and national directions and priorities in health care policy and funding, guidance from the NSLHD board and executive and the views and expertise of clinicians and the community.

This Clinical Services Plan (CSP) identifies the priorities and strategic directions for clinical services across NSLHD through to 2022. While only 14 months had elapsed since the finalisation of the previous CSP (for 2012-16) some major changes to both the LHD and the broader NSW health system had occurred and further changes and developments were anticipated in 2014/15. These changes were influencing and altering the relative priority and continued relevance of recommendations. Recent and anticipated changes include capital developments, clinical networks, financial and budgetary requirements, workforce development and a range of initiatives and programs.

The recommendations in this report were developed over nine months of consultation with clinicians and managers, and will guide clinical services development in NSLHD through to 2022. As with all such plans, ongoing review will be required to take account of new and ongoing changes and challenges.

This Clinical Services Plan encompasses all clinical and associated support services provided in public facilities in NSLHD. These include acute and sub-acute inpatient, outpatient and ambulatory services, primary and community health, mental health and drug and alcohol services, and clinical support services. The CSP refers to clinical services provided by affiliated health organisations, private and non-government organisations where appropriate, as well as clinical services provided by NSLHD hospitals and community health services.

1.2 Planning context

Under the Health Services Act 1997, Boards have the function of ensuring that strategic plans to guide the delivery of services are developed for the LHD, and for approving those plans. At LHD level the CSP is required to incorporate the strategic priorities established by the Board. Other plans within the LHD for clinical networks and specific clinical and community health services must be consistent with the CSP. A range of population based plans identify strategies to meet the needs of particular groups who access services across the clinical networks, hospital or community settings. Enabling and support service plans provide the organisational foundation for clinical services planning.

An annual service agreement between the Board of the LHD and the Secretary of NSW Health is required and sets out the service delivery and performance expectations for the funding and other support provided to the LHD.

In keeping with the planning framework, the Clinical Services Plan 2015-2022 is informed by the NSW State Health Plan Towards 2021, the NSLHD Strategic Plan 2012-16 and by the policy directions of statutory organisations such as the Agency for Clinical Innovation (ACI).

1.3 Planning process

The CSP was developed over a nine month period from March to November 2014 and was overseen by a steering committee chaired by the NSLHD Executive Director Operations. The steering committee reviewed the previous CSP and identified opportunities to:

- improve service integration within NSLHD, across local hospitals, with NGO service delivery partners, and primary and community health services
- support primary and community based service delivery partners in the delivery of care to keep people well and out of hospital, particularly for patients with chronic and complex/ongoing health issues

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- improve service efficiency and forecast future areas of service need
- private, NGO and not-for-profit sectors
- enhance relationship with the Academic Health Sciences Centre (AHSC).

Clinical networks continued to develop and refine their strategic directions with the support of the Health Services Planning Unit over subsequent months based on feedback and advice from Clinical Council, consumers and the steering committee. The resulting recommendations have been developed by and are owned by the individual clinical networks.

1.4 Population and health status

One of 15 Local Health Districts in NSW, Northern Sydney LHD covers an area of about 900 square kilometres between Sydney Harbour and the Hawkesbury River, and includes 11 local government areas (LGA). For administrative purposes the NSLHD is divided into three health services: Hornsby Ku-ring-gai, Northern Beaches and North Shore Ryde.

The population in 2011 was 853,162, with 22.1% having been born in non-English speaking countries and one in five speaking a language other than English at home. A total of 2,463 residents identified themselves as Aboriginal or Torres Strait Islander. Between 2015 and 2025 the population is expected to grow by 13.6% to over one million, with high rates of growth of people aged 70 and over.

The NSLHD is characterised by low average disadvantage rates and high levels of private health insurance (about 70%), but with higher disadvantage in some areas and relatively high rates of people living alone. Generally health risk factor rates and the standardised mortality rates are lower than the state average. However Northern Sydney has a higher mortality rate for stroke than the NSW average.

1.5 Overview of Northern Sydney LHD

The Northern Sydney LHD is governed by a Board of Directors and a Chief Executive. A number of services and functions are managed at the LHD level, including population and community health services, mental health and drug and alcohol, and executive support functions such as finance, workforce and information management. Many corporate support services such as linen and food are provided through HealthShare NSW, while Pathology North manages pathology services for Northern Sydney and four other LHDs.

Most clinical services are provided through the three Health Services.

**Hornsby Ku-ring-gai Health Service** includes Hornsby Ku-ring-gai Hospital and community health centres in Turramurra, Pennant Hills and smaller centres in four other locations. The hospital provides acute services, and has a significant mental health presence, with acute adult and child and youth services, drug and alcohol and a regional Mental Health Intensive Care unit. New facilities will open in 2015 comprising a perioperative unit, medical and surgical wards and clinical support services, with planning underway for a second stage of acute care redevelopment.

**Northern Beaches Health Service** comprises Manly and Mona Vale hospitals, providing general acute, subacute, mental health and community health care, and community health centres at Queenscliff and Seaforth. Construction has begun for a new major acute hospital in Frenchs Forest, to be provided by the private sector under a public-private partnership, with Manly Hospital to close and Mona Vale to provide a range of complementary services. Redevelopment will also include a new community health centre in Brookvale, and upgrade of community health facilities at Mona Vale and Dalwood.

**North Shore Ryde Health Service** provides health services for the population of Hunters Hill, Lane Cove, Mosman, North Sydney, Ryde and Willoughby local government areas. Royal North Shore Hospital (RNSH) is the major tertiary referral hospital for the NSLHD and provides a range of specialist services on a statewide basis, including severe burn injury, neonatal intensive care, interventional neuroradiology and traumatic spinal cord injury. It also
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provides general acute and mental health services for the Lower North Shore area. RNSH has experienced a major rebuild over recent years, including the Kolling Institute for Medical Research, a new large community health centre, and two major facilities for acute medical, surgical, mental health and maternity services.

Ryde Hospital provides general acute and community health services to the population of Ryde and Hunters Hill. The Graythwaite Rehabilitation Centre, opened in 2014, is a purpose-built rehabilitation facility to meet the sub-acute needs of the North Shore Ryde population. Community health services are provided on the hospital campus and from a community health centre in Top Ryde.

NSLHD has partnerships with Royal Rehab and HammondCare (through Greenwich and Neringah hospitals) to provide a range of inpatient, outpatient and home based rehabilitation and palliative care services. Greenwich Hospital also provides psychogeriatric care. Twenty three non-government health organisations have a formal relationship with NSLHD through a grants program.

The Northern Sydney LHD has a workforce of nearly 9,000 staff (7,500 full time equivalent), three quarters of whom are female. In 2013/14 the NSLHD managed 192,000 emergency presentations, nearly 78,000 adult medical and surgical admissions, nearly 7,000 paediatric admissions and 5,500 maternity confinements. The net cost of service for the LHD was $1,132 million.

1.6 The wider health network

The majority of the health care needs of the Northern Sydney population are met by providers other than the Local Health District. Over 1,100 general practitioners provided over four million primary medical care services from nearly 300 practices in 2013/14. There were also 41 licensed private hospitals and day procedure centres with a total of nearly 1,800 beds, of which over half were located in the North Shore Ryde area. Half these private hospital beds were accounted for by the four major hospitals Sydney Adventist, North Shore Private, Mater Sydney and Macquarie University Hospital. When the Northern Beaches Hospital opens in 2018 this will greatly increase the number of private beds on the Northern Beaches.

Private hospitals are the major providers of planned surgery and have a significant presence in rehabilitation. There are three private providers of renal dialysis in Northern Sydney.

In the aged care sector private and non-government agencies provide over 11,000 residential and home based aged care places, with nearly 80% of these in residential settings. These are fairly evenly distributed across the three health service areas.

The impact of this high private sector provision has been particularly felt in acute hospitals, with a very high proportion of public beds occupied by emergency medical patients and issues of critical mass in elective surgery.

1.7 Service drivers and our strategic response

While health care in Australia compares very favourably with other developed countries in terms of access, quality and price, population ageing and funding pressures continue to drive the need for innovation and new models of care. Recurrent costs continue to grow at a higher rate than population. In addition to the cost of technology and infrastructure, NSLHD hospitals have experienced a rapid increase in adult acute activity over the last three to four years particularly in the medical specialities and at Royal North Shore and Ryde hospitals. Some of the growth has resulted from the change in model of care as part of the National Emergency Access Targets (NEAT).

Funding reform under the National Health Reform Agreement has included a move from historical to Activity Based Funding (ABF) models. Cost pressures are particularly acute in areas such as pharmaceuticals, wages, diagnostics and technology. The Board of NSLHD has established the Operational Efficiency and Service Integration (OESI) strategy to ensure the organisation operates effectively within an activity based funding environment. It acts as an umbrella program across initiatives such as NEAT and National Elective Surgery Targets (NEST), the
Whole of Hospital program and a range of other efficiency and performance management projects. ABF also assumes greater involvement by clinicians in managing the costs of care.

It is expected that major redevelopments across the acute sites will afford platforms for improved efficiency. Some clinical services have identified opportunities for review of services currently distributed across sites requiring duplication of staffing and clinical supports. Options exist for continued transfer of care from an inpatient to an ambulatory environment, and a review of rehabilitation services in this regard is underway. A number of initiatives are underway to capitalise on developments in information systems in the interests of patient care and process improvement.

Population growth is another major driver of demand, with a projected additional 118,000 people in the District over the next 10 years. This is likely to result in a growth of demand for emergency services in particular, including older patients with chronic illnesses. The need for better linkages between the acute and community care sectors to manage this demand has resulted in a number of integrated care initiatives at state and local levels. With support from the Board NSLHD has launched an integrated care strategy in conjunction with the two Medicare Locals (soon to be replaced by a single Primary Care Network), and with a focus on complex and high-risk patients.

The private health sector continues to grow, with impacts noted on the service mix in the public sector. The NSLHD will continue to explore options for strategic partnerships with private health care providers, with an initial focus on the proposed Northern Beaches Hospital as a partnership with Healthscope. Clinical networks will need to advise on the mix of service volume and quality and how referral will operate between public and private services, and across the boundaries of acute, subacute and community health care.

Clinical quality and governance is being enhanced through the work of the pillar agencies such as the Agency for Clinical Innovation (ACI) and the Clinical Excellence Commission (CEC), and a greater focus on the involvement of health care providers through clinical councils. A new corporate governance model will drive a change from a facility focus to one of clinical networks to advise the LHD on the profile and configuration of clinical services. This CSP is an important step along this path. The clinical network governance model will need to include processes for evaluating the costs and benefits of new models of care and technologies, managing unwarranted clinical variation and identifying funding arrangements for new services and technology.

The need to better integrate research and clinical care has led to support from the Board for establishing an Academic Health Sciences Centre in collaboration with university partners. The aim is to better translate research from the academic setting to adoption for clinical benefit. Clinical networks will have an important role to play in this process. The nature of partnerships with the private, primary care and non-government sectors may also need to be explored, along with mechanisms for consumer engagement.

Major capital developments in the NSLHD have been completed during the past decade after a long period of providing health care in settings that were poorly configured for clinical care. This presents a number of challenges for the LHD, including ensuring care is delivered in ways that optimise the use of these new facilities, and ensuring facilities are commissioned in a way that efficiently uses the spare capacity without generating unnecessary demand. The new hospital at Frenchs Forest will have an impact on Royal North Shore Hospital as patients who live in that area begin to use the new services, and a detailed change management plan will be required. Planning for Stage 2 of the Hornsby Ku-ring-gai campus redevelopment will continue, and master planning of the Ryde Hospital site should be undertaken to ensure its viability into the future.

Clinical informatics is a fast changing area with great potential for improving care and coordination for patients. Areas with potential include improved detail in data capture and analysis, use of mobile technology and electronic diagnostic technologies for remote patient management. The move to a clinical network governance model will require improved access by clinicians to reliable information to drive changes in practice.

Community and clinician engagement is required under both the Health Services Act and through Standard 6 in the NSW Health Corporate Governance And Accountability Compendium. While clinician engagement is a key function of clinical networks, community and consumer engagement in health service planning and delivery is
managed through local and peak community and consumer participation councils and committees. The PCCPC has an action plan to ensure the community’s voice is heard through a range of forums and reports.

In summary, major priorities for the Board include integrated care, the academic health sciences centre and the new reformed clinical networks. These strategic areas are in the process of being fully scoped and implemented in the context of the following recommendations, which have been endorsed by the clinical councils and governance bodies of the three health services and the Local Health District.

1.8 Collated Recommendations

Health Promotion

1. Develop, implement and evaluate rolling six-monthly action plans to deliver cost-effective, population-wide strategies that address the risk factors that contribute most to total disease burden including obesity, tobacco and alcohol.
2. Engage priority populations (new parents, young people, multicultural groups and older people at risk of falls) in targeted strategies that contribute to the goals of the clinical networks and the integrated care program.

Aboriginal Health

3. Implement and evaluate the impact of the NSLHD Aboriginal Health Services Plan 2013 to 2016.
4. Develop a plan to address the health needs of the Aboriginal community within NSLHD to the year 2021 building on the successes of the current plan and addressing identified gaps.

Multicultural Health

7. Implement and evaluate the NSLHD Refugee Health Implementation Plan 2014-2018
8. Develop a plan to address the health needs of the culturally and linguistically diverse communities within NSLHD to the year 2021 building on the successes of the current plan and addressing identified gaps.

Primary and Community Health

9. Using management information captured through the Community Health and Outpatient Care (CHOC) program, progressively evaluate Primary and Community Health (PaCH) services to identify and address unwarranted clinical variation, or variation in service costs or resource utilisation.
10. Incorporate aged care services and child and family health services into the health contact centre.
11. Streamline NSLHD community based age care and related services and referral pathways into a single structure with clear service delivery and performance accountabilities.
12. Refine NSLHD Aged Care Assessment Team (ACAT) referral intake and comprehensive assessment services and secure accreditation as a service provider under the national aged care reform program.
13. Redesign NSLHD HACC service models to comply with the new Community Home Support Program (CHSP) guidelines by June 2015.
14. Expand the scope of Acute Post-Acute Care (APAC) services to encompass the provision of paediatric Hospital in the Home and expand the provision of acute geriatric care in the home in collaboration.
15. Develop a business proposal for the inclusion of a general physician on the APAC team to support the expansion of APAC services and increase the range of patients that can be managed by the service.
16. Expand the Chronic Disease Management Program (CDMP) to include additional diagnoses identified by Agency for Clinical Innovation (ACI).
17. Identify the impact of the new domestic and family violence framework for reform on NSLHD primary, community and acute health services and configure services so that they are accessible, flexible and responsive to the needs of victims.
18. Prepare a business case to identify the cost benefit of BreastScreen to being included in Community Health Service redevelopments.
19. Develop clinical service plans, as part of the NSLHD asset strategic planning process, for the provision of community based oral health services at Top Ryde and Northern Beaches.

20. Evaluate the impact of the National Disability Insurance Scheme (NDIS) on current NSLHD service users with disabilities and identify strategies to improve service provision, including tendering to be an NDIS service provider.

Maternal, Neonatal and Women's Health

21. Continue to implement the “Towards Normal Birth in NSW” policy with particular focus on achieving target measures for spontaneous vaginal births, overall vaginal births and attempted vaginal birth after caesarean section, and provision of midwifery support at home after the baby is born.

22. Improve access to, and increase the capacity of, a sustainable Midwifery Group Practice service for NSLHD mothers and babies.

23. Increase the number of women who book and birth in the GP Shared Care Program to 3.3% of births by end 2014 and to 10% of births by 2016.

24. Develop a staged implementation plan, including resource requirements, to expand the Early Pregnancy Assessment Service (EPAS) in NSLHD facilities.

25. Improve patient experience for women requiring minor procedures through the development of procedural capacity in Women’s Health Ambulatory Care services.

26. Deliver an efficient and coordinated LHD neonatal service including assessment of well babies by midwives prior to discharge, pathways for acute admission of neonates on Midwifery Support Program, and arrangements for back transfer of neonates from RNSH to Special Care Nurseries at Hornsby and Northern Beaches Hospitals.

Child, Youth and Family Health

27. Define a model of care and develop a business proposal to establish a youth health service addressing the specific and unique health needs of young people aged 12-24 years in NSLHD acute and community services.

28. Evaluate the impact and outcomes of the Hornsby Healthy Kids program, and develop and implement strategies for the prevention, early intervention, and management of childhood and adolescent obesity across NSLHD.

29. Develop, implement and evaluate strategies and models of care to better respond to the mental health needs of children presenting to the Emergency Department (ED), admitted to paediatric inpatient services or accessing Child and Family Health services.

30. Evaluate NSLHD performance against the Out of Home Care Health Pathway and NSLHD performance agreement, and identify and implement strategies that will strengthen and consolidate business processes, clinical referral pathways, and partnerships with other service providers (GPs, NGOs, Family and Community Services (FaCS)) in providing a health care pathway for children and young people entering Out of Home Care.

31. Review and determine the longer term size, configuration, role delineation and standardised models of care for paediatric services at NSLHD hospitals and support the Surgery and Anaesthesia Network in the implementation of the strategic framework for paediatric surgery for children in metropolitan Sydney.

32. Develop paediatric hospital in the home services for NSLHD in collaboration with the APAC Service.

33. Develop models of care and a business proposal for the expansion of ambulatory care services (acute review, short stay and specialist outpatient services) at Hornsby, Mona Vale and RNS hospitals.

34. Streamline intake and information sharing processes and incorporate Child and Family Health Services into a single point of entry.

35. Streamline pathways to secondary and tertiary Child and Family Health Services.

36. Review and modify Community Health Outpatient Care (CHOC) health record business rules to support clinical pathways and decision making.

37. Implement the Collaborative Practice Management Group Working Together Plan and participate in the joint initiatives with FaCS and relevant NGOs, as identified by the Community Engagement Board.

38. Work with GPs and Medicare Locals/Primary Health Networks to develop pathways for vulnerable families.
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Rehabilitation and Aged Care
39. Evaluate the commissioning process and impact of new sub-acute inpatient rehabilitation services at Mona Vale and Ryde hospitals against the principles of the NSW Health/ACI rehabilitation model of care and anticipated improvement in access from acute services, identifying service gaps and further service changes required across NSLHD.
40. Review and streamline general and specialist rehabilitation roles across Hornsby, Mona Vale, Ryde hospitals and NSLHD community health services, and affiliated service providers Greenwich and Royal Rehab.
41. Review and make recommendations for the provision and distribution of specialist rehabilitation services, including amputee care, across NSLHD hospitals and affiliated health organisations.
42. Implement and evaluate standardised models of care across NSLHD with reference to best practice models described by ACI for in-reach, sub-acute inpatient, ambulatory and home based rehabilitation.
43. Determine activity targets for each rehabilitation modality and allocate available workforce and other resources across the LHD and at each facility to support the anticipated workload.
44. Develop and standardise referral guidelines and associated pathways to public and private rehabilitation services including transfer options if access is delayed.
45. Quantify and determine a preferred model of care for patient cohorts whose rehabilitation may be delayed or complicated by continuing acute care needs (e.g. patients who require regular renal dialysis).
46. Develop, implement and evaluate strategies to improve care integration for older persons with complex health needs with reference to the best practice principles and models of care identified by ACI.
47. Review hospital avoidance services for older people living in residential aged care facilities and develop, implement and evaluate a standardised, efficient and effective model of care across NSLHD.
48. In collaboration with RNSH, implement and evaluate an orthogeriatric and surgical-geriatric service at Ryde Hospital to support its role in the provision of acute and sub-acute aged care and rehabilitation services for NSRHS.
49. Implement the ACI orthogeriatric model of care (including NSW minimum standards for management of hip fracture and osteoporosis re-fracture prevention) and evaluate the outcomes and impact of service changes with a view to further improving care across NSLHD.
50. Implement and evaluate the NSLHD Dementia Service Framework Implementation Plan and best practice principles and models of care along the service pathway from awareness through diagnosis and assessment to continuing care in community, hospital and residential settings with reference to the NSW Health Dementia Services Framework.
51. Implement best-practice principles and models of care to improve the experiences and outcomes of patients with dementia and confused hospitalised older persons (CHOPs) across NSLHD.

Surgery and Anaesthesia
52. Develop and implement a change management plan to prepare for and facilitate the reconfiguration of surgical services across NSLHD hospitals, making best use of increased surgical capacity, providing a sustainable mix of emergency and elective work at each hospital, and improving the quality and/or efficiency of services.
53. Develop specialty-specific service plans that determine the efficient distribution of non-tertiary activity and outline service quality improvements that will deliver contemporary standards of care across the five acute hospitals in NSLHD.
54. Establish working group and determine strategies to increase the capacity, capabilities and scope of services at designated paediatric surgical sites in NSLHD.
55. Develop a data governance framework for NSLHD surgical services to ensure access to meaningful regular and comparable reports and information that can inform service planning and evaluation across NSLHD hospitals.
56. Develop a performance management framework for NSLHD surgical services encompassing a detailed set of operating theatre metrics, operational and strategic governance, and strategies to manage internal and external factors that influence the efficiency of surgical services.
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57. Working collaboratively with the NSLHD finance and performance units and the ACI, quantify the average cost of procedures and operating theatre sessions and understand the impact of variations in service configuration and service delivery.

58. Evaluate current service configurations, arrangements and models of care for the management of emergency surgery and develop strategies to improve the consistency, quality and efficiency of services provided.

59. Develop strategies to improve the management of waiting lists for elective surgery across NSLHD hospitals and specialty services.

60. Evaluate current service configurations, arrangements and models of care for the management of elective and short stay surgery and develop strategies to improve the consistency, quality and efficiency of services provided.

Critical Care

61. Collaborate with General Practitioners, Primary and Community Health, and Chronic and Complex Medicine services to reduce avoidable hospital admissions and improve the care and management of older patients with chronic and complex health needs.

62. Engage with Acute Medicine Network to develop standardised short stay medical models of care and clinical pathways that reduce length of stay in the emergency department and improve the care and management of older patients with chronic and complex health needs.

63. Develop and standardise emergency department models of care (senior decision making, patient streaming, short stay, clinical pathways) across NSLHD to improve NEAT performance.

64. Develop a sustainable medical workforce model (junior, middle and senior grades) for ICU/HDU services not accredited for specialist training by the College of Intensive Care Medicine at Hornsby, Manly, Mona Vale and Ryde hospitals in partnership with RNS Hospital.

65. Strengthen the networking of services across NSLHD to improve the utilisation of ICU/HDU beds across NSLHD hospitals and develop sustainability, efficient and affordable critical care units capable of supporting local clinical services.

66. Develop internal (NSLHD) critical care funding model to support the determination of activity budgets that reflect the anticipated workload and patient mix (ICU or HDU type care) at individual hospitals.

67. Improve and evaluate real time monitoring of performance and resource (beds, staff) utilisation and develop strategies for rapid response to unplanned variations.

68. Improve the rates of organ donation within NSLHD and achieve the national targets identified by 2018.

Acute Medicine

69. Develop and standardise short stay medical admission unit (MAU) models of care, consistent with the current philosophy and future directions of the ACI MAU model, with the aim to reduce pressure on ED services, inpatient admission avoidance, improve timely access to admitted patient services, and better management of older patients with chronic and complex health needs.

70. Develop an inclusive governance framework for NSLHD short stay clinical units including consistent monitoring and reporting processes.

71. Establish a General Medicine Academic Department to provide clinical leadership and direction for the ongoing development of acute medicine services and the expansion of medical short stay units across NSLHD hospitals.

72. Monitor and report on acute gastro-intestinal bleeding activity and develop business proposal for the provision of sustainable emergency and elective endoscopy services at NSLHD hospitals.

73. Continue to provide endoscopic retrograde cholangio-pancreatography (ERCP) service at a single hospital site (RNSH) to meet LHD needs, including for public patients at the new Northern Beaches Hospital.

74. Develop models of care and a business proposal for the delivery of a sustainable integrated hepatology service for patients with viral and non-viral liver disease in NSLHD.

75. Develop a NSLHD Infectious Diseases service that is responsive to the increasing clinical demand, particularly in Emergency and Intensive Care, for the management of patients with multi-resistant organisms and side effects of antibiotics (e.g. Clostridium Difficile).
76. Progress improvements in antimicrobial stewardship by the NSLHD-wide Infectious Diseases service collaboratively with pharmacy and infection control staff.
77. Improve access to an inpatient dermatology consultation services at each hospital site using a range of service delivery models including telemedicine.

**Chronic and Complex Medicine**

78. Develop an integrated care strategy, governance and information communication technology framework for the provision of integrated care in collaboration with consumers, NSLHD services and service partners, and other stakeholders.
79. Trial home tele-monitoring for efficacy, feasibility and sustainability in empowering patients with chronic and complex conditions to better monitor and manage their own health and avoid hospital admission.
80. Review current use of telehealth and develop a framework for the provision of telehealth as an element of integrated chronic and complex service delivery models.
81. Develop health pathways for chronic and complex health conditions in collaboration with primary care.
82. Review current initiatives and develop a strategy to improve medication compliance for patients with chronic and complex conditions.
83. Implement and evaluate the type 2 diabetes model of care in each health service to align with the recommended ACI model.
84. Develop a Diabetes Info-line via the Health Contact Centre to provide specialist support to GPs for management of patients with diabetes to avoid hospital admission.
85. In conjunction with review of the provision of elective joint replacement, implement the Osteoarthritis Chronic Care Program for all patients across NSLHD who are referred for elective knee and hip replacement.
86. In conjunction with Primary Care identify an optimal and sustainable Osteoporosis Re-fracture Prevention (ORP) service delivery model for NSLHD.
87. Participate in the implementation and evaluation of the Musculoskeletal Initiative in Primary Care program and provide advice on sustainable service delivery models for NSLHD on completion of the pilot program.
88. Develop a clinical services plan for respiratory services across NSLHD hospitals, outpatient and ambulatory services and links with primary care and other service providers.
89. Implement service developments identified in the NSLHD Tuberculosis service plan.
90. Develop pathways into the specialised heart failure and rehabilitation services.
91. Develop a service development plan for pain medicine services across NSLHD consistent with NSW Health policy.
92. Develop a NSLHD model of care for the provision of conservative and palliative care for patients with end stage respiratory and heart failure and other chronic and complex conditions.

**Cancer and Palliative Care**

93. Implement recommendations arising from the 2014 external review of cancer services in NSLHD.
94. Implement recommendations arising from the 2014 review of palliative care services in NSLHD.

**Cardiovascular Health**

95. Evaluate coronary care (CCU) service delivery models across NSLHD hospitals to inform service developments and capacity requirements over next 5-10 years.
96. Develop, standardise and evaluate evidence-based clinical protocols and pathways across NSLHD hospitals for acute coronary syndromes, arrhythmia and pacemaker management, heart failure management and other common cardiac conditions.
97. Develop models of care and a business proposal for the provision of ambulatory care services for the referral, assessment and management of patients with arrhythmia and syncope, heart failure and decompensated heart failure, and other appropriate cardiac conditions.
98. Develop, standardise and evaluate evidence-based clinical protocols and pathways across NSLHD hospitals for non-invasive imaging, interventional cardiology, and structural heart disease (trans-catheter therapies and cardiothoracic surgery).
99. Develop sustainable medical workforce models that determine arrangements for interventional cardiology, rotation of advanced cardiology trainees and integration of teaching and research functions across cardiology hub and spoke services in NSLHD.

**Renal Medicine**

100. Improve networking and governance of dialysis services across NSLHD with common clinical pathways, practices and protocols to make best use of resources and to support the flow of patients to the closest and most convenient and appropriate service.

101. Develop a strategic plan to guide the staged opening of additional dialysis capacity to meet anticipated demand over the next 5-10 years and to transfer patients and resources from RNSH to dialysis service at the new Northern Beaches Hospital in 2018.

102. Determine the additional ongoing costs associated with the provision of assisted peritoneal dialysis and develop a business proposal, including a cost-benefit analysis and funding opportunities, to support service provision over next 5-10 years.

103. Compare NSLHD achievement of NSW dialysis benchmarks with other LHDs and renegotiate benchmarks with NSW Ministry of Health.

104. In collaboration with the Rehabilitation and Aged Care Services Clinical network review and make recommendations on the service delivery options for dialysis patients who require rehabilitation.

105. Develop a renal transplant plan to support the provision of services over the next 5-10 years.

106. Develop a NSLHD model of care and business proposal for the provision of conservative and palliative care for end stage renal failure patients.

107. Develop a NSLHD model of care and business proposal for the provision of outpatient and ambulatory care services for patients with renal disease.

**Neurosciences**

108. Review the NSLHD acute stroke and associated models of care for stroke prevention, TIA and carotid surgery against the National Stroke Foundation Clinical Guidelines for Stroke Management and make recommendations regarding the ongoing role of each NSLHD hospital, standardisation of models of care across hospitals, and improving access to thrombolysis.

109. Review and make recommendations (in conjunction with the Rehabilitation and Aged Care Network) for stroke rehabilitation services including the provision of multidisciplinary care from time of admission, in-reach to acute stroke units not collocated with rehabilitation services, and access to home-based and ambulatory rehabilitation.

110. Evaluate the provision of rapid access neurology clinics at RNSH, make recommendations for the development and roll out of clinics across NSLHD, and develop a business proposal for a sustainable service delivery and workforce model.

111. Develop clinical protocols to guide the rational selection of appropriate imaging and other diagnostic tests for patients presenting to ED with neurological symptoms.

112. Reduce length of time from triage to MRI for neurology patients presenting to Emergency Departments in collaboration with Medical Imaging service.

113. Investigate and make recommendations on the feasibility and opportunities to develop a neurogenetics service for NSLHD.

114. Establish a service development framework for interventional neuroradiology that addresses sustainable workforce issues, agreed growth and scope of practice.

115. Investigate and make recommendations to improve access to advanced therapies for Parkinson’s disease including apomorphine infusion, duodopa therapy, and deep brain stimulation.

116. Investigate and make recommendations to increase the capacity of movement disorder clinics and improve provision of nursing support, allied health and rehabilitation clinics and programs for patients with neurodegenerative diseases.

117. Review the demand and provision of neuroimaging and neurogenetic testing for patients with neurodegenerative movement disorders.
118. Develop a business proposal for a sustainable workforce and service delivery model for neuroscience services.

**Mental health and Drug and Alcohol Services**

119. Develop a service plan for Mental Health from 2016 to 2025 following the release of the NSW Mental Health Commission’s Strategic Plan to reflect the directions set by the Commission and based on a population planning model for NSLHD.

120. Undertake a mapping exercise against all the recommendations in the *Strategic Plan for Mental Health in NSW 2014-2024* to formally identify service gaps and where appropriate develop plans to address these.

121. Establish a Mental Health Telephone Access Line in NSLHD.

122. Identify opportunities to diversify the MHDA Workforce and include additional employment of people with a lived experience of mental health into relevant positions and the introduction of assistant allied health workers where appropriate.

123. Continue to implement the action plan for Child and Youth Mental Health Services (CYMHS) based on the recommendations of the NSLHD Review of Child and Adolescent Mental Health Services, September 2012.

124. Develop and implement an action plan for the Coral Tree Family Service based on the recommendations of the MHDAO review of NSW Non-Declared Non-Acute CYMHS Inpatient Units.

125. Develop strategies to improve the provision of ECT for Macquarie Hospital and residents of the North Shore Ryde Health Service

126. Develop strategies to manage the Specialist Mental Health Service for Older Persons (SMHSOP) cohort of patients in the absence of any additional acute SMHSOP beds becoming available in NSLHD.

127. Develop strategies to respond to the recommendations in regard to non-acute services from the Strategic Plan for Mental Health in NSW 2014-2024 for stand-alone mental health hospitals.

128. Divest MHDA supported accommodation property management services to an appropriately skilled NGO.

129. Develop and pilot a GP clinic for mental health consumers on the grounds of Hornsby Ku-ring-gai Hospital.

130. Develop a service framework for the management of people diagnosed with borderline personality disorder within the context of the NSLHD service setting to identify and address barriers experienced by consumers accessing specialist treatments and clinicians in providing specialist treatments for this disorder.

131. Identify the opportunities to establish a lithium clinic within NSLHD within the longer term aim of providing best practice, evidence based care to those individuals with bipolar disorder from the NSLHD.

132. Develop innovative collaborative strategies with acute medical services, private providers, primary health care providers and organisations and NGOs to improve service provision for people with an eating disorder who present to NSLHD facilities in keeping with the implementation of the NSW Service Plan for People with Eating Disorders.

133. Be ready, if opportunity arises, to establish a parent infant mental health inpatient unit at RNSH for NSLHD or NSW to augment NSLHDs existing community-based specialist perinatal and infant mental health services for families where a parent experiences severe mental illness.

134. Define the requirements for Mental Health Services within the new Northern Beaches Hospital as part of the public private partnership with Healthscope from 2018.

135. Develop and implement strong partnering services with Healthscope to ensure optimal interface between community based and hospital based services within the new Northern Beaches Hospital and neighbouring sectors of NSLHD.

136. Identify opportunities to partner with non-government organisations to augment and improve MHDA service delivery.

137. Undertake a Drug and Alcohol Service planning process to provide strategic direction for service development from 2015 to 2022, based on the DA-CCP model estimator tool.

138. Implement recommendations from the 2014 review of Drug and Alcohol services across the NSLHD.

**Allied Health**

139. Optimise clinical workforce development and retention ensuring all allied health staff have access to clinical supervision and clearly defined professional reporting lines of responsibility.
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140. Work with clinical networks to identify opportunities to improve allied health input to services and service development.

141. Evaluate the demand for and provision and utilisation of allied health services across acute, sub-acute and community health services and provide advice on the most appropriate distribution, allocation and organisation of allied health resources to improve patient outcomes, reduce clinical variation and improve service efficiency.

142. Improve the capture and useability of management and activity reports, and the utilisation of allied health activity data in inpatient, non-admitted and community health services as the basis for ongoing evidence based service development, evaluation of clinical variation, and strategic service and workforce planning.

143. Develop strategic partnerships with Medicare Locals/Primary Health Networks and private allied health providers to improve service integration and expand key services across NSLHD.

144. Review allied health scope of practice and make recommendations about the opportunities for development of advanced practice allied health roles and expansion of the allied health assistant workforce.

Pharmacy

145. Identify, implement and evaluate strategies to deliver a standardised and equitable pharmacy services across the LHD and opportunities to improve service efficiencies, reduce purchasing costs and invest in research and quality improvement.

146. Review the transitions of care pathways for patients who are discharged from NSLHD hospitals to the community and streamline discharge processes.

147. Develop a workforce plan to support the increase in clinical pharmacy services offered within NSLHD and to make the most effective use of the skill mix within the workforce.

Medical Imaging

148. Implement and evaluate the NSW Agency for Clinical Innovation Medical Imaging District Services business model across NSLHD.

149. Collaborate with clinical networks to manage imaging demand, improve appropriate selection of medical imaging required for diagnosis, and develop agreed pathways which improve the imaging response times, cost effectiveness and sustainability of services.

150. Develop, implement and evaluate a model of care for the provision of interventional radiology services across NSLHD that addresses sustainable workforce issues, agreed growth and scope of practice.
Part One
2 Introduction

Northern Sydney Local Health District (NSLHD) is one of fifteen local health districts in NSW. There are also two specialist networks for Justice Health and Forensic Mental Health and Sydney Children’s Hospitals and a third network operated by St Vincent’s Health. NSLHD is responsible for the provision of public health services to residents within the geographic area covered by its eleven constituent local government areas (LGA).

The principle role of NSLHD is to improve the health of its residents by providing and facilitating efficient, effective and responsive health services including acute hospital services. To do this NSLHD undertakes a range of specific functions which include:

- Achieving and maintaining adequate standards of patient care
- Investigating and assessing health needs
- Planning for future development of health services
- Establishing and maintaining an appropriate balance in the provision and use of resources for health protection, health promotion, health education and treatment services
- Administering funding for recognised establishments and health services
- Developing and implementing strategies to attract and retain quality staff.

2.1 Clinical services plan scope

This Clinical Services Plan (CSP) encompasses acute and sub-acute inpatient, outpatient and ambulatory services, primary and community health, mental health and drug and alcohol services, and clinical support services. It refers to clinical services provided by affiliated health organisations, private and non-government organisations where appropriate, as well as clinical services provided by NSLHD hospitals and community health services. It identifies the clinical priorities and strategic directions for the development of clinical services across NSLHD over an eight year period through to 2022, updating and replacing the previous CSP that had a planning horizon from 2012 to 2016.

The CSP is presented in two parts:

- Part One includes information on the functions, organisation and governance of NSLHD services, partnerships and relationships with other health care providers (affiliated health organisations, general practitioners, private hospitals, community and residential aged care, and other private and non-government organisations, etc), and a snapshot of the NSLHD population, demographic characteristics and health status. Part One also includes discussion of key service drivers (national health and funding reforms, population growth and changes, impact of the private sector on NSLHD services, clinical quality and governance, capital developments and infrastructure, and information technology) and how NSLHD is managing and responding to these issues including through the development of more robust organisational structures and clinical networks, through the integration of research and health care, and through better engagement with clinicians and consumers, among other approaches.

- Part two comprises separate chapters for individual clinical networks, with each chapter encompassing services within the network. Specific attention is paid to the issues, challenges and opportunities highlighted by the clinical networks and how they propose to respond. Recommendations are presented along with narrative that provides context around each highlighted issue and challenge; recommendations are also summarised at the start of each chapter. The narrative and recommendations focus on opportunities to improve the efficiency of service delivery as well as improving care and the care pathway for individual patients; they also focus on opportunities to improve working with service partners outside the public health system.

Operational level planning for individual clinical or clinical support services is not considered in this CSP. The plan focuses on strategic directions and strategies to guide future service development; the focus is on broader service development issues rather than those concerned with detailed service delivery or operational issues. As such the chapters do not include detailed descriptions of individual clinical services. Clinical Networks will develop
comprehensive descriptions of their services during 2015/16 as part of work plans and project plans to implement recommendations. The narrative and recommendations included in the CSP will form the basis of work plans for each clinical network.

### 2.2 Planning process

The CSP was developed over a nine month period from March to November 2014. While only 14 months had elapsed since the finalisation of the NSLHD CSP (2012-16) some major changes to both the LHD and the broader NSW health system had occurred and further changes and developments were anticipated in 2014/15. These changes were influencing and altering the relative priority and continued relevance of recommendations in the CSP (2012-16). Recent and anticipated changes encompassed facility developments, clinical networks, financial and budgetary pressures, workforce pressures and a range of other initiatives and programs including the visiting medical officer (VMO) quinquennium appointment process.

The development of the CSP was overseen by a steering committee, chaired by the NSLHD Executive Director Operations, which reported to the NSLHD Executive Leadership Team (ELT) and the Clinical Council. The steering committee provided direction, leadership and governance of the CSP review project and included workforce, finance, and planning support as well as clinical and consumer expertise. Independent advice was provided by the Agency for Clinical Innovation (ACI). Membership of the CSP steering committee, ELT and Clinical Council is included in the appendix.

The CSP review process acknowledged that a number of parallel planning processes were underway including:

- Cancer Services and Palliative Care Reviews
- Hornsby Hospital (Stage 2) Redevelopment Planning
- Review of Clinical Networks
- Operational Efficiency and Strategic Initiative (OESI) and associated financial/budgetary programs
- Sustainable Access, Whole of Hospital and Clinical Redesign programs
- Northern Beaches Hospital Redevelopment project

Initial tasks included an environmental scan of implications arising from the state health plan and major policy directions for NSW Health. A desk top review was conducted with the directors and service development managers of each clinical network encompassing evaluation of progress against existing CSP recommendations and identifying strategic directions that considered opportunities to:

- improve service integration within NSLHD, across local hospitals, with NGO service delivery partners, and primary and community health services
- support primary and community based service delivery partners in the delivery of care to keep people well and out of hospital, particularly for patients with chronic and complex/ongoing health issues
- improve service efficiency and forecast future areas of service need
- consolidate or provided services in a different way, including divestment or outsourcing to the private, NGO and not-for-profit sectors
- enhance relationship with the Academic Health Sciences Centre.

Clinical networks continued to develop and refine their strategic directions with the support of the Health Services Planning Unit over subsequent months based on feedback and advice from Clinical Council, consumers and members of the steering committee. The resulting recommendations have been developed by and are owned by the individual clinical networks.
2.3 Planning context

Local health districts and specialty networks have a responsibility to effectively plan services over the short and long term to enable service delivery that is responsive to the health needs of its defined population. For a number of clinical services the catchment population extends beyond the LHD borders.

Generally, local health districts and specialty networks are responsible for ensuring that relevant government health policy goals are achieved through the planning and funding of the range of health services which best meet the needs of their communities (whether those services are provided locally, by other local health districts, specialty networks or other service providers).

Under the Health Services Act 1997 and the NSW Health Corporate Governance And Accountability Compendium, Boards have the function of ensuring that strategic plans to guide the delivery of services are developed for the local health district, and for approving those plans. NSLHD and its Board have responsibility for developing the following organisational plans:

- Strategic Plan
- Clinical Services Plan
- Corporate Governance Plan
- Annual Asset Strategic Plan
- Operations/Business plans at all management levels of the LHD.

At the local health district level the CSP is required to incorporate the strategic priorities and areas established by the Board. All further plans within the LHD for clinical networks and specific clinical and community health services must be consistent with the CSP. A range of population based plans identify strategies to meet the needs of particular groups who access services across the clinical networks and hospital and community settings. Enabling and support service plans provide the organisational foundation for clinical services planning.

Other plans may be required from time to time, and include local clinical service plans, workforce plans, financial plans and plans for particular health needs or issues. Boards must ensure that the views of providers and consumers of health services, and other members of the public served by the LHD, are sought in relation to the organisation’s policies and plans.

The NSW Ministry of Health is responsible for coordinating and planning system-wide services, workforce, population health and asset planning at a state level. The Ministry also provides advice and feedback to LHDs on local planning exercises as required, and reviews local planning in respect of achieving whole of system goals and objectives. For example, clinical service plans for capital developments within NSLHD will generally be reviewed by the Ministry of Health.

State-level plans that may need to be taken into account in local health district planning include the NSW Health Workplace Culture Framework, the NSW Health Professionals Workforce Plan 2012-22 and a range of plans relevant to Aboriginal Health, including Closing the Gap, the Aboriginal Health Impact Statement and Guidelines and Keep Them Safe.

An annual service agreement between the Board of the LHD and the Secretary of NSW Health is required and sets out the service delivery and performance expectations for the funding and other support provided to the LHD.

The State Plan NSW 2021: A Plan to Make NSW Number One and the NSW State Health Plan Towards 2021 provide goals and targets for the health sector within NSW. The NSLHD Board of Directors through the NSLHD Strategic Plan has set the strategic directions for the local health district for a period of four years from 2012 to 2016. The strategic plan picks up on the state goals and articulates the values and behaviours which underpin the NSLHD organisational culture and provides the basis for implementing the LHD’s strategic priorities and focus areas.

In keeping with the planning framework, the CSP 2015-2022 is informed by the NSW State Health Plan, the NSLHD Strategic Plan and by the policy directions of statutory organisations such as the Agency for Clinical Innovation (ACI). This CSP updates the previous plan for 2012-2016 and provides direction for NSLHD clinical services for a seven year period from 2015 to 2022. It outlines the future challenges and clinical issues facing the Local Health
District and recommends actions to resolve these issues and to support the current and proposed role delineation of services and facilities.

The previous CSP was used to inform a range of existing NSLHD service plans and enabling plans including the Hornsby Ku-ring-gai Hospital CSP, Northern Beaches CSP, NSLHD Workforce Plan, Education Plan, Asset Strategic Plan and population plans such as the Disability Action Plan, Aboriginal Health Plan and Multicultural Health Plan. As many of these plans are updated over the next few years they will be informed by the directions established within this CSP.

Some of the key planning documents and their implications for the LHD are outlined in more detail below.

2.3.1 NSW State Health Plan: Towards 2021

The NSW State Health Plan Towards 2021 was released in 2014. Key processes and priority areas are identified within:

three directions:
- keeping people healthy
- providing world-class clinical care
- delivering truly integrated care

and four strategies
- supporting and developing our workforce
- supporting and harnessing research and innovation
- enabling e-health
- designing and building future-focused infrastructure

to achieve the two state health goals:
- keeping people healthy and out of hospital
- providing world class clinical services with timely access and effective infrastructure.

The Ministry of Health will be publishing annual updates of the State Health Plan and developing a reporting framework to monitor progress.

Some examples of how NSLHD will work towards the State Health Plan directions and strategies include:
- Focusing health promotion strategies on healthy active living, tobacco control and alcohol harm prevention to keep people healthy.
- Providing world class clinical care for stroke patients through the use of thrombolysis at RNSH and HKH.
- Delivering truly integrated care for older persons with complex health needs using ACI models of care and for cancer patients through a single integrated cancer service for NSLHD with complex work based at RNSH and other services and treatment delivered locally on an outreach basis.
- Implementing the NSLHD Workforce Strategic Plan 2013 which identified strategies to support and develop our workforce. The CSP now notes the need for allied health services to identify opportunities to expand or change the scope of practice for the workforce in keeping with models of care to promote greater efficiency and patient outcomes.
- The establishment of a Northern Sydney academic health sciences centre (AHSC) in collaboration with the tertiary education sector will enable the harnessing research and innovation to maximise benefit to partners, stakeholders and the NSLHD community.
- Enabling eHealth through electronic health records, use of social media, mobile technology, access care and voice recognition technology.
- Designing and building future focused infrastructure on multiple sites and for a range of services including mental health and surgical services at HKH, acute and clinical services at RNSH, rehabilitation at Ryde and Mona Vale hospitals and the service planning for the proposed Northern Beaches Hospital.
2.3.2 NSLHD Strategic Plan 2012-2016

The NSLHD Strategic Plan 2012-16 was released in 2012 and articulates the vision and goals for NSLHD (see Figure 1). The strategic plan was developed with reference to a range of plans and related documents including the NSW Health Plan (2007), the NSLHD Service Agreement (2012/13), the NSLHD Clinical Services Plan (2012-2016), the Primary and Community Health (PaCH) Services Strategic Plan (2010-2020) and the operational plans for each of the Health Services.

Figure 1 NSLHD Strategic Plan 2012-16 (summary)

| Vision: |
| "Leaders in healthcare … Partners in community wellbeing". |
| Mission: |
| To provide healthcare of benefit and consequence, embracing discovery and learning, building collaborative relationships and engaging our community in their care. |
| **Charter of Values & Behaviour** |
| + Respect and dignity |
| + Care and Compassion |
| + Honesty and Accountability |
| + Safety |
| + Professionalism and learning |
| + Fairness and Equity |
| **Goals** |
| + Deliver excellence in care in the community, with appropriate care available to all who need it; when they need it |
| + Become a world renowned academic health district, embedding research and education into our practice to drive change clinically and operationally |
| + Deliver excellence in professional education |
| + Be an employer of choice, with a stable and committed workforce |
| + Engender mutual, successful partnerships with the community and across the healthcare system |
| + Provide a responsive and responsible health system making the best use of our resource |
| + Deliver a balanced budget. |

The Strategic Plan outlines three strategic priorities and nine initiatives to implement those priorities. Since the release of this strategic plan the NSLHD Board of Directors have highlighted their focus on three strategic areas which reflect the directions and strategies of the NSW State Health Plan Towards 2021 including:

- integrated care
- the academic health sciences centre
- reconfiguration of clinical networks.

These strategic areas are in the process of being fully scoped and implemented. The opportunities to implement translational research and an integrated care strategy have been identified in this CSP. It should be recognised that implementation of these actions is a dynamic process and that the scope and direction of these strategic areas will change over the life of the plan.

2.3.3 NSLHD Service Agreement 2014-2015

As required under the National Health Reform Agreement, the annual service agreement between the Board of the LHD and the Secretary of NSW Health sets out the service delivery and performance expectations for the funding and other support provided to the LHD. The agreement outlines the budget, service volumes and levels, performance measures and governance requirements and the LHD’s responsibilities for service planning and provision. The service agreement identifies six specific focus areas for 2014/15 to be included in the strategic plans of all LHDs, including:
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- local accountability and clinician engagement
- integrated care strategy
- the Whole of Hospital program
- public specialist outpatient services
- reducing smoking rates among Aboriginal populations
- workplace culture.

A range of services and programs to be implemented by the LHD are acknowledged including community based services, population health programs, Aboriginal health services, programs under the banner of NSW Kids and Families and the LHD’s role in teaching, training and research.

The LHD has significant relationships or partnerships with a number of key agencies. These include:

- affiliated health organisations Royal Rehab and HammondCare
- 20 health-related non-government organisations
- the two Medicare Locals (to become a single Primary Health Network from July 2015)
- Infrashore for non-clinical support services at RNSH
- the Justice Health and Forensic Mental Health Network.

Key performance indicators and measure in the service agreement are detailed for safety and quality, service access and patient flow, finance and activity, people and culture and for population health.

This CSP has noted the requirements in the NSLHD Service Agreement, with a recognition that the elements of the agreement will vary year by year.

2.3.4 NSLHD Asset Strategic Plan 2014/15 to 2023/24

The Asset Strategic Plan (ASP) was released in July 2014. The plan reviews health service requirements and provides a prioritised asset response to ensure that the health services are supported by appropriate assets now and into the future. The plan includes asset replacement and maintenance schedules, asset portfolio and capital investment plan.

The ASP is required to identify the top five capital investment priorities for the Local Health District (apart from state-funded major projects). In the current plan these are:

- community health centre infrastructure, including Hillview, Top Ryde and Berowra centres
- Ryde Hospital infrastructure
- drug and alcohol inpatient services at RNSH
- inpatient services for older people with a mental illness at Hornsby Ku-ring-gai Hospital
- RNSH southern campus infrastructure.

This CSP is consistent with the asset priorities of the NSLHD.

2.4 Stakeholder engagement

2.4.1 Legislative and policy context

Engagement with stakeholders is a key activity for public health organisations, as required both in Local Health District functions under the Health Services Act 1997 and through Standard 6 in NSW Health Corporate Governance And Accountability Compendium, which emphasises the importance of stakeholder engagement in decisions that affect them.

One of the primary objectives of the reform of the NSW health system has been the devolution of decision-making authority and performance accountability to LHDs. Strong clinician engagement is essential to ensuring the involvement of clinicians in key decisions, such as resource allocation and service planning, thereby providing an invaluable contribution to improving health system outcomes and to ensuring sound clinician governance.
LHDs are expected to strengthen clinician leadership throughout all levels of the organisation by facilitating the active participation of clinicians in decision-making processes regarding service delivery and planning, quality and safety systems, appropriate models of care and resource allocation. On an annual basis, LHDs are required to report on the mechanisms they have implemented to ensure effective clinician engagement and leadership to demonstrate:

- clinician input at Board level.
- clinician input at key executive-level committees (both LHD and facility-level).
- clinician influence in service planning and resource allocation.
- engagement with the wider health sector (including primary and community care).
- effective linkages between Clinical Councils and the LHD Board.
- effective mechanisms to ensure Medical Staff Council input to hospital-level committees.

Community and consumer engagement is mandated for government health agencies through a number of legislative acts and official plans. The Health Services Act 1997 requires Local Health District Boards to seek the views of providers and consumers of health services in relation to policies, plans and initiatives and to advise the local community about these policies, plans and initiatives. The NSW Carers (Recognition) Act 2010 also requires the views and needs of carers and the best interests of the persons for whom they care to be taken into account in the assessment, planning, delivery and review of services provided.

Goal 32 of the NSW 2021: A Plan to Make NSW Number One commits the government to increase opportunities for people to participate in decision making, while the NSW State Health Plan Towards 2021 notes the vital role played by community and consumer engagement in achieving truly integrated care.

At the time of writing the Ministry of Health was developing a Consumer and Community Engagement Framework.

### 2.4.2 Clinician engagement

Model By-Laws for Local Health Districts establish a number of clinical governance bodies and provide for a number of functional and advisory committees including:

- a Health Care Quality Committee of the Board
- Medical Staff Councils and Medical Staff Executive Councils
- Hospital Clinical Councils and/or Joint Hospital Clinical Councils
- a Local Health District Clinical Council.

Local Clinical Councils provide a structure for consultation with, and involvement of, clinical staff in management decisions affecting health service provision. The LHD Clinical Council advises the chief executive and Board on broad clinical matters affecting the District. Medical staff councils provide advice on medical matters.

To support an assessment of the effectiveness of clinician engagement at the local level, an annual survey will be undertaken to gauge the perceptions of senior medical staff employed within LHDs, as to the depth and quality of engagement with them, as a group, by the Chief Executive. It is intended that the results of these surveys will be provided to the Ministry of Health and shared with LHD Board chairs to assist in the performance review of management with respect to clinician engagement.

Clinical Council has played a key role in the development of this CSP both in its oversighting and advisory roles and through the direct engagement of Clinical Council members who also hold positions as clinical network directors (including mental health and drug and alcohol, and primary and community health) or as clinical leaders of support services.

Broader medical, nursing and allied health engagement was facilitated through the individual clinical networks while developing strategic directions and recommendations, and through the medical staff councils and directors of nursing, midwifery and allied health once a collated draft CSP was prepared.
2.4.3 Community, consumer and carer engagement

Community and consumer engagement at the LHD level is managed through local and peak community and consumer participation councils and committees. The Peak Community and Consumer Participation Council (PCCPC) is a subcommittee of the Board. This council includes representatives of local Community Participation Committees for each of the Health Services as well as Mental Health and Drug and Alcohol services, along with community-based carer representatives. The PCCPC advises the Board on the views of patients, carers and the community regarding the accessibility, quality and safety of current and future health services for their consideration in planning and decision making. The committee has an action plan organised around the framework and priorities set out in Standard 2 of the Australian Commission on Safety and Quality in Healthcare standards: Partnering with Consumers. This standard requires that:

- governance structures are in place to form partnerships with consumers and carers
- consumers and carers are supported by the health service organisation to actively participate in the improvement of the patient experience and patient health outcomes
- consumers and carers receive information on the health service organisation’s performance and contribute to the ongoing monitoring, measurement and evaluation of performance for continuous quality improvement.

The NSLHD Board website also includes an email address to enable community members and staff to submit issues directly (NSLHD-SoundingBoard@health.nsw.gov.au).

The PCCPC has been undertaking community forums in NSLHD since 2011, with 14 forums including about 800 participants to date. These forums have included particular focuses on Aboriginal health, ageing and disability, and have included cooperation with Medicare Locals. An analysis of 135 discrete issues raised has resulted in the largest clusters to do with health literacy and respect for patients’ values, preferences and expressed needs, followed by continuity of care. A report is compiled after each forum which summarises the concerns and suggestions made at the forum. These reports are shared with forum participants and service managers. Where appropriate concerns raised are escalated to the NSLHD Risk Register.

At a statewide level the NSW Patient Survey Program, conducted by the Bureau of Health Information, provides health services and consumers with information on the performance of the health system against a number of relevant criteria. The 2013 survey, released in December 2014, was based on over 35,000 responses to the Adult Admitted Patient Survey and focussed on issues of service integration.

Direct consumer engagement in the development of the CSP was facilitated through the PCCPC. A PCCPC representative was included in the membership of the CSP Review Steering Committee, linking the work and outcomes of the PCCPC with the CSP. Clinical networks pursue a range of approaches to consumer engagement in normal clinical network business and in the development of this CSP. Approaches include, for example, engagement through the Medicare Local consumer networks, ongoing relationships with advocacy and special interest groups, and inclusion of consumers on clinical network committees or working groups.

The primary aim of the NSLHD Carer Support Services is to provide information for carers of patients in the public health system and our community, and to initiate strategies to improve the responsiveness of the health system to the needs of carers. Carer Support has a role in raising awareness of carers' needs and changing attitudes towards carers within the health system. Carer Support promotes and encourages recognition of carers as respected and valued partners in health care.

Supported by the NSW Health Carers Action Plan (2007-2012), the NSW Carers Strategy 2014-2019 and the NSW Carers (Recognition) Act 2010, the Carer Support Service aims to educate and support staff, to identify and engage carers, increase the understanding of health professionals to the expressed needs of carers, identify and reduce access barriers to NSLHD services, and encourage the provision of timely and accurate information promoting carer independence and empowerment. While Carer Support offers information on a range of alternative options for carers, it is appreciated that each caring role is unique, and as such information and advice is given as guidance only.

The NSLHD Carer Support team has representatives located and accessible at each hospital site.
2.5 Implementing the Clinical Services Plan

Clinical Networks will be tasked to develop action plans with associated timeframes to respond to and implement the recommendations included in the CSP. Clinical networks will require and will be supported in activity analysis, financial and economic analysis and business planning, change management and project management.

The NSLHD Clinical Council will play a lead role in overseeing implementation and will require regular reports on progress against recommendations.

Governance, reporting and monitoring frameworks will be further developed collaboratively by Clinical Council, Clinical Networks and the NSLHD executive team in early 2015.
3  NSLHD Population and Health Status Profile

3.1  A snapshot of NSLHD

Northern Sydney Local Health District (NSLHD) is one of 15 geographic Local Health Districts in NSW. The District covers an area of around 900 square kilometres ranging south from the Hawkesbury River to the northern shore of Sydney Harbour and west from the eastern seaboard (Pittwater, Manly and Mosman local government areas (LGAs)) to the Old Northern Road. The western border of the LHD continues south via the border of Ryde LGA from the Old Northern Road to Ermington Point on the Parramatta River. Population density gradually increases from the agricultural areas just south of the Hawkesbury River to the highly populated areas of North Sydney LGA. Population density in the LHD is at its highest at Milsons Point, North Sydney.

Figure 2 Northern Sydney Local Health District

NSLHD consists of eleven local government areas (LGAs) and is divided operationally into three health services (Figure 2):

- Hornsby Ku-ring-gai health service (Hornsby and Ku-ring-gai LGAs)
- Northern Beaches health service (Manly, Pittwater and Warringah LGAs)
- North Shore Ryde health service (Hunters Hill, Lane Cove, Mosman, North Sydney, Ryde and Willoughby LGAs).

Current population

- The 2011 Census indicates the NSLHD estimated resident population was 853,162 which is 11.8% of the NSW population. The place of usual residence for NSLHD was reported at 808,642 which is lower than the estimated resident population but is used as the basis for more detailed demographic comparison particularly of cultural and linguistic diversity.
- In 2015 the NSLHD resident population is estimated to be 896,075.
- The population is culturally and linguistically diverse with high numbers of residents born in non-English speaking countries (22.1%) compared to 18.7% for NSW overall.
- NSLHD has a relatively small Aboriginal and Torres Strait Islander (ATSI) community (hereafter referred to as Aboriginal), which is estimated at 2,463 people, or 0.3% of the total NSLHD population.
People with a profound or severe disability living in long-term accommodation represented 3.4% of the overall NSLHD population and people with a profound or severe disability living in the community represent 2.5% of the NSLHD population.

Projected population
- Between 2015 and 2025, the total population is expected to grow by 13.6% to 1,018,022. North Shore Ryde will grow by 15.6%, Hornsby Ku-ring-gai by 13.1% and Northern Beaches by 11.6%.
- The population aged 0 to 69 years is expected to increase by 11.3% across NSLHD by 2025.
- People aged 70 to 84 years (born between 1941 and 1955) will increase by 35.8% and those over 85 years (born before 1940) will increase by 21.9%. The number of people aged 70 years and over will increase by 32.5% (32,198) by 2025, compared to the equivalent NSW proportional increase of 39.9%.

Demographic profile
- The fertility rate for NSLHD of 1.62 is lower than the NSW average of 1.80 (2005 – 2007). Of the NSLHD statistical areas Pittwater has the highest fertility rate (1.98) in comparison to North Sydney which has the lowest fertility rate for the LHD (1.25).
- Single parent families with children aged less than 15 years make up about 11.8% of all families with children aged less than 15 years in the NSLHD population, and jobless families with children aged less than 15 years make up 5.3%. These are both lower than the NSW average of 21.3% and 13.3%. For young people aged 15 to 19 years 89.4% were learning or earning in 2011, compared to 81.4% for NSW.
- The prevalence of single person households increases with age, peaking in the 85 years and older age group where just over one in three people live alone, compared to the average for all ages of less than 10%. North Shore Ryde health service has a higher proportion of people living alone (11%) compared to the NSW average (8.7%). Hornsby Ku-ring-gai health service has a lower proportion of people living alone (5.7%) compared to the NSW average.
- NSLHD is the least disadvantaged Local Health District in NSW. However there are pockets even in relatively affluent areas that may be classified as ‘disadvantaged’.
- NSLHD has lower proportion of its population who are unemployed (3.5%) and higher proportion of the population who participate in the labour force (69.1%) than the NSW averages of 5.2% for unemployment and 63.9% for labour force participation.
- Public housing rates are substantially lower in NSLHD (1.6%) than across NSW (4.4%). Within NSLHD the rate is highest in Hunters Hill (6.4%) followed by Ryde (3.8%).
- NSLHD has the highest rate of health insurance in NSW with 71% of the population having private health insurance. This has increased from 2001 when only 63% of the NSLHD population had health insurance.

Health status profile
- Current smoking levels among NSLHD adult residents (13.2%) are significantly lower than for the NSW average. Hornsby Ku-ring-gai residents have the lowest rate of 10% and Northern Beaches residents the highest at 15% compared to 20% for the NSW average.
- Exercise rates are similar to the state average of 53% in Northern Beaches or slightly below in Hornsby Ku-ring-gai at 50%.
- Risk-drinking behaviours among residents of NSLHD are above the NSW average for Northern Beaches residents, but lower for Hornsby Ku-ring-gai and North Shore Ryde residents (although these differences are not statistically significant).
- Estimates of chronic disease for NSLHD residents are lower than the NSW average. In general NSLHD had fewer adults who had at least one of the four risk factors of smoking, harmful use of alcohol, inactivity and obesity and fewer adults with a combination of a risk factor plus a chronic disease.
- Overall, NSLHD residents have significantly lower standardised mortality ratios (SMR) compared to the NSW average, with residents of Hornsby Ku-ring-gai having the lowest rates for cancer, accidents, heart disease and respiratory conditions. Significantly, all parts of NSLHD have a higher SMR for stroke than the NSW average.
3.2 Population size and growth

In 2011, the estimated resident population of NSLHD was 853,162 persons, about 11.8% of the NSW population. Significant numbers of people also travel into the LHD to work in the commercial centres of North Sydney and Chatswood, and to educational facilities including Macquarie University, Macquarie Park and the University of Technology, Sydney (Ku-ring-gai campus). In addition, significant numbers of people travel from surrounding regions (Western Sydney and Central Coast) to receive health services and from across NSW for a range of selected statewide services.

By 2015 the population will have grown to nearly 900,000 persons. The age profiles vary slightly between health services within NSLHD (Table 1). North Shore Ryde has larger proportion of young working age residents between 16 and 44 years. Hornsby Ku-ring-gai has a larger proportion of people aged 45 and over, though North Shore Ryde has a greater number of people in this age group.

The population of NSLHD is expected to grow by 13.6% (around 121,947 people) over the next ten years to 2025 to reach a total of more than one million (1,018,022) (Table 2). This is similar to the overall growth for NSW of 13.5% over the same time period.

The proportion of the paediatric population aged 0 to 15 years and those aged 45 to 69 years within NSLHD will remain relatively steady over the 10 years. The proportional growth in the 16 to 44 years group will be modest while proportional growth for the 70-84 years and 85-years+ groups will be more significant. Table 3 indicates that that while growth in the older age groups will be high it is slightly lower than NSW growth.

Within NSLHD, population growth for the older age groups between 2011 and 2021 will increase at a higher rate. There will be a 35.8% increase in the population aged 70 years to 84 years, and a 21.9% increase in the population aged 85+ years. The highest impact, particularly in the 70 to 84 age group, will be in North Shore Ryde and Hornsby Ku-ring-gai.

Table 1: NSLHD current population and proportional distribution by age group and health service, 2015

<table>
<thead>
<tr>
<th></th>
<th>0-15</th>
<th>16-44</th>
<th>45-69</th>
<th>70-84</th>
<th>85+</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>HKHS</td>
<td>61,076</td>
<td>104,195</td>
<td>93,022</td>
<td>25,842</td>
<td>8,439</td>
<td>292,575</td>
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<td>54,531</td>
<td>99,508</td>
<td>78,338</td>
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<td>6,917</td>
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<td>NSRHS</td>
<td>59,342</td>
<td>150,508</td>
<td>96,291</td>
<td>26,526</td>
<td>8,297</td>
<td>340,965</td>
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<td>NSLHD</td>
<td>174,950</td>
<td>354,212</td>
<td>267,852</td>
<td>75,409</td>
<td>23,653</td>
<td>906,075</td>
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<td>NSW</td>
<td>1,529,911</td>
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<td>2,260,318</td>
<td>661,108</td>
<td>165,884</td>
<td>7,610,781</td>
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Table 2: NSLHD estimated population and proportional distribution by age group and health service, 2025

<table>
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<tr>
<th></th>
<th>0-15</th>
<th>16-44</th>
<th>45-69</th>
<th>70-84</th>
<th>85+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HKHS</td>
<td>68,747</td>
<td>113,260</td>
<td>103,514</td>
<td>34,887</td>
<td>10,442</td>
<td>330,850</td>
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<td>NBHS</td>
<td>59,746</td>
<td>106,430</td>
<td>88,354</td>
<td>30,194</td>
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<td>NSRHS</td>
<td>69,428</td>
<td>166,972</td>
<td>110,310</td>
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<td>10,112</td>
<td>394,171</td>
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<tr>
<td>NSLHD</td>
<td>197,921</td>
<td>386,661</td>
<td>302,178</td>
<td>102,430</td>
<td>28,830</td>
<td>1,018,022</td>
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<tr>
<td>NSW</td>
<td>1,734,095</td>
<td>3,247,956</td>
<td>2,499,248</td>
<td>937,767</td>
<td>218,979</td>
<td>8,638,045</td>
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Table 3: NSLHD estimated population growth by age group and health service, 2015-2025

<table>
<thead>
<tr>
<th></th>
<th>0-15</th>
<th>16-44</th>
<th>45-69</th>
<th>70-84</th>
<th>85+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>HKHS</td>
<td>7,670</td>
<td>9,064</td>
<td>10,492</td>
<td>9,045</td>
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<td>NBHS</td>
<td>5,215</td>
<td>6,922</td>
<td>9,816</td>
<td>7,154</td>
<td>1,359</td>
<td>30,466</td>
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<tr>
<td>NSRHS</td>
<td>10,086</td>
<td>16,464</td>
<td>14,019</td>
<td>10,822</td>
<td>1,815</td>
<td>53,205</td>
</tr>
<tr>
<td>NSLHD</td>
<td>22,971</td>
<td>32,449</td>
<td>34,327</td>
<td>27,022</td>
<td>5,177</td>
<td>121,947</td>
</tr>
<tr>
<td>NSW</td>
<td>204,184</td>
<td>254,396</td>
<td>238,930</td>
<td>276,659</td>
<td>53,095</td>
<td>1,027,264</td>
</tr>
</tbody>
</table>

Figure 3 shows substantial growth in the population by 2025 in two age cohorts: people aged 70 to 79 years (i.e. those born between 1946 and 1955, “the baby boomers”) and those over 85 years (born before 1940). Compared with the rest of NSW, NSLHD growth is higher in the 15-24 and 45-59 year age ranges and either equal to or slightly lower for all other age groups.

**Figure 3: Percentage change in population by five year age groups 2015-2025**

The **Sydney Metropolitan Strategy** indicates the consolidation and development of the existing centres of North Sydney, Chatswood, and Hornsby with the development of St Leonards and Macquarie Park (near Macquarie University) as specialist centres. The Epping-Chatswood rail link will facilitate the Macquarie Park development.

The strategy also calls for higher density development in the vicinity of transport nodes. Council Local Environment Plans have been developed to encourage this process. While there are no major green-field sites in NSLHD, small percentage growth figures may still represent considerable growth in numbers.

### 3.3 Demographic characteristics

#### 3.3.1 Population ageing

The population of all age groups will increase in 2025, but the highest increases will be in the older age groups. As older people use health services more than the rest of the population, the demand for health services will be more than the crude increase in population growth.

From 2015 to 2025 the number of people aged 70 years and over in North Shore Ryde and Hornsby Ku-ring-gai health services will increase by 10,822 people (40.8%) and 9,045 people (35.0%) respectively. Overall, the number of people aged 70 years and over in NSLHD will increase by 32,198 people (32.5%) in 2025 and will account for 12.9% of the total 2025 population in NSLHD. However this is lower than the NSW increase of 39.9% for the same period and age group.
Older residents who live alone may require a sustained and greater range of post-acute services after acute care to continue living in their own home. In NSLHD 31.6% of people over 80 years live alone. This is similar to the NSW average of 31.7%. Within NSLHD, North Shore Ryde health service has the highest proportion of residents 80 years and older living alone (4,690 people, 33.9%) and Hornsby Ku-ring-gai health service has the lowest proportion (3,838 people, 27.9%).

The number of residents requiring assistance with core needs due to disability or illness also increases with age. Just over 27,214 (3.4%) residents in NSLHD require assistance with core needs such as self-care, mobility and communication. This proportion rises to approximately 20% for residents over 70 years of age and 34% of those residents over 80 years. The highest numbers of residents that require assistance with core needs are in Warringah LGA (5,157 people). Up to 80% of those residents are aged 70 years and over.

Just under a third of all residents that require assistance with core needs in NSLHD speak a language other than English (7,422 people). Of those, Italian, Cantonese and Mandarin are most frequently spoken. Approximately 11% (3029 people) residents that require assistance with core needs do not speak English well or at all. Of these residents, 72% are aged 70 years or over.

People with dementia typically place higher demands on health services. By 2025 it is estimated that there will be more than 16,000 residents with dementia in NSLHD, which is an increase of 25% from current numbers. The majority of people with dementia in 2025 will be aged 75 years and over (78.6%).

Currently, North Shore Ryde Health Service has the highest number of residents with dementia (4,596 people, 35.5% of all people with dementia) and will continue to have the highest number (over 5,800) in 2025. Hornsby Ku-ring-gai Health Service will have the highest increase in people living with dementia (around 27%).

### 3.3.2 Birthplace and language

The population of NSLHD is culturally diverse, with a larger proportion of overseas born residents (38.9%) than the NSW average (31.5%) in 2011. The most prominent countries of origin other than Australia are the United Kingdom, China and New Zealand.

Overall, 22.1% of people living in NSLHD were born in mainly non-English speaking countries. Ryde has the highest proportion of people born in non-English speaking countries (36.5%); Willoughby and Hornsby south also have over 30% of people born in non-English speaking countries. Pittwater and Manly have the lowest proportion (each has less than 13%). For people born in mainly non-English speaking countries the top 5 birthplaces include China (excluding Taiwan and Hong Kong and Macau), Hong Kong, India, South Korea and Malaysia.

The top five mainly non-English speaking birthplaces for children and young people are China, Korea, Hong Kong, India and Singapore (all Asian countries). The five most frequently reported mainly non-English speaking birthplaces for older people were China, Italy, Germany, India and Netherlands.

One in five of the population speak English as a second language. After English, the most common languages spoken in NSLHD are Cantonese, Mandarin, Korean, Italian and Japanese. In NSLHD 2.8% of people born overseas report poor proficiency in English compared to 3.4% for NSW overall. However, 14.0% of NSLHD residents who speak another language at home reported they do not speak English well or not at all.

English proficiency is frequently lower among older immigrants, which impacts on their ability to access and navigate aged care services. The largest numbers of people who report not speaking English or not speaking English well are people who speak Mandarin, Cantonese, Korean, Japanese and Italian.

Many older people from culturally and linguistically diverse backgrounds arrived in Australia as adult post-war European migrants or refugees from more recent conflicts and are now ageing. While these groups of older people may be small in number they will need additional support to address challenges arising from their earlier exposure to war, torture and trauma.
3.3.3 Aboriginal and Torres Strait Islander population

NSLHD has a relatively small Aboriginal community which is estimated at 2,463 people, or 0.3% of the total NSLHD population. This is one of the smallest Aboriginal communities within a NSW LHD.

The NSLHD Aboriginal population is young compared to the overall NSLHD population; however the NSLHD Aboriginal population has the highest proportion of people over the age of 65 years compared to other LHDs across NSW (Figure 4).

**Figure 4 Population pyramid for contrasting the Aboriginal and non-Aboriginal populations of NSLHD by age group 2011**

![Population Pyramid](image-url)

Source: 2011 Census of Population and Housing, Commonwealth of Australia

3.3.4 Socioeconomic status

The relationship between social disadvantage and greater demand for health services is widely recognised, and has been detailed in the [NSW Health and Equity Statement: In all Fairness, 2004](#).

Socio-economic conditions can be measured and compared using the [Socio-Economic Index for Areas (SEIFA)](#), developed by the Australian Bureau of Statistics (ABS). The SEIFA is comprised of a suite of four summary measures created from census information:

- Index of Relative Socio-economic Advantage and Disadvantage (IRSAD)
- Index of Relative Socio-economic Disadvantage (IRSD)
- Index of Economic Resources (IER)
- Index of Education and Occupation (IEO).
The SEIFA quantifies the relative level of advantage/disadvantage within a specific area of Australia, where the average score is 1000. Using the Index of Relative Socio-Economic Disadvantage (IRSD) scores for 2011 NSLHD is the least disadvantaged Local Health District in NSW scoring 1089. Within NSLHD, residents of Ku-ring-gai are most advantaged (IRSD 1121) and residents of Ryde are the least advantaged (IRSD 1050).

In comparison to NSW LGAs where 50% of the residents score within both the top (6 to 10 deciles) and bottom deciles (1 to 5), HKHS has nearly 60% of the population who score within the top decile (decile 10). NBHS and NSRHS have over 60% of the population who score with the top two deciles (declines 10 and 9). Less than 1% of the NSLHD population scores within the lowest decile (decile 1) though Hunters Hill, Ryde, Warringah, Willoughby and North Sydney and Hornsby have pockets of disadvantage or residents who score within the lowest decile.

Figure 5 Proportion of each local health service scoring within each decile compared to NSW population.

![Figure 5](source.png)

Source: Index of Relative Socio-economic Disadvantage (IRSD) ABS Census 2033.0.55.001 - Socio-economic Indexes for Areas (SEIFA), Data Cube only, 2011

3.3.5 Public housing

In 2011, NSLHD had the lowest rate of public housing in NSW. The NSLHD rate was (1.6%) in comparison to NSW overall (4.4%). Within NSLHD public housing rates are highest in Hunters Hill (6.4%), followed by Ryde (3.8%). Three LGAs have a public housing rate of less than 1% (Ku-ring-gai, Pittwater and Mosman). The remaining LGAs have a public housing rate of between 1.6% and 2.0%.

3.3.6 Private health insurance

Levels of private health insurance influence the ability of the population to access private sector health services. While private health insurance rates below State level are unavailable beyond 2001 the private health insurance rate has been estimated for 2007-08.

NSLHD has the highest rate in NSW with 71.1% of the population having private health insurance. This compares to 48% for NSW. All parts of NSLHD were significantly higher than the NSW average in 2007-08. Ryde has the lowest rate (58.1%) for NSLHD and Ku-ring-gai has the highest rate (79.1%).

The 3 statistical local areas (SLAs) with the lowest and highest health insurance rates within NSLHD are Ryde, Warringah and Hornsby North (lowest) and Ku-ring-gai, Mosman and North Sydney (highest).

3.3.7 Health-related behaviours

Health-related behaviours play a role in the development of many health conditions that account for a large amount of morbidity and mortality, including cardiovascular and respiratory disease, diabetes, and some cancers. Smoking, alcohol misuse, obesity, and physical inactivity have all been identified as negative effects on overall health status. The measures for the number of health risk factors are provided by the [NSW Population Health Survey](https://www.health.nsw.gov.au). The most recent survey, that provides detailed information at a local level, was conducted in 2007.
The percentage of individuals in Hornsby Ku-ring-gai, Northern Beaches and North Shore Ryde Health Services who are overweight or obese is significantly lower than the NSW average. While the rate for adult who are overweight but not obese is similar for NSLHD (29.4%) compared to NSW (28.9%). The rate of obese adults is lower in NSLHD (14.4%) compared to NSW (19.0%).

Levels of physical activity are similar to the NSW average while smoking rates, while numerically lower are not statistically different to the NSW average (this is likely be a sample size issue) as the overall smoking rate for NSLHD is significantly lower than NSW. Risky alcohol drinking appears to be similar to the NSW average, except for northern beaches residents (higher) but, again the difference is not statistically significant.

### Table 4: Risk factors: selected indicators for NSLHD health services and NSW population 2001-2006

<table>
<thead>
<tr>
<th></th>
<th>Over-weight and Obesity</th>
<th>Recommended Physical Activity</th>
<th>Daily or occasional Smoking</th>
<th>Risk Alcohol Drinking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Hornsby Ku-ring-gai</td>
<td>83,473</td>
<td>40.3% (-)</td>
<td>114,857</td>
<td>50.0%</td>
</tr>
<tr>
<td>Northern Beaches</td>
<td>75,880</td>
<td>40.3% (-)</td>
<td>111,830</td>
<td>53.7%</td>
</tr>
<tr>
<td>North Shore Ryde</td>
<td>95,521</td>
<td>37.7% (-)</td>
<td>147,056</td>
<td>52.9%</td>
</tr>
<tr>
<td>NSW</td>
<td>2,689,478</td>
<td>50.1%</td>
<td>2,863,247</td>
<td>53.4%</td>
</tr>
</tbody>
</table>

Source: NSW Centre for Epidemiology and Research (2008): 2007 and 2005 New South Wales Population Health Survey - Report on Adult Health. A negative sign in brackets (-) indicates that the value is significantly lower than the NSW average (p≤0.05). Remaining values are not significantly different to NSW values.

While the burden of chronic disease and avoidable acute conditions is increasing across NSLHD, estimates of chronic disease for NSLHD residents are lower than the NSW average for diabetes type 2, circulatory disease, respiratory disease and musculoskeletal systems diseases. However NSLHD has a similar proportion of females with osteoarthritis to the NSW average population.

NSLHD had fewer adults who had at least one of the four risk factors of smoking, harmful use of alcohol, inactivity and obesity and fewer adults who had composite indicators such as having asthma and being a smoker, or having type 2 diabetes and being overweight or obese.

### 3.3.8 Mortality and burden of disease

The crude number and percentage of deaths for Hornsby Ku-ring-gai, Northern Beaches and North Shore Ryde Health Services are similar. When adjusted for age the death rates for Hornsby Ku-ring-gai, Northern Beaches and North Shore Ryde Health Services are all significantly below the average NSW rate.

Potentially avoidable deaths under the age of 75 years are deaths that could potentially have been avoided through primary (lifestyle modification), secondary (early detection), and tertiary (prolong life) activities of health and related sectors. Age-adjusted potentially avoidable death rates for Hornsby Ku-ring-gai, Northern Beaches and North Shore Ryde Health Services are significantly below the rate for NSW.

### Table 5: Selected indicators - burden of disease

<table>
<thead>
<tr>
<th></th>
<th>Deaths (per year)</th>
<th>Age Adjusted Death Rate per 100,000 population (2002-2006)</th>
<th>Age Adjusted Potentially Avoidable Death Rate (under 75 years)</th>
<th>Age Adjusted Separation Rate (2006-07 Fin Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>Males</td>
<td>Females</td>
</tr>
</tbody>
</table>
| Hornsby Ku-ring-gai| 1,767 | 21% | 605.7(-) | 447.3(-) | 130.8(-) | 80.5(-) | 33,520 | 36,147(+)
| Northern Beaches   | 1,700 | 21% | 683.1(-) | 470.6(-) | 157.1(-) | 92.3(-) | 34,900(+)| 35,995(+)
| North Shore Ryde   | 1,947 | 24% | 625.4(-) | 455.1(-) | 150.1(-) | 92.9(-) | 31,878(-)| 31,991(-)
| NSW                | -    | -   | 777    | 516     | 221    | 123     | 33821 | 34787  |

Source: NSW Department of Health: Report of the Chief Health Officer 2006. A positive sign in brackets (+) indicates that the value is significantly higher than the NSW average (p≤0.05). A negative sign in brackets (-) indicates that the value is significantly lower than the NSW average (p≤0.05). Remaining values are not significantly different to NSW values.

The age-adjusted separation rate provides a measure of hospital admissions relative to the NSW average. In Hornsby Ku-ring-gai, females were admitted to acute care at a significantly higher rate than the NSW average. Age-adjusted separation rates on the Northern Beaches for both males and females are also significantly higher than...
the NSW average. Given the better than average health status and higher health insurance rates of these residents this measure may simply reflect better access to hospital care rather than increased morbidity.

The proportion of hospitalisations for ambulatory care sensitive conditions that were potentially preventable for NSLHD residents was significantly lower than the NSW average (at the 1% level). Of those residents that were admitted, dehydration and gastroenteritis, diabetes complications and urinary tract infections had the highest admission rates per 100,000 people.

The Standardised Mortality Ratio (SMR) provides a measure of observed deaths to expected deaths in NSLHD health services compared to NSW, for deaths due to cancer, accidents, cerebrovascular accidents (CVA), heart disease, and respiratory failure. (Table 6)

For all causes of death and causes of death specific to cancer, accidents, heart disease, and respiratory care, North Sydney health services are either not significantly different or significantly below the NSW average. For causes of death related to CVA (stroke), all health services are significantly above the NSW average.

Table 6: Standardised mortality ratios by NSLHD health service for deaths, 2002-2006

<table>
<thead>
<tr>
<th></th>
<th>All Causes</th>
<th>Cancer</th>
<th>Accidents</th>
<th>CVA</th>
<th>Heart Disease</th>
<th>Respiratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hornsby Ku-ring-gai</td>
<td>85.4</td>
<td>86.9(-)</td>
<td>65.8(-)</td>
<td>117.2(+)</td>
<td>85.4(-)</td>
<td>90.7(-)</td>
</tr>
<tr>
<td>Northern Beaches</td>
<td>91.1</td>
<td>96.7</td>
<td>86.8(-)</td>
<td>112.3(+)</td>
<td>94.6(-)</td>
<td>95.1</td>
</tr>
<tr>
<td>North shore Ryde</td>
<td>96.4</td>
<td>100.2</td>
<td>87.1(-)</td>
<td>125.2(+)</td>
<td>100</td>
<td>107</td>
</tr>
<tr>
<td>NSW</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: NSW Department of Health: Health Outcomes and Statistical Toolkit (HOIST)
A positive sign in brackets (+) indicates that the value is significantly higher than the NSW average (p≤0.05). A negative sign in brackets (-) indicates that the value is significantly lower than the NSW average (p≤0.05). Remaining values are not significantly different to NSW values.
4 Organisation and services

4.1 Organisational structure

Northern Sydney Local Health District (NSLHD) operates in accordance with the Health Services Act 1997 and the 2010 National Health Reform Agreement (NHRA). Under the Health Services Act the primary purpose of LHDs is “to promote, protect and maintain the health of the community, and to provide relief to sick and injured people through care and treatment”. The NHRA requires the NSW Government to establish a Service Agreement with each LHD.

The Health District Board and Chief Executive are responsible for:

- improving patient outcomes and responding to issues that arise
- monitoring performance against key indicators in the LHD service agreement
- delivering services and meeting performance standards within an agreed budget, based on annual strategic and operating plans
- ensuring services are provided efficiently and accountably
- maintaining effective communication with local and state public health stakeholders.

Each LHD is accountable through the following corporate governance standards:

- Standard 1: Establish robust governance and oversight frameworks
- Standard 2: Ensure clinical responsibilities are clearly allocated and understood
- Standard 3: Set the strategic direction for the organisation and its services
- Standard 4: Monitor financial and service delivery performance
- Standard 5: Maintain high standards of professional and ethical conduct
- Standard 6: Involve stakeholders in decisions that affect them
- Standard 7: Establish sound audit and risk management practices

NSLHD embarked on a period of change in 2013/14 which will ultimately see the organisational model transition from a facility-based model to a clinical network-led operating model. The new operating model will support the implementation of integrated care across the District, and clinical networks will be transformed to better meet the needs of patients. So far the reform has delivered a flatter management structure, and clinical networks are being reviewed to become more accountable for planning and delivering services. The aim is to have the new operating model fully implemented by 2017/18.

4.2 Overview by health service

4.2.1 Hornsby Ku-ring-gai Health Service

Hornsby Ku-ring-gai Hospital, established in 1933, is a metropolitan hospital and provides inpatient services including coronary and intensive care, orthopaedics, general medical, surgical, obstetric, mental health, paediatric and emergency medicine services. Outpatient services include allied health, dental and podiatry clinics, child, adolescent and family health, drug and alcohol, health promotion and rehabilitation and aged care. The nominal catchment of the hospital is the local government areas of Hornsby and Ku-ring-gai, but a significant number of emergency patients come from The Hills Shire. The Rehabilitation and Aged Care service has a strong research focus and a national reputation in the area of cognitive decline.

While the emergency, maternity and paediatric services were relocated to new facilities in 2007 and mental health services are accommodated in new, purpose-built facilities, much of the rest of the campus has remained of poor physical quality. Stage 1 of a new campus redevelopment is due to open in late 2015, comprising the perioperative unit and surgical patient accommodation, along with some clinical support services. A business case has been
prepared for stage 2 of the campus redevelopment, with a focus on medical inpatient and ambulatory services and improved car parking.

Community health services are located in a number of sites, with large centres at Turramurra and Pennant Hills, and smaller centres at Galston, Berowra, Brooklyn, Hornsby and Wiseman’s Ferry. A general practice training unit and the NSLHD public health unit are located on the hospital campus.

The new operating theatres and ward accommodation will position Hornsby Ku-ring-gai Hospital well as a site for planned surgery, along with its focus on mental health, aged care and rehabilitation. The hospital operates within an environment of a very high level of private health service provision, including the large acute hospitals of Sydney Adventist and Macquarie University and the subacute Lady Davidson and Mt Wilga hospitals. Currently some medical oncology services (chemotherapy) for public patients are outsourced to Sydney Adventist Hospital.

Neringah Hospital, part of the affiliated health organisation HammondCare Health and Hospitals, is also located within the boundaries of the Hornsby Ku-ring-gai Health Service.

4.2.2 Northern Beaches Health Service

The Northern Beaches Health Service includes Manly and Mona Vale hospitals. A major redevelopment is underway which will see a new, large acute hospital built at Frenchs Forest and operated by the private sector under a service agreement with NSLHD.

Manly Hospital

Manly Hospital was established in 1896, and provides acute care services including critical care, emergency medicine, maternity, acute medical, mental health, surgical and orthopaedic services. Other services include chemotherapy, aged care rehabilitation, drug and alcohol services, cardiac rehabilitation and podiatry. Community health services includes child, adolescent and family services, drug and alcohol, HIV prevention, mental health and health promotion services, and are provided from the hospital campus, a large community health centre in Queenscliff and at Dalwood in Seaforth.

Following completion of the Northern Beaches Hospital Manly Hospital will be closed, and community health services will be provided from a new centre at Brookvale.

Mona Vale Hospital

Mona Vale Hospital and its community health services have served its local community since 1964. The hospital provides acute care services, including orthopaedic, medical, surgical, maternity, paediatric and emergency care, and subacute rehabilitation and aged care services and palliative care.

Non-inpatient services include adolescent counselling, dental and podiatry clinics and renal dialysis.

Under the Northern Beaches Health Service redevelopment the Mona Vale campus will continue to provide urgent care, subacute and community health services to the local catchment. The redevelopment of the community health centre on the hospital campus is underway. The rehabilitation service was redeveloped in 2013 and provides inpatient and outpatient services in a purpose-built environment.

Northern Beaches Hospital

After a decade and a half of planning, the building of a new acute hospital at Frenchs Forest will commence in 2015, following earlier site preparation work, and construction will be accompanied by major road transport upgrades. The new hospital will provide health services for both public and private patients. The NSLHD will enter into a long-term partnership with the hospital operator Healthscope to provide public patient services over the next 20 years. Healthscope will take over responsibility for facility management and maintenance.

A new community health centre will be built in Brookvale to accommodate services currently provided at Manly Hospital and Queenscliff CHC. These services will be provided publicly.
The completion of the new Northern Beaches Hospital under private sector contract will present challenges for the NSLHD in terms of workforce continuity, contract management and clinical networking, and will require extensive change management. The role and function of the Northern Beaches Health Service and its management will change. The redevelopment will provide major opportunities in relation to a more comprehensive service mix in the new location, improved control over costs of care, and enhancements in community health service delivery.

### 4.2.3 North Shore Ryde Health Service

The North Shore Ryde Health Service includes the Royal North Shore and Ryde Hospitals and a range of community health centres. The affiliated health organisations, Royal Rehab (formerly Royal Rehabilitation Centre Sydney) and Greenwich Hospital (part of HammondCare Health and Hospitals) are also located within the boundaries of the Health Service.

**Royal North Shore Hospital**

Royal North Shore Hospital, established in 1885, is the principal referral hospital and the major trauma centre for NSLHD, as well as providing the full range of acute and community health services for its local catchment of Lane Cove, Mosman, North Sydney and Willoughby municipalities. The hospital also provides statewide specialist services for severe burn injury, neonatal intensive care, interventional neuroradiology, major trauma and spinal cord injury. The Kolling Institute of Medical Research is based on the campus, and the hospital has formal links with Sydney University, the University of Technology Sydney, Macquarie University and the Australian Catholic University.

Royal North Shore Hospital has seen an almost complete rebuild over recent years, including a major community health centre, new car parking and space for teaching and research. The acute and clinical services buildings were constructed as part of a public private partnership, with the Infrashore Consortium the ongoing provider of a wide range of support services. Community health services are also provided from centres in Cremorne and Chatswood.

A challenge for Royal North Shore Hospital will be to attain the right balance of tertiary referral and local acute service provision. The completion of the Northern Beaches Hospital will have a significant impact on both emergency and elective service volumes at RNSH and therefore acute bed demand from 2018, as an increasing proportion of Northern Beaches residents will receive their care locally. Two major private hospitals, North Shore Private and the Mater, operate in the local vicinity.

**Ryde Hospital**

Ryde Hospital, established in 1934, is a district hospital providing a range of acute, subacute and community health services to the LGAs of Ryde and Hunters Hill. Acute services include emergency, medicine, elective surgery, maternity (a caseload midwifery model with obstetric support from Royal North Shore Hospital), orthopaedics, and general medicine. Subacute inpatient services include aged care and rehabilitation, and community health services include child and family, drug and alcohol and mental health. Due to the hospital's location near the western border of the local health district, the service also attracts a large number of patients from parts of Western Sydney LHD, particularly through its emergency department.

In 2014 the hospital saw the completion of the Graythwaite Rehabilitation Centre, which resulted from a Supreme Court judgment to allow the transfer of a trust from North Sydney created after the first world war. This 64-bed rehabilitation centre was designed to meet the general inpatient medical rehabilitation needs of the North Shore Ryde catchment as well as specialist burns rehabilitation as part of the Severe Burn Service.

The hospital campus also accommodates significant community mental health services in a purpose designed facility, with other community health services provided from Top Ryde. An additional operating theatre was opened in 2014 to expand the hospital’s capacity for orthopaedic surgery.
A priority for Ryde Hospital will be to develop a master plan for the campus within the context of its future service role, which is likely to include a focus on rehabilitation, community and aged care services, along with acute services at the existing role delineation.

### 4.2.4 LHD-level services

A number of services are organised and managed at a central level across the LHD, while being provided locally. These include mental health and drug and alcohol services, public health, a range of population health services including Aboriginal health, multicultural health and women’s and men’s health services, community health services such as community nursing, the acute post-acute care service and oral health.

Executive functions organised centrally include finance, information management, workforce, clinical governance and service planning. Most of these are based on the Royal North Shore and Macquarie hospital campuses.

Some of these centralised services have formal agreements that cross LHD boundaries. Examples include the Mental Health Intensive Care Unit and the Child and Youth Mental Health Service on the Hornsby Ku-ring-gai Hospital campus, the mental health long stay beds at Macquarie Hospital, the Information Management and Technology Service, and the Health Services Planning Unit, all of which provide services to the Central Coast LHD.

Pathology services are provided through Pathology North, which services five LHDs, and a range of corporate support services, including food, linen, procurement and distribution services, are provided by HealthShare NSW. At RNSH many corporate support services are provided under a public-private-partnership arrangement.

### 4.3 Affiliated organisations and non-government organisations

Affiliated health organisations are not-for-profit, religious, charitable or other non-government organisations which provide health services and are recognised as part of the public health system under the Health Services Act 1997. Affiliation with other providers is a key component of the NSW State Health Plan Towards 2021, which encourages “strategic partnerships with key stakeholders, including the private, not for profit and community sectors to find smarter, more sustainable ways to deliver 21st century healthcare”. These partnerships are particularly highlighted under the models for integrated care.

#### 4.3.1 Affiliated health organisations

NSLHD has a formal partnership with two affiliated health organisations:

- Royal Rehab for the provision of specialist inpatient and outpatient rehabilitation services for brain and spinal injury;
- HammondCare Health and Hospitals (Greenwich and Neringah Hospitals) for the provision of inpatient and outpatient palliative care (also provided from Mona Vale Hospital) and acute psychogeriatric care, along with non-admitted (outpatient) general rehabilitation.

Both organisations are represented on the NSLHD Rehabilitation and Aged Care clinical network, and were involved in the planning for the Graythwaite Rehabilitation Centre at Ryde Hospital which opened in 2014. Graythwaite required the transfer of inpatient rehabilitation services from both organisations.

#### 4.3.2 Non-government health organisations

NSLHD will administer more than $5 million to 20 non-government organisations (NGOs) in 2014/15 as part of an ongoing grants program. Services provided to people living locally and across New South Wales through these service agreements include health promotion, mental health, drug and alcohol, dental, women’s health, health-related transport and aged and disability support.

NSW Health is [reforming the way it works with and funds the non-government sector](https://www.nswhealthquisite.com/reforming-the-way-it-works-with-and-funds-the-non-government-sector). The aim is to create more efficient partnerships and better align NGO services with priority areas. NSLHD is assisting local NGO providers to...
transition from the historical grant program into a service purchasing environment as part of these reforms. This is expected to increase opportunities for partnerships with the NGO sector.

The NGO grants program is separate to other NGO partnerships such as the Transitional Aged Care Program (TACP) which the LHD facilitates in part on behalf of the Commonwealth Government. The TACP assists older people to regain physical and psychosocial function after a hospital stay. It currently manages 88 community places and 20 residential places through agreements with six providers.

The strategic vision for Mental Health Services issued by the NSW Mental Health Commission at the end of 2014 recommended strengthening partnerships between the public and community managed mental health sectors and expanding the community managed workforce.

4.4 Private health services

4.4.1 Primary medical care

Following a review of Medicare Locals in 2014 the Commonwealth Government announced that Medicare Locals would be replaced with Primary Health Networks (PHN). Applications to run these networks were due to close at the end of January 2015 and the outcome was unknown at the time of writing. The Commonwealth review identified a lack of clear purpose for Medicare Locals, and recommended an increased focus on service integration and alignment of boundaries with Local Health Districts. The two Medicare Locals that currently operate within the geographic boundaries of NSLHD will merge to become a single PHN. The review recommended that PHNs should become purchasers and facilitators of services.

There are over 1,110 general practitioners operating from around 285 separate practices in the geographic boundaries of NSLHD who in 2013/14 provided over 4 million occasions of service (Table 7). General Practitioners and allied health professionals, through the Medicare Locals have worked closely with NSLHD on a number of projects, particularly in the areas of integrated care and Aboriginal health.

| Table 7: General Practices located in NSLHD, by Health Services |
|-----------------|--------|--------|--------|--------|
|                 | Solo   | 2-5 GPs| >5 GPs | Total Practices| % of Total |
| Hornsby Ku-ring-gai | 36     | 38     | 23     | 97           | 34%        |
| Northern Beaches    | 19     | 32     | 15     | 66           | 23%        |
| North Shore Ryde    | 34     | 58     | 30     | 122          | 43%        |
| Total               | 89     | 128    | 68     | 285          | 100%       |
| % of Total          | 31%    | 45%    | 24%    | 100%         |            |

Source: Medicare Locals, September 2014

4.4.2 Private hospitals and private health insurance

In February 2014 there were 41 licensed private health facilities (21 hospitals and 20 day procedure centres) with a total of 1,783 beds, of which 55% were in the North Shore Ryde area, 37% in Hornsby Ku-ring-gai and 8% on the Northern Beaches (Table 8). There were private hospitals in all LGAs apart from Pittwater.

| Table 8: Private Hospitals and Day Procedure Centres located in NSLHD, by Health Services, at February 2014 |
|----------------|----------------|----------------|
|                 | Day Procedure Centres | Private Hospitals | Hospital Beds |
| Hornsby Ku-ring-gai | 4               | 6               | 660            |
| Northern Beaches    | 4               | 4               | 143            |
| North Shore Ryde    | 12              | 11              | 980            |
| Total               | 20              | 21              | 1,783          |

Source: NSW Ministry of Health
Over half (54%) of these beds were accounted for by the four largest private hospitals, Sydney Adventist (358), North Shore Private (259), Mater Sydney (207) and Macquarie University Hospital (144). A further 239 rehabilitation beds were provided in almost equal measure at Lady Davidson and Mt Wilga hospitals. The larger acute hospitals provide a wide range of secondary and tertiary services, and with Sydney Adventist also providing a fee for service emergency department.

The major service types in private hospitals by episodes are planned surgery and rehabilitation (Figure 6). In all care types, apart from the small number of palliative care admissions, the share of episodes accounted for by the private sector is significantly higher in NSLHD than in NSW as a whole.

Figure 6: Private Hospital Utilisation by Service Type, 2012/13

![Private Hospital Utilisation by Service Type, NSLHD and NSW, 2012/13](image)

<table>
<thead>
<tr>
<th></th>
<th>NSLHD</th>
<th>NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paediatric Medical</td>
<td>17.9%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Paediatric Interventional (Planned)</td>
<td>78.1%</td>
<td>54.9%</td>
</tr>
<tr>
<td>Paediatric Interventional (Emergency)</td>
<td>8.5%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Adult Medical</td>
<td>36.1%</td>
<td>18.3%</td>
</tr>
<tr>
<td>Adult Interventional (Planned)</td>
<td>86.3%</td>
<td>69.4%</td>
</tr>
<tr>
<td>Adult Interventional (Emergency)</td>
<td>16.4%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Births</td>
<td>52.0%</td>
<td>24.4%</td>
</tr>
<tr>
<td>Renal Dialysis</td>
<td>37.7%</td>
<td>9.4%</td>
</tr>
<tr>
<td>Mental Health (Overnight)</td>
<td>33.8%</td>
<td>21.1%</td>
</tr>
<tr>
<td>Rehabilitation (Overnight)</td>
<td>72.3%</td>
<td>45.2%</td>
</tr>
<tr>
<td>Palliative Care (Overnight)</td>
<td>1.1%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

Source, NSW Health, FlowInfo v13.0

Figure 7: Private Health Insurance Rates by Health Service, NSLHD

![Private Health Insurance, NSLHD and NSW (persons aged 15 years and older, 2007/08)](image)

<table>
<thead>
<tr>
<th></th>
<th>Hornsby Ku-ring-gai</th>
<th>Northern Beaches</th>
<th>North Shore Ryde</th>
<th>NSLHD</th>
<th>NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>74.6%</td>
<td>70.2%</td>
<td>70.0%</td>
<td>71.1%</td>
<td>48.0%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Modified from Public Health Information Development Unit (PHIDU), The University of Adelaide
Up to date information on levels of private health insurance by local area are not routinely available. Data obtained from the Public Health Information Development Unit at the University of Adelaide for 2007/08 shows that around 70% of NSLHD adult residents were privately insured, with slightly higher rates in Hornsby Ku-ring-gai. This contrasts with NSW-wide rates of under 50%. (Figure 7)

4.4.3 Community and residential aged care

The availability of aged care places and packages is often a determining factor for timely discharge of older people from acute and subacute inpatient care. Data on aged care places is now collected by the Department of Social Security. Table 9 shows places at 30 June 2014. As the data is available by suburb and postcode rather than by LGA, the areas shown below may include some places across LHD boundaries.

Table 9: Commonwealth Aged Care Places by Health Service at 30 June 2014

<table>
<thead>
<tr>
<th></th>
<th>Home Care Places</th>
<th>Residential Care Places</th>
<th>Transition Care Places</th>
<th>Total Places</th>
<th>Residential %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Care</td>
<td>High Care</td>
<td>Low Care</td>
<td>High Care</td>
<td>Low Care</td>
</tr>
<tr>
<td>Hornsby Ku-ring-gai</td>
<td>466</td>
<td>111</td>
<td>1,744</td>
<td>1,708</td>
<td>0</td>
</tr>
<tr>
<td>Northern Beaches</td>
<td>788</td>
<td>114</td>
<td>1,163</td>
<td>1,304</td>
<td>20</td>
</tr>
<tr>
<td>North Shore Ryde</td>
<td>589</td>
<td>111</td>
<td>1,177</td>
<td>1,684</td>
<td>88</td>
</tr>
<tr>
<td>Total</td>
<td>1,843</td>
<td>336</td>
<td>4,084</td>
<td>4,696</td>
<td>108</td>
</tr>
</tbody>
</table>

Source: Commonwealth Department of Social Security

Hornsby Ku-ring-gai has the highest total number of aged care places among the health services. The highest proportion of non-residential aged care places occurs on the Northern Beaches, while the highest proportion of residential places is in Hornsby Ku-ring-gai, which has a lower number of low care home places compared to other sectors.

4.4.4 Other private health services

While detailed data is not available, there is a sizeable private health service sector within the geographic area of NSLHD, including medical specialists, dentists and people employed in allied health, pharmacy, imaging, pathology and home nursing. This can have an impact on service options and public sector recruitment.

4.5 Activity and funding

Table 10 provides a high level summary of hospital activity in NSLHD facilities during 2013/14 for each of the five acute hospitals. NWAUs (currently version 14) are national weighted activity units and are the unit used in activity based funding (ABF) determinations.

The table also shows the proportion of activity by service type that is admitted and discharged on the same day (SD), the percentage planned versus admitted via the emergency department and the average length of stay (ALOS).

The net cost of service for NSLHD in 2013/14 was $1,132 million, of which about 40% was accounted for by Royal North Shore Hospital. Schedule D of the NSLHD Service Agreement identifies the service volumes to be funded for each respective year.
Table 10: Summary Activity Measures by Hospital 2013/14

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Measure</th>
<th>Hornsby</th>
<th>Manly</th>
<th>Mona Vale</th>
<th>RNS</th>
<th>Ryde</th>
<th>NSLHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency</td>
<td>Presentations</td>
<td>36,556</td>
<td>24,826</td>
<td>33,036</td>
<td>71,674</td>
<td>26,404</td>
<td>192,496</td>
</tr>
<tr>
<td></td>
<td>% Admitted</td>
<td>28.5%</td>
<td>31.1%</td>
<td>24.3%</td>
<td>42.4%</td>
<td>26.3%</td>
<td>33.0%</td>
</tr>
<tr>
<td></td>
<td>NWAUs</td>
<td>4,274</td>
<td>3,206</td>
<td>3,848</td>
<td>10,268</td>
<td>3,308</td>
<td>24,904</td>
</tr>
<tr>
<td>Adult Medical</td>
<td>Episodes</td>
<td>7,174</td>
<td>6,561</td>
<td>5,963</td>
<td>24,098</td>
<td>6,326</td>
<td>50,122</td>
</tr>
<tr>
<td></td>
<td>% Same Day (SD)</td>
<td>14.3%</td>
<td>29.6%</td>
<td>24.1%</td>
<td>25.8%</td>
<td>26.8%</td>
<td>24.6%</td>
</tr>
<tr>
<td></td>
<td>% Planned</td>
<td>5.6%</td>
<td>8.7%</td>
<td>16.1%</td>
<td>9.2%</td>
<td>4.0%</td>
<td>8.8%</td>
</tr>
<tr>
<td></td>
<td>ALOS (ex SD)</td>
<td>4.5</td>
<td>3.8</td>
<td>4.1</td>
<td>4.7</td>
<td>5.4</td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td>NWAUs</td>
<td>6,190</td>
<td>4,119</td>
<td>4,221</td>
<td>19,925</td>
<td>4,942</td>
<td>39,398</td>
</tr>
<tr>
<td>Adult Interventional</td>
<td>Episodes</td>
<td>4,699</td>
<td>3,074</td>
<td>3,240</td>
<td>13,344</td>
<td>3,343</td>
<td>27,700</td>
</tr>
<tr>
<td>(Surgery and Procedures)</td>
<td>% Same Day (SD)</td>
<td>50.0%</td>
<td>53.6%</td>
<td>48.0%</td>
<td>27.3%</td>
<td>54.4%</td>
<td>39.8%</td>
</tr>
<tr>
<td></td>
<td>% Planned</td>
<td>70.3%</td>
<td>63.5%</td>
<td>63.2%</td>
<td>46.8%</td>
<td>69.0%</td>
<td>57.2%</td>
</tr>
<tr>
<td></td>
<td>ALOS (ex SD)</td>
<td>5.2</td>
<td>5.3</td>
<td>5.0</td>
<td>7.5</td>
<td>4.9</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td>NWAUs</td>
<td>6,587</td>
<td>3,926</td>
<td>4,088</td>
<td>36,916</td>
<td>3,831</td>
<td>55,347</td>
</tr>
<tr>
<td>Paediatric Medical</td>
<td>Episodes</td>
<td>1,499</td>
<td>-</td>
<td>1,313</td>
<td>2,495</td>
<td>-</td>
<td>5,334</td>
</tr>
<tr>
<td></td>
<td>% Same Day (SD)</td>
<td>15.5%</td>
<td>-</td>
<td>18.4%</td>
<td>19.8%</td>
<td>-</td>
<td>18.3%</td>
</tr>
<tr>
<td></td>
<td>% Planned</td>
<td>6.7%</td>
<td>-</td>
<td>8.5%</td>
<td>13.5%</td>
<td>-</td>
<td>10.3%</td>
</tr>
<tr>
<td></td>
<td>ALOS (ex SD)</td>
<td>1.6</td>
<td>-</td>
<td>1.9</td>
<td>1.9</td>
<td>-</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>NWAUs</td>
<td>682</td>
<td>-</td>
<td>614</td>
<td>1,165</td>
<td>-</td>
<td>2,469</td>
</tr>
<tr>
<td>Paediatric Interventional</td>
<td>Episodes</td>
<td>358</td>
<td>-</td>
<td>422</td>
<td>772</td>
<td>-</td>
<td>1,571</td>
</tr>
<tr>
<td>(Surgery and Procedures)</td>
<td>% Same Day (SD)</td>
<td>52.2%</td>
<td>-</td>
<td>43.4%</td>
<td>38.0%</td>
<td>-</td>
<td>43.2%</td>
</tr>
<tr>
<td></td>
<td>% Planned</td>
<td>73.7%</td>
<td>-</td>
<td>63.0%</td>
<td>43.1%</td>
<td>-</td>
<td>55.8%</td>
</tr>
<tr>
<td></td>
<td>ALOS (ex SD)</td>
<td>1.5</td>
<td>-</td>
<td>1.6</td>
<td>1.8</td>
<td>-</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>NWAUs</td>
<td>301</td>
<td>-</td>
<td>350</td>
<td>718</td>
<td>-</td>
<td>1,383</td>
</tr>
<tr>
<td>Obstetrics</td>
<td>Confinements</td>
<td>1,167</td>
<td>974</td>
<td>622</td>
<td>2,640</td>
<td>120</td>
<td>5,523</td>
</tr>
<tr>
<td></td>
<td>NWAUs</td>
<td>1,643</td>
<td>1,447</td>
<td>904</td>
<td>4,538</td>
<td>127</td>
<td>8,658</td>
</tr>
<tr>
<td>Renal Dialysis</td>
<td>Episodes</td>
<td>-</td>
<td>-</td>
<td>3,731</td>
<td>15,983</td>
<td>-</td>
<td>18,817</td>
</tr>
<tr>
<td></td>
<td>NWAUs</td>
<td>-</td>
<td>-</td>
<td>327</td>
<td>1,414</td>
<td>-</td>
<td>1,664</td>
</tr>
<tr>
<td>Acute Psychiatric^</td>
<td>Episodes</td>
<td>994</td>
<td>774</td>
<td>-</td>
<td>881</td>
<td>-</td>
<td>2,649</td>
</tr>
<tr>
<td>(Bed Days)</td>
<td>NWAUs</td>
<td>3,308</td>
<td>2,396</td>
<td>-</td>
<td>2,279</td>
<td>-</td>
<td>7,983</td>
</tr>
<tr>
<td>Referrals to APAC*</td>
<td>Referrals</td>
<td>478</td>
<td>578</td>
<td>478</td>
<td>974</td>
<td>158</td>
<td>2,666</td>
</tr>
<tr>
<td>Sub and Non Acute#</td>
<td>Rehabilitation</td>
<td>12,239</td>
<td>20</td>
<td>10,839</td>
<td>5,183</td>
<td>11,372</td>
<td>39,653</td>
</tr>
<tr>
<td>(Bed Days)</td>
<td>Palliative Care</td>
<td>4</td>
<td>19</td>
<td>3</td>
<td>1,017</td>
<td>74</td>
<td>1,117</td>
</tr>
<tr>
<td></td>
<td>Maintenance</td>
<td>863</td>
<td>885</td>
<td>1,323</td>
<td>5,193</td>
<td>1,648</td>
<td>9,912</td>
</tr>
</tbody>
</table>

* Excludes 1,025 APAC referrals from other providers

^ Acute Mental Health admissions at Macquarie and Greenwich Hospitals not included

# Does not include Sub Acute Care delivered at Greenwich, Neringah and Royal Rehabilitation Centre Sydney

4.6 Workforce

A total of nearly 10,000 staff worked in the NSLHD at 30 June 2012, according to the NSLHD Workforce Plan 2013-2018. Nearly half the workforce was employed within Royal North Shore and Ryde Hospitals, followed by 14% at Manly and Mona Vale hospitals. The “other” category includes primary and community health, corporate services, medical imaging and NSLHD-wide staff. (Table 11)

Table 11: Workforce Headcount and FTE by Health Service, June 2012

<table>
<thead>
<tr>
<th>Health Service</th>
<th>Headcount</th>
<th>Headcount %</th>
<th>FTE</th>
<th>FTE %</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Shore Ryde</td>
<td>4,579</td>
<td>47%</td>
<td>3,529</td>
<td>47%</td>
</tr>
<tr>
<td>Hornsby Ku-ring-gai</td>
<td>1,260</td>
<td>13%</td>
<td>929</td>
<td>12%</td>
</tr>
<tr>
<td>Northern Beaches</td>
<td>1,371</td>
<td>14%</td>
<td>1,015</td>
<td>13%</td>
</tr>
<tr>
<td>Mental Health Drug and Alcohol</td>
<td>1,161</td>
<td>12%</td>
<td>907</td>
<td>12%</td>
</tr>
<tr>
<td>Other</td>
<td>1,464</td>
<td>15%</td>
<td>1,169</td>
<td>15%</td>
</tr>
<tr>
<td>Total</td>
<td>9,835</td>
<td>100%</td>
<td>7,549</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: NSLHD Workforce Plan 2013-2018
Workforce characteristics included:

- 75% of staff were female
- the median age was 42 years
- nurses made up 48% of staff (headcount), doctors 13% and allied health 12%
- 45% of staff have worked for the organisation for 5 or more years
- 38 staff were of Aboriginal or Torres Strait Islander background (below the equal employment opportunity (EEO) target) – this has risen to 52
- 21 staff had a disability requiring work-related adjustment (below EEO target)
- 20% of staff had a first language that was not English (slightly over EEO benchmark).

Among the medical workforce there were 422 visiting medical officers (VMOs) and 359 staff specialists. RNSH was the base for 40% of the VMOs but 63% of the staff specialists. Half the VMOs worked in anaesthesia, obstetrics and gynaecology, breast screening, emergency medicine and general medicine, while the major specialties for staff specialists were psychiatry, emergency medicine, aged care and rehabilitation, mental health, intensive care, anaesthesia, radiology, renal medicine, anatomical pathology and neurology.

4.7 Implications and challenges

The NSW Ministry of Health is currently undertaking a review of the NSW Health Guide to the Role Delineation of Health Services (3rd edition, 2002), which identifies the level of service complexity within the context of support services (see Appendix). This may result in some variation in role levels when the revised tool is applied to local services.

In light of recent changes and capital developments, a number of opportunities present themselves for future hospital roles in NSLHD:

- Identifying non-tertiary services currently provided from RNSH that could be redistributed to other hospitals in NSLHD
- Strengthening Hornsby Ku-ring-gai Hospital’s role in the provision of planned surgery, given the new facilities due to open in 2015
- Identifying the impact of the service mix at the Northern Beaches Hospital when it opens in 2018, and in particular its impact on emergency demand at RNSH
- Master planning the Ryde Hospital site to reflect its growing role in the provision of rehabilitation and aged care.

Given the high levels of private health insurance and private health service provision within the geographic area of NSLHD and their impact on the public sector, it will be important for NSLHD to continue to consider partnerships with both the private and non-government sectors to maximise the reach and efficiency of health care in both the inpatient and non-inpatient setting.

The opening of the Northern Beaches Hospital in 2018 in a new location will provide extensive opportunity to review changes in patient flows and to investigate their impact on other parts of the public health system.
5 Service drivers and strategic responses

Over the last ten years there have been increasing demands placed on the health care system and a rapidly changing policy, social and technological environment. These trends have continued across most developed countries. Costs of providing care have increased and the need to provide high quality, evidence based and sustainable services has been recognised by all levels of government. Population ageing and the increased complexity of patients has emphasised the need for better integration across service boundaries, supported by developments in clinical informatics.

At the same time the education, aged care and disability sectors have had a number of major changes to their funding models and policy requirements. Governments are increasingly seeking to work in partnership with the private sector and the non-government or not for profit sector in the provision of services, previously provided by the public health sector, through public private partnerships and competitive tendering processes.

The ageing and increasing chronicity of the patient population, where care is provided by a wide range of professionals and sectors, has led to a greater push for integrated care strategies. These strategies require sustained efforts to link providers in a patient-centred model of care, supported by improvements in clinical informatics, that can be applied across funding and administrative boundaries.

Table 12 outlines important drivers of change in health care and some broad strategic responses that are discussed in more detail in this chapter.

Table 12: Health care change drivers and strategic responses

<table>
<thead>
<tr>
<th>Driver (what is driving change?)</th>
<th>Strategic response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health policy</td>
<td>Health service reform</td>
</tr>
<tr>
<td></td>
<td>Funding reform and performance management</td>
</tr>
<tr>
<td>Demand side (pressures from outside the system)</td>
<td>Population growth, ageing and complexity</td>
</tr>
<tr>
<td></td>
<td>Consumer expectations and preferences</td>
</tr>
<tr>
<td></td>
<td>Financial pressures</td>
</tr>
<tr>
<td></td>
<td>Coordination with other providers</td>
</tr>
<tr>
<td>Supply side (pressures from inside the system)</td>
<td>Clinical quality issues</td>
</tr>
<tr>
<td></td>
<td>Integration with research sector</td>
</tr>
<tr>
<td></td>
<td>Capital development issues</td>
</tr>
<tr>
<td></td>
<td>Changed service landscape with NBH</td>
</tr>
<tr>
<td></td>
<td>Financial impact of service volumes</td>
</tr>
<tr>
<td></td>
<td>Information technology</td>
</tr>
<tr>
<td></td>
<td>Skilled and capable workforce</td>
</tr>
<tr>
<td>Health policy</td>
<td>Effective, benchmarked models of care</td>
</tr>
<tr>
<td></td>
<td>Embed activity based management in organisation</td>
</tr>
<tr>
<td>Demand side (pressures from outside the system)</td>
<td>Clinical service plans that address projected demand</td>
</tr>
<tr>
<td></td>
<td>Integrated care models</td>
</tr>
<tr>
<td>Demand side (pressures from outside the system)</td>
<td>Consumer participation councils</td>
</tr>
<tr>
<td>Demand side (pressures from inside the system)</td>
<td>Better alignment of clinical and financial management</td>
</tr>
<tr>
<td>Supply side (pressures from inside the system)</td>
<td>Efficiency strategies (OESI)</td>
</tr>
<tr>
<td>Supply side (pressures from inside the system)</td>
<td>Partnerships with private and non-government sectors</td>
</tr>
<tr>
<td>Supply side (pressures from inside the system)</td>
<td>Identification of alternative provision options</td>
</tr>
<tr>
<td>Supply side (pressures from inside the system)</td>
<td>Clinical governance and network strategies</td>
</tr>
<tr>
<td>Supply side (pressures from inside the system)</td>
<td>New operating model</td>
</tr>
<tr>
<td>Supply side (pressures from inside the system)</td>
<td>Strategic use of data</td>
</tr>
<tr>
<td>Integration with research sector</td>
<td>Academic health sciences centre</td>
</tr>
<tr>
<td>Capital development issues</td>
<td>Asset strategic plan</td>
</tr>
<tr>
<td>Capital development issues</td>
<td>Optimising use of new facilities</td>
</tr>
<tr>
<td>Changed service landscape with NBH</td>
<td>Focus on contract management</td>
</tr>
<tr>
<td>Financial impact of service volumes</td>
<td>Efficiency strategies (OESI)</td>
</tr>
<tr>
<td>Information technology</td>
<td>Clinical informatics strategy</td>
</tr>
<tr>
<td>Fair distribution of resources</td>
<td>Better alignment of clinical and financial management</td>
</tr>
<tr>
<td>Skilled and capable workforce</td>
<td>Workforce plan and flexibility strategies</td>
</tr>
</tbody>
</table>

The Northern Sydney Local health District (NSLHD) Board has highlighted three strategic areas: integrated care, the academic health sciences centre, and clinical networks. Three additional strategic areas are considered: the impact of new infrastructure, opportunities and challenges in the reformed funding environment, and the challenges in making best use of the increase of available data.

5.1 Costs, national health reform and new funding models

The recurrent costs of public health care continue to grow at a rate higher than the rate of population growth alone. A significant contribution to recurrent health comes from technological improvements, wages and pharmaceuticals. In addition to the cost of technology and infrastructure, NSLHD hospitals have experienced a rapid increase in adult acute activity over the last three to four years particularly in emergency and other medical specialities. Some of the growth has resulted from the change in models of care as part of the National Emergency Access Targets (NEAT) program. Other activity increases have resulted from consumer demand for services within
new facilities, particularly RNSH. As a result NSLHD has incurred a budget deficit which will need to be managed into the future to ensure the sustainability and ongoing high quality of services.

Balancing the cost and need for diagnostic testing will be an ongoing issue for NSLHD. The Neurosciences Network has identified the need for neurology input within the Emergency Department to guide a more selected approach to diagnostic testing and lack of availability of the magnetic resonance imaging (MRI) for testing resulting in computed tomography (CT) imaging initially and then follow up with MRI imaging for completeness. The 2014 review of cancer services in NSLHD noted the growth in cancer incidence and the escalating costs of cancer care such as high utilisation of imaging and pathology, expensive medication and high capital cost of equipment and expensive end of life care.

While new technologies can provide efficiencies and improved outcomes for patients the initial and ongoing costs are often high. The electronic medical record (eMR) has provided improved access to patient information and other technologies are being used to provide information and care for consumers in their home to avoid hospitalisation. Expanding the infrastructure for e-health will be crucial to provide good information as the basis for future planning and monitoring of health service performance. The provision of Medicare rebates for newer equipment provides an incentive for NSLHD to replace major capital equipment such as MRIs in a timely manner. Planning the replacement of the full range of equipment required over a defined period of time and roll out of new technologies is an ongoing challenge for NSLHD.

5.1.1 Strategic response: opportunities and challenges in funding reform

Activity Based Funding (ABF) was introduced in 2012 as part of National Health Reform. NSLHD is allocated funds by the Ministry of Health based on the State “efficient” price per unit of activity for acute admitted services, emergency department services, non-admitted services, sub-acute and non-acute admitted services and mental health admitted services. Other services and hospitals continue to be funded through block funding arrangements.

There is a transparent approach with clear business rules for funding allocations. The NSLHD Service Agreement with the Ministry of Health requires the maintenance of high quality services and includes incentives for minimising potentially avoidable readmissions, maximising revenue and rules about exceeding and missing agreed activity levels.

ABF requires explicit management of activity and cost to a greater degree than previously. This includes the need for accurate reporting, counting and coding of activity to avoid under-funding. It also includes a need for accurate monitoring of cost components and consideration of more efficient models of care within outcome expectations. In some cases this will include consideration of whether it is financially viable to provide certain types of services. Ideally services should be able to be delivered at a marginally lower cost than the state price, allowing some of the budget to be used for service development. This process requires an active partnership between clinicians, managers and consumers.

Practical implications for health services within the NSLHD include a requirement for clinicians to understand cost drivers and components of care, and the source of variation between service entities. It also requires an understanding of the limitations on activity growth determined by NSLHD’s service agreement.

The advent of ABF has emphasised the need to be more efficient in the delivery of services. To this end the NSLHD Board has established the OESI (Operational Efficiency and Service Integration) strategy. This program is designed to support NSLHD in moving to and operating within an activity based funding environment and ensuring that NSLHD continues to meet service demands within the funding provided. OESI wraps up a number of initiatives that are either planned or already underway across NSLHD, including meeting NEAT and National Elective Surgery Targets (NEST) program targets through the Whole of Hospital initiative; NSLHD’s ABF preparedness; and initiatives to improve efficiencies, service delivery and performance management reporting. The program provides a location within the governance structure to operationalise key resource strategies.
Two impediments to meeting ABF targets include continuing with historical inefficient models of care and the risk that new infrastructure will attract demand or referrals beyond what ABF targets determine. Strategies for moderating demand and costs could include:

- extension of hospital avoidance programs
- review of the number of sites at which certain services are provided to see if consolidation can offer clinical and financial benefits
- consideration of partnerships with the private and non-government sector to enable services to be provided at a lower cost.

Examples of strategies to investigate and act on cost drivers include:

- Services which may have previously been provided in lower volumes across all acute hospitals across NSLHD may be more efficiently provided through a consolidated service at fewer hospitals or purchased from the private sector. The Surgery Network has identified some opportunities to provide specific procedures through high volume short stay surgery services or through specific initiatives to provide non tertiary services away from RNSH.
- The Maternal and Women’s Health Network aim to move a number of admitted day only procedures which currently occur within the day surgery unit to the new Women’s Health Ambulatory Care facility within the new clinical services building at RNSH.
- The Child Youth and Family Network has identified opportunities to provide selected care on an ambulatory rather than admitted basis.
- The Aged Care and Rehabilitation Network is currently considering opportunities to provide an increased amount of rehabilitation on an ambulatory basis.
- The North Shore Ryde Health Service has implemented a redirection of ambulances with patients who have low acuity (P3s) away from the RNSH emergency department to Ryde emergency department to maximise timely care for the patient and the service efficiency of both emergency departments.

The ABF business rules have limited flexibility to support the transition of some acute inpatient services to ambulatory or non-admitted services. This has been an issue for the expansion of the NSLHD Acute Post-Acute Care (APAC) service which relies on a General Practice (GP) shared care and is funded as a separate facility to the NSLHD acute hospitals in contrast to the ambulatory care models used in other LHDs. It is also an issue for establishing paediatric outpatient assessment units where a significant number of referrals would arise from the emergency department rather than general practitioners and private specialists.

Balancing major redesign programs with smaller but important programs and NSLHD wide redesign with local redesign is an ongoing issue for management at the local and district level. It will be crucial for NSLHD to integrate these processes with the management and governance processes required for the implementation of ABF to develop agreed policy priorities.

Organisational and clinical redesign will need to consider the most appropriate staff skill mix which balance cost reduction but guarantee quality maintenance to implement evidence based models of care. This will require an active partnership between clinicians, managers and consumers and will be reflected in the new operating model where responsibility and accountability will be shared between site, divisions and clinical networks.

While funding reform provides an opportunity to develop and implement best practice models of care there is a need to improve NSLHD’s information systems and the management of these to support the case for alternative care.

### 5.2 Population growth, ageing and complexity

The population of NSLHD is expected to grow by over 118,000 people or 13.3% (the equivalent of adding another Ku-ring-gai LGA) between 2015 and 2025. Northern Sydney currently has the highest population of residents aged 85 and over of all LHDs, with this age group projected to grow from 23,346 in 2015 to 28,672 by 2025, and to 34,672 by 2030 as the baby boomer age group moves through.
While the population of NSLHD has a smaller proportion of residents with chronic disease than other Local Health Districts there has been an overall growth in the number of people requiring hospitalisation for a number of chronic conditions including diabetes. Preventing any increase in chronic disease and managing chronic conditions well will be important to reduce hospital admissions and readmissions.

The majority of NSLHD residents are well educated, experience better health and have fewer risk factors for poor health compared to the NSW average. They are less likely to be current smokers or obese and less likely to delay medical treatment because they cannot afford it than other NSW residents. NSLHD residents have a high level of health insurance and high private sector utilisation. Consumers increasingly expect a high level of information about their condition and services and the opportunity to be involved in their own health management for a range of chronic and complex conditions.

Much has been written about the shift in demand for health care towards meeting the need of often older patients with chronic and complex conditions, requiring coordination between a multitude of providers across settings and funding models. Most of these patients are managed in the public health system, with admission through emergency departments. One impact of the extensive private sector in Northern Sydney is that the majority of beds in hospitals such as Manly, Mona Vale, Hornsby and Ryle are occupied by older medical patients. Appropriate care requires the involvement of players such as general practice, allied health, residential aged care and home support services. While a number of programs have been undertaken over the years, there has been a lack of an overarching service and funding strategy to link this wide range of providers together in a way that meets the need of patients and their carers.

5.2.1 Strategic response: integrated care

The NSW State Health Plan Towards 2021 was launched in June 2014 with three directions for the future delivery of health care: keeping people healthy, providing world class clinical care and delivering truly integrated care. The NSW Integrated Care Strategy 2014-2017 addresses the third direction of the State Health Plan, and defines integrated care as:

"... the provision of seamless, effective and efficient care that responds to all of a person’s health needs, across physical and mental health, in partnership with the individual, their carers and family. It means developing a system of care and support that is based around the needs of the individual, provides the right care in the right place at the right time, and makes sure dollars go to the most effective way of delivering healthcare for the people of NSW."

The key challenge is to move from a hospital-centric health system to a sustainable and integrated health system, with connected service provision across different care providers, and an emphasis on community-based services to make sure that people with chronic and complex care needs, including people with disabilities, stay healthy and out of hospital and so that services are financially sustainable in the long term. Integrated care involves greater collaboration across organisational boundaries and between public and private health providers, particularly general practitioners and private allied health providers, and with non-health sectors. This will happen through:

- connecting different care providers to deliver person-centred care
- enabling care to be provided in the most appropriate setting
- reinforcing prevention and early intervention
- embedding individual responsibility for health.

The NSW Integrated Care Strategy focuses on three key areas:

- demonstration projects in three LHDs to develop and test system wide approaches, working with the Ministry of Health and pillar agencies
- a Planning and Innovation Fund to support discrete local initiatives
- Statewide investment in key enablers of integrated care to complement local initiatives, including linked electronic health records and assessment tools.
While NSW Health is working with other government agencies to address the social determinants of health, NSLHD is in the process of defining its approach to integrated care. After consulting with senior clinicians, executive staff and the NSLHD Board early in 2014, the vision for the NSLHD integrated care strategy was developed. Consultation on this vision is currently underway with consumers, staff and patients. The vision is to create a more caring system that helps people with complex needs and their carers to:

- be seen: be identified wherever they enter the system
- be heard: only have to tell their story once
- be informed: understand their options and participate in decision making
- be helped: receive the right service at the right time and place
- be well: get the best possible outcome for their situation.

The expected benefits of a more integrated health system include:

- Improved patient experience of the health system
- Reduced waiting times for patients as they navigate the system
- Improved health outcomes for patients and better quality of life
- Reduced avoidable or unnecessary hospitalisations
- Less duplication of pathology and radiology tests through better sharing of information
- Better use of health resources.

The goal of the NSW integrated care strategy is to improve patient management in GP practices to ensure that relevant patients have integrated care plans, that their care is coordinated and is focused on patient driven outcomes. In addition, it is to improve support to GPs to monitor patients effectively. This will be achieved by consumers, their families and carers, providers and organisations working together, minimising duplication and investing wisely to spread the health benefits across the entire community.

The initial challenge for NSLHD will be to do a stocktake of the large amount of integrated care work currently underway and bring it under a unifying conceptual framework and governance structure that can inform the work of all clinical networks, particularly the Primary and Community Health and Chronic and Complex Medicine networks. This will include a focus on projects integrating across the care continuum (acute-subacute-community), between the State-funded acute and Commonwealth-funded primary care sectors, and with other community agencies. The focus will remain on complex or high-risk patients. Projects currently identified include:

- aged care rapid response team, chronic care health coaching, phone support and care navigation and enhancement to existing chronic care initiatives such as the Geriatric Rapid Acute Care Evaluation (GRACE) program of outreach to residential aged care facilities.
- a project targeting adults who are frequent hospital attenders, defined as four or more admissions to either emergency departments or public or private hospitals (excluding certain conditions). The project is a partnership with Medibank Private, BT Global Services, the two Medicare Locals, Macquarie University and the Northern Sydney Academic Health Sciences Centre, and involves telehealth monitoring and nurse care coordinators to support general practitioners and to facilitate ongoing support for the target patient group, with the aim of improved patient wellbeing and reduced health expenditure.
- chronic care prevention and rehabilitation program working with the aged care sector to reduce avoidable hospitalisation through the role of the acute post-acute care (APAC) program, aged care and specialist mental health services for older people teams. While this has not been without some difficulties, it will be important for this collaborative approach to continue and to be refined.

### 5.3 Impact of the private sector

The private health sector in Northern Sydney is extensive, and provides a large proportion of acute inpatient activity, and the majority of acute planned surgery and procedures. Changes within the private sector have an impact on the operation of services within NSLHD. This will provide both opportunities for collaboration and potential threats.
In February 2014 there were 1,783 licensed private beds in Northern Sydney across 22 hospitals, with an additional 20 private day procedure centres operating in the area. The six largest private hospitals account for two thirds of all private beds. In recent years a number of hospitals have undergone redevelopments, including Sydney Adventist, Lady Davidson and Mt Wilga hospitals.

Over half (55%) of the private beds in February 2014 were in the North Shore Ryde area, followed by 37% in Hornsby Ku-ring-gai. Only 8% were in the Northern Beaches, although this will change with the private beds provided with the Northern Beaches Hospital redevelopment at Frenchs Forest.

The private health sector already provides the majority of planned surgery, and particularly day surgery, for Northern Sydney residents. By 2011/12 about 80% of adult acute surgical services for NSLHD residents were provided within the private sector. This results in higher proportion of emergency work in NSLHD hospitals and more complex medical cases. Certain service types would be particularly vulnerable to changes in private sector provision. These would include maternity services and renal dialysis (Northern Sydney has two private dialysis units, with one stand-alone facility being reliant on private health insurance arrangements; if it were to close, ten dialysis chairs would need to be found elsewhere to sustain current demand).

Under activity based funding, NSLHD remains somewhat vulnerable to changes in the private sector. If additional private services reduce activity in public hospitals by taking more of the less acute activity, the average cost per admission in the public sector could increase.

5.3.1 Strategic response: private sector partnerships

A number of clinical services are already contracted out to the private sector under formal agreements – e.g. partnerships with North Shore Private for interventional cardiology, referral of patients from Hornsby Hospital to Sydney Adventist Hospital for chemotherapy. The 2014 review of NSLHD cancer services highlighted opportunities for greater collaboration with the private sector to develop agreed standards of care, for research, training and education. Some services such as maternity and dialysis may be more sustainably provided through a contract with the private sector rather than capital and opportunity cost of the specific infrastructure required to expand these services within the public setting. Opportunities may exist for further such agreements where there are benefits to both parties. This will require some agreement regarding the core business of the public health sector in this LHD, and consideration of where quality benefits exist due to greater economies of scale in the private sector, such as in planned surgery.

Case study: the Northern Beaches Health Service redevelopment

A new hospital for the Northern Beaches has been in planning since about 2000. In May 2013 the government announced it would be developed under a public-private partnership (PPP), and in October 2014 private provider Healthscope was announced as the preferred tenderer. The hospital will provide public health services under a contract determining volume, price and quality.

NSLHD will enter into a long-term partnership with Healthscope to provide public patient services over the next 20 years. At the end of the contract period, the public portion of the hospital can be handed back to the NSW Government at no additional cost. Healthscope then has a further 20 years to provide services to private patients before the remaining part of the hospital can also be returned.

A range of public health services will continue to be provided at Mona Vale Hospital, including inpatient and ambulatory rehabilitation, urgent care and community health. A new community health centre to provide services to the southern part of the Northern Beaches will open in Brookvale in 2016, and facilities will be upgraded at Dalwood for specialist community family and children’s services. When the new hospital opens in 2018 Manly Hospital will close.

The clinical service profile of the new hospital was determined as part of the tender process. Proponents for the PPP were invited to propose complementary private services on the campus, and the configuration of these services will have an impact on patient flows. Projections for public patient demand were developed on the basis...
of estimated patient flows to a new hospital in a central location and on historical health insurance election rates. The opening of the new hospital is expected to have a significant impact on Royal North Shore Hospital, and planning will be required to manage this period of adjustment.

Clinical networks will need to advise on the mix of service volume and quality and how referral will operate between public and private, and across the boundaries of acute, subacute and community health. NSLHD will also need to maintain and recruit skilled staff at manly and Mona Vale Hospitals during the transition to the new hospital and consider governance arrangements for Mona Vale Hospital post 2018.

5.4 Clinical quality and governance

The national health reforms place emphasis on the devolution of accountability to local health districts and, by extension, devolution of clinical leadership and consumer input into the planning and oversight of clinical services.

The NSLHD Strategic Plan 2012-16 identified the need for transformational change in NSLHD and the need to reform the organisation’s operating model to realise its strategic priorities. This initiative included a review of the governance structure and management roles and responsibilities. A survey of clinical networks showed a need for better communication and consultation with clinicians, better coordination across NSLHD, improved capacity to implement service changes and improved standardisation of care and access across NSLHD.

Following a review of operating models across the health sector, the NSLHD Board of Directors and Executive Team endorsed a new flatter, streamlined operating model within NSLHD. The new corporate governance structure is based on a change from a facility based model to a clinical network based model in which the networks will hold a budget and be empowered to work across NSLHD, and where clinical governance will be owned by the clinical networks rather than through various committees.

Within the health care sector there has been increased emphasis on the need to improve patient journeys through a Whole of Hospital approach and integrated care in collaboration with the primary health care sector. Understanding and managing unwarranted variations in clinical practice and embedding best practice into service provision across specialities and facilities will be a challenge for the clinical networks and facilities.

5.4.1 Strategic response: clinical networks and governance

In June 2014 a workshop was held to discuss the vision for reshaping clinical networks. A revised model to strengthen the role of clinical networks is being finalised for implementation in 2015 (Table 13).

<table>
<thead>
<tr>
<th>Network/Directorate</th>
<th>Indicative scope</th>
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</thead>
<tbody>
<tr>
<td>Child Youth and Family Health</td>
<td>Child, youth and family health, paediatric medicine (with links to Surgery and Anaesthesia for paediatric surgery)</td>
</tr>
<tr>
<td>Maternal, Neonatal and Women’s Health</td>
<td>Maternity, neonatology, women’s health (gynaecology, reproductive health, menopause)</td>
</tr>
<tr>
<td>Cancer and Palliative Care</td>
<td>Medical oncology, radiation oncology and palliative care, including fundholding and operational management (excluding surgical oncology and haematology)</td>
</tr>
<tr>
<td>Acute and Critical Care Medicine</td>
<td>Emergency medicine, acute medicine and associated specialties including, gastroenterology and endoscopy, hepatology, infectious diseases, immunology/allergy and dermatology, and intensive care</td>
</tr>
<tr>
<td>Chronic and Complex Medicine</td>
<td>Chronic and complex medicine including endocrinology, diabetes, renal medicine, and pain management and end of life care</td>
</tr>
<tr>
<td>Neurosciences</td>
<td>Neurology, stroke, neuro-imaging, neurosurgery</td>
</tr>
<tr>
<td>Cardiothoracic and Vascular Health</td>
<td>Cardiology, interventional cardiology, respiratory medicine, cardiac and pulmonary rehabilitation, cardiothoracic and vascular surgery</td>
</tr>
<tr>
<td>Musculoskeletal Health, Plastics/Burns, Spinal and Trauma</td>
<td>Musculoskeletal disease, rheumatology, orthopaedic and spinal surgery, trauma, burn injury/plastic-reconstructive and hand surgery, spinal cord injury</td>
</tr>
<tr>
<td>Surgery and Anaesthesia</td>
<td>Surgical care systems and governance, surgical specialty services</td>
</tr>
<tr>
<td>Rehabilitation and Aged Care</td>
<td>Health of older people, aged care, specialist and general rehabilitation</td>
</tr>
<tr>
<td>Primary and Community Health</td>
<td>Community health, community nursing, acute post-acute care, oral health, men’s health, women’s health, sexual assault</td>
</tr>
<tr>
<td>Mental Health Drug and Alcohol</td>
<td>Mental health, drug and alcohol, eating disorders</td>
</tr>
</tbody>
</table>
Key changes from current clinical networks include the combination of critical care and acute medicine in a single network, and the establishment of a new network for musculoskeletal disease, rheumatology, orthopaedic and spinal surgery, trauma, burn injury/plastic-reconstructive and hand surgery, and spinal cord injury. In addition, it is proposed that Cancer and Palliative Care functions as a fundholding network in a similar manner to the operational directorates of primary and community health, and mental health and drug and alcohol.

Given that many patients require care from more than one network, collaboration will be important, and should be based around the patient “journey”. For example, the Neurosciences and Rehabilitation networks will need to work together to jointly define the configuration of services and clinical care standards for patients with stroke to ensure a smooth journey from presentation, diagnosis, acute care, rehabilitation and sub-acute care. Similarly, cardiac failure needs to contribute to both the Cardiovascular and Renal Health and the Chronic and Complex Medicine networks, and respiratory medicine needs to contribute to both Acute and Critical Care Medicine and Chronic and Complex Medicine networks. Clinical Networks will need to be actively involved in the development of the NSLHD integrated care framework.

The new model will see clinical networks determining what care should be delivered, to whom, where, how and with what expected outcome. Specifically the clinical networks will:

- provide formal, evidence-based advice to NSLHD on the profile and configuration of clinical services including clear role delineation for individual hospitals, specifying the workload to be purchased under the activity based management model, and determining workforce requirements for each discipline
- oversee the quality of care, including the analysis and reduction of unwarranted clinical variation
- define relevant clinical policy, standards and guidelines
- coordinate teaching and research in collaboration with the Academic Health Sciences Centre, embedding research findings into clinical practice
- lead clinical service planning in their domains of interest.

Standards of care and service delivery will be oversighted by the clinical networks through formal clinical governance systems. This oversight will be multidisciplinary and clinical networks will be required to include consumer members on their executive committee.

The Clinical Networks will also support the implementation of NSLHD Board’s key priorities of integrated care and the development of the Northern Sydney Academic Health Science Centre.

In the new operating model, clinical networks in collaboration with local divisions and directorates will be accountable for the planning and delivery of services in a networked system across facilities. Table 14 outlines the domains of accountability across clinical networks and service divisions, directorates and facilities.

<table>
<thead>
<tr>
<th>Table 14: Domains of accountability</th>
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<tbody>
<tr>
<td><strong>Clinical Network</strong></td>
</tr>
<tr>
<td>Strategy</td>
</tr>
<tr>
<td>Advice to CE as part of activity and financial budgeting cycle</td>
</tr>
<tr>
<td>NSLHD-wide</td>
</tr>
<tr>
<td>System oversight and governance</td>
</tr>
<tr>
<td>“Report” to Clinical Council</td>
</tr>
<tr>
<td>“Report” to health service management</td>
</tr>
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</table>

The NSLHD Clinical Council will play a coordinating role and will require clinical networks to develop an annual report on the implementation of clinical service plan recommendations, and other activity, plans, opportunities and issues relating to clinical care, education and research.

The clinical network governance model will need to include processes for evaluating the costs and benefits of new models of care and technologies, managing unwarranted clinical variation and will require the ability within an activity based management framework to identify appropriate funding arrangements for these services and technologies once the financial benefit is clearly established.
5.5 Integration of research and health care

In 2012 the NSW Government released a strategic review and 10 year plan for health and medical research in NSW and in 2013 the Federal Government released their report Better Health Through Research (McKeon Review). Both reviews noted that health and medical research can help deliver better treatments and interventions, improve health services delivery, and improve clinical and population health outcomes.

The reviews acknowledged that while groundbreaking health and medical research is carried out within our research institutes, universities and companies, the growing pressure on health services has restricted research activity in the health system and has created barriers for research translation into evidence-based clinical and health interventions. These issues, along with the escalating costs of health care generally, requires a more strategic investment approach to health and medical research if inefficiency is to be reduced, performance improved and investment in research is to benefit the entire population through better health outcomes.

Providing health professionals with opportunities to combine teaching and research with their service responsibilities builds a culture of quality and is demonstrated to lead to better uptake of new knowledge and better outcomes; when research is carried out in a hospital or by health services providers, the standard of care increases regardless of the focus of the research itself. The overarching message from the reviews is that a stronger connection is needed between health and medical research and the delivery of health-care services.

5.5.1 Strategic response: academic health sciences centre

NSLHD is well positioned to meet this challenge by virtue of the range of research activities that occur within its clinical services and its longstanding joint venture with the Kolling Institute and the University of Sydney (USyd).

The NSLHD Board began the process in 2010 of establishing an Academic Health Sciences Centre (AHSC) to embed research and education into clinical practice and health service delivery. A steering committee was set up in 2013 to consider and develop a suitable model, structure, function and relationship with partner organisations. A preliminary collaboration agreement established the Northern Sydney AHSC in November 2014 with partner organisations including:

- Northern Sydney Local Health District (NSLHD)
- Kolling Institute and the University of Sydney
- Macquarie University (MQ)
- University of Technology Sydney (UTS).

The three strategic goals of the Northern Sydney AHSC are to:

- deliver transformational change to healthcare
- embed research and education in the health system
- enhance the strength and impact of health related endeavours of our collective organisations.

The partners within the Northern Sydney AHSC have a common purpose and are committed to delivering against the three strategic goals to achieve the vision of “using service, research, education and training to drive clinical and operational excellence to ensure best practice patient care, effective translation of research outcomes, and a learning, continuously improving health service”.

It is the intention of the parties to work collaboratively with participating non-government organisations, primary care organisations, commercial entities, other government sectors, Aboriginal Medical Services, and community organisations to establish and operate the Northern Sydney AHSC. The principles for the implementation of the Northern Sydney AHSC are to:

- Maintain strategic partnerships enabling excellence in the delivery of unified health services, education and research activities, and in setting future trends.
- Be a genuine partnership focusing on integrating education and research with clinical, public and community health service delivery to drive quality, efficiency and improved patient and economic outcomes, including disease prevention, through constant evaluation and innovation.
Deliver strong collaboration, joint investment and oversight between partners promoting engagement and good-will.

Integrate and translate research and education into the health system addressing the needs of the population and informing policy and clinical practice, benefiting all partners.

Develop a culture of inclusiveness, transparency, change management and joint decision making on strategic direction and facilitation of innovative models of health care delivery demonstrating trust and respect.

Share findings to discover new and innovative solutions encouraging broader thinking and openness.

Educate and prepare future generations of health care professionals with an emphasis on interdisciplinary learning, innovation and the integration of research with clinical education.

Consistently improve, measure and evaluate our collaborative partnerships and the outcomes and effectiveness of our strategies, and positive impact on the community to ensure accountability, constant improvement and refinement.

Maintain a flexible framework that can withstand future change, with governance to be built on the vision and needs of the collaboration.

The purpose of the collaboration is to advance the vision with the objective of improving health outcomes for the people of NSW and Australia. This will be achieved by:

- Establishing a health informatics program that integrates and analyses healthcare, education and research data across the partners to improve the patient journey, health care efficiency and appropriateness and to better enable research.
- Increasing the interaction and understanding between clinicians, educators and researchers to deliver better impact from research, education and clinical investments.
- Accelerating translation of discoveries and technological innovations to clinical application, working with state and federal governments and with industry to reduce the barriers, commercial, financial and legislative.
- Sharing large-scale, high-cost research, education and clinical infrastructure to maximise value during working life of investments.
- Keeping as many community members out of hospital as possible through a focus on building healthy people and resilient societies, through drawing in wider inputs to healthcare (e.g. psychology, exercise, nutrition etc.), recognising the social elements of health (e.g. family support, local community, local food production etc.).
- Investing in the education of next-generation clinicians, medical researchers and allied health staff who are ready to reinvigorate the healthcare system, and able to think across disciplines, break down silos and focus on integrated healthcare and the patient experience.
- Sharing expertise and best-practice in research, education and clinical services across the Northern Sydney AHSC to maximise benefit to partners, to stakeholders and to the community in the NSLHD area.

The strategic plan (under development) will set out how the Northern Sydney AHSC will address the needs of the community through developing and implementing best practice healthcare underpinned by collaborative research and education. The plan will demonstrate how each of the three strategic goals will be tangibly implemented to ensure a collaborative and whole system approach to health improvement. Healthcare, research and education teams will collaborate across each of the strategies to achieve outcomes.

The Northern Sydney AHSC aims to engage staff across the collective institutions and the community to develop the strategic plan and deliver excellence. A workshop scheduled in December 2014 sought to engage with and seek advice from NSLHD Clinical Networks in the development of the strategic plan. The workshop included clinical directors, medical, nursing and allied health representatives along with trainees in any of these disciplines. It is anticipated that further consultation with Clinical Networks will occur in the first half of 2015 and that the strategic plan and collaboration agreement with the Northern Sydney AHSC partners will be finalised by June 2015.

In addition to the development of the Northern Sydney AHSC other processes are underway:

- In July 2014, the NSLHD made a collaborative submission with Sydney LHD, Western Sydney LHD and the Sydney Children’s Hospital Network (Westmead) and the University of Sydney, under the name “Sydney Health Partners”, to the National Health and Medical Research Council to be recognised as an Advanced
Health and Research Translation Centre. While no specific funding is associated with this recognition the primary focus of these centres is to accelerate the translation of research into practice. The outcome of this submission is expected in early 2015.

- Sydney Vital (formerly the Northern Translational Cancer Research Unit of the Kolling Institute) has recently been established to organise collaborative translational cancer research around a number of themes or pillars, spanning tumour streams and with a focus on cancer control. The collaboration will be multidisciplinary, multi-site and includes Northern Sydney AHSC partners, a number of private hospitals (the Mater Hospital, North Shore Private Hospital, and Sydney Adventist Hospital), as well as affiliated health organisations Greenwich Hospital and Royal Rehab.

- HammondCare has established a Learning and Research Centre at Greenwich Hospital with institutional funding of research programs and staff in palliative care, pain management, spiritual aspects of care and dementia care. The latter is linked with the NHMRC Partnership Centre for Dementia Research of which HammondCare is a funding partner.

### 5.6 Capital developments and infrastructure

Table 15 outlines the major capital projects that have either been completed or commenced since the previous CSP was released in October 2012, or planning has formally commenced.

#### Table 15: Major capital projects in NSLHD, 2012-2022

| Hornsby Ku-ring-gai Health Service | Completed | Refurbishment of Lindsay Madew Unit as part of decanting for Stage 1 redevelopment
| | | Hornsby stage 2: planning monies allocated with PDP completed in 2014
| Underway | Hornsby Stage 1: building works commenced including surgery, operating theatres and recovery facilities, expected to open in mid-2015
| In planning | Proposal under development for funding to re-provide community health services currently provided at Hillview in a purpose built facility in a location to be determined.
| Northern Beaches Health Service | Completed | Expansion of rehabilitation unit at Mona Vale opened in May 2014
| | | Medical short stay unit at Mona Vale opened in July 2014
| Underway | Northern Beaches Hospital: site preparation underway, with anticipated commissioning of new building and services in 2018
| | Renovations to Dalwood Children’s Services at Seaforth, due for completion in 2015
| In planning | New community health centre at Brookvale, due to open in 2016
| | Rebuild community health facilities at Mona Vale Hospital
| North Shore Ryde Health Service | Completed | Acute Services Building on the RNSH campus opened in November 2012
| | | Clinical Services building (women’s and children’s, severe burns, mental health services and additional acute beds) on RNSH campus commissioned in December 2014
| | | Graythwaite rehabilitation centre on Ryde Hospital Campus, opened September 2013
| Underway | Royal North Shore Hospital zonal master plan was completed in March 2013. Planning is now underway for the future use of the southern campus
| In planning | Proposal under development for funding to redevelop community health facility at Top Ryde
| | Master planning for Ryde Hospital campus to commence in 2015
| Mental Health Services | Completed | Hornsby Mental Health Unit: opened 2013 including adult and child-youth mental health services
| | | The redeveloped RNSH and Northern Beaches Hospital include inpatient mental health beds.
| In planning | The clinical services plan for Hornsby Ku-ring-gai Health Service includes requirements for specialist mental health services for older people, although inclusion in Stage 2 will be subject to budget.

The NSLHD Asset Strategic Plan for the period to 2023/24 identified the top five priorities for NSLHD as:

- Community health centre infrastructure
- Ryde Hospital infrastructure
- Drug and alcohol inpatient services at Royal North Shore Hospital
- Inpatient services for older people with a mental illness at Hornsby Ku-ring-gai Hospital
- RNSH master plan implementation.
5.6.1 Strategic response: optimising use of new infrastructure

In 2012, the NSLHD Strategic Plan 2012-16 identified the need to align infrastructure development with clinical and community health service requirements and procurement models and to engage with the private sector in the delivery of capital and the provision of health care for the community.

The clinical services plans underpinning capital developments generally work to a planning horizon, which in the case of recent major projects has been set at 2022 or 2027. This then requires a commissioning plan to ensure that capital resources and workforce required are consistent with clinical requirements and recurrent funding.

The annual NSLHD Service Agreement with the Ministry determines activity volumes for the year. There is a risk that spare facility capacity could generate additional demand not accounted for in this agreement, leading to budget overruns. Areas for focus in optimising the use of new capital infrastructure will include:

- Stage one of the Hornsby Hospital redevelopment including additional operating theatres and ward capacity will impact both emergency and elective service volumes at RNSH and therefore acute bed demand from 2018, as an increasing proportion of Hornsby Ku-ring-gai residents will receive their care locally.
- The public-private partnership between the NSLHD and Healthscope for public services at the Northern Beaches Hospital will be new territory for the organisation. It will also have a significant impact on Royal North Shore Hospital, as large numbers of patients who live in the Frenchs Forest catchment will use services at the Northern Beaches Hospital after it opens in 2018.

A detailed change management plan will be required to ensure that new infrastructure is commissioned to manage local demand and that spare capacity at RNSH does not result in unnecessary additional admissions.

5.7 Information technology

Clinical informatics and information technology is a fast moving area of health service provision with potential for both high costs and efficiencies. The direction for NSLHD is outlined in the Information, Communications and Technology Plan 2012-2016. This plan outlines both statewide and local initiatives that bring information systems potential to clinical care and support services, including electronic medical records, new reporting systems and technological advances. The plan identifies a number of strategic service areas for future development, including the use of social media, the use of mobile technology, access cards to avoid the need for multiple passwords and logins, and the potential of advances in voice recognition technology to reduce the need for keyboard entry.

One advance of recent developments in information technology and management has been the increase in detail in available data, enabling more precise analysis of service provision and the availability of better data from a greater range of service types, such as community health and outpatient care. Such availability places challenges on the ability of staff to accurately interpret the data and to thereby manage performance and care outcomes.

5.7.1 Strategic response: making best use of data and information technology

Managing NSLHD’s performance will require improved access to information systems which can provide reliable and useful data on a regular basis and transparent business processes for monitoring the LHD’s service agreement and partnerships. Achieving key performance indicators (KPIs) in one program can result in a blowout or decline in another as has been evident with the whole of hospital KPIs. Managing this balance of performance requirements will require agreed ways of working as part of the governance processes for clinical networks and facilities.

Implementation of key information technology modifications and electronic systems and devices will support change within NSLHD both in terms of achieving cost efficiencies in pathology, imaging and a range of services. The rollout of the new electronic health record Community Health and Outpatient Care (CHOC) now provides immediate access to patient information across the health system and will support the implementation of integrated care across the continuum of care. The move to a clinical network governance model will require improved access by clinicians to reliable data and information to drive improvements in practice.
Part Two
6 Health Promotion

Recommendations

1. Develop, implement and evaluate rolling six-monthly action plans to deliver cost-effective, population-wide strategies that address the risk factors that contribute most to total disease burden including obesity, tobacco and alcohol.

2. Engage priority populations (new parents, young people, multicultural groups and older people at risk of falls) in targeted strategies that contribute to the goals of the clinical networks and the integrated care program.

Health promotion is the process of creating conditions that enable our whole population to remain healthy and out of hospital. Health promotion practice is guided by the Ottawa Charter (1986) which recognises that the major social and environmental determinants of health (such as education, income, social inclusion and access to services) lie outside the health system. The NSLHD Health Promotion Unit therefore works mostly with external agencies that impact on our everyday lives - local government, schools, workplaces, community groups and key state agencies for planning and transport.

Health promotion generates long-term health improvements for the whole population, yet it receives less than half of one per-cent of total health funding. Health promotion must implement cost-effective population health interventions within established priority areas. The NSW State Plan and Population Health Priorities for NSW state that NSLHD Health Promotion Unit must focus on the three risk factors that contribute most to our total disease burden: obesity, tobacco and alcohol.

The most cost-effective health promotion interventions utilise broad behaviour-change levers that reach the whole population, such as legislation, public policy, the educational curriculum and the built environment. Traditional health service-based prevention activities such as patient education, information and early intervention are considered good clinical practice, but their relatively high cost and low population-reach render them less cost-effective from a population health perspective. In this context, NSLHD Health Promotion Unit interventions focusing on the current priority areas include:

- **Healthy Eating Active Living**
  - Programs that embed healthy eating and physical activity into the curriculum and daily activities of all schools and early childcare services in NSLHD.
  - Creation of a healthy built environment by working with local government, planning agencies and developers to ensure population health is prioritised in all urban planning and development processes.
  - Active transport programs within schools, workplaces and local government to increase rates of walking, cycling and public transport and reduce car dependency.
  - Supporting the key actions within the NSW Healthy Eating Active Living Strategy, including the Get Healthy at Work program.

- **Tobacco Control**
  - Expansion of smoke-free public spaces through the NSW Tobacco Act.
  - Implementation of Smoke Free Hospitals policy and NSLHD no smoking by-law.
  - Targeted tobacco control programs with young people and the Chinese community.
  - Supporting the key Health Promotion actions within the NSW Tobacco Strategy.

- **Alcohol Harm Prevention**
  - Reducing the supply of alcohol to minors through greater community awareness of (and compliance with) secondary supply legislation.
  - Restricting the proliferation of liquor outlets through liquor licencing controls.
  - Responsible service of alcohol programs for secondary school students.
  - Partnership projects with police, local government, liquor accords and community groups to reduce alcohol related harm.
NSLHD directs most of its Health Promotion resources towards ‘mainstream’ population-level interventions that are cost-effective and address NSW priority areas. The essential Ottawa Charter principles of equity and inclusion are incorporated into the planning of the above mainstream interventions, and are more explicitly addressed in two additional “targeted” priority areas in NSLHD: falls injury prevention and social wellbeing. While having lower population-reach and being more expensive to implement, these targeted interventions are necessary to engage priority populations and are more likely to directly integrate with health services including Workforce, Child & Family Health and other community health services. NSLHD health promotion interventions focusing on these additional priority areas include:

- **Falls Prevention**
  - Widespread provision of physical activity opportunities for older people in NSLHD through the Healthy Lifestyle program
  - Implementation of the [NSW Falls Prevention Policy](#) in hospitals and community settings.
  - Targeted falls prevention programs for older people and culturally and linguistically diverse (CALD) community members.

- **Social Wellbeing**
  - Childbirth and early parenting education programs, including CALD groups.
  - Coordinated Youth Health Promotion program, engaging youth consultants to develop health promotion strategies and advocate on health and wellbeing issues for young people across NSLHD.
  - Supporting preventive health initiatives led by the Multicultural Health, Sexual Health (Human Immunodeficiency virus (HIV) and Related Programs - HARP) and Aboriginal Health services.

While the responsibility for the delivery of secondary and tertiary health promotion strategies (that halt or slow the progress of disease in its earliest stages, minimise the impact of chronic disease and maximise quality of life) remains with individual clinical networks and services, the NSLHD Health Promotion Unit will work collaboratively with them to share their expertise in the delivery of broad population health promotion strategies, particularly those related to healthy lifestyles, to the increasingly large population living with chronic disease. The NSLHD Health Promotion Unit will establish an NSLHD Population Health Network with the Public Health Unit, Aboriginal Health Service and Sexual Health (HARP) Service to improve the integration of population health activity within NSLHD, inline with population health priorities for NSW. The NSLHD Health Promotion Unit will also support the establishment of an interagency committee involving NSLHD, local government, other state government departments (such as Education and Planning), Medicare Locals (Primary Health Networks), NGOs and other community services, to assist services which focus on people who have or are identified at high risk of developing a chronic illness, to delay the onset or impact of that illness on their health.

1. **Develop, implement and evaluate rolling six-monthly action plans to deliver cost-effective, population-wide strategies that address the risk factors that contribute most to total disease burden including obesity, tobacco and alcohol.**
2. **Engage priority populations (new parents, young people, multicultural groups and older people at risk of falls) in targeted strategies that contribute to the goals of the clinical networks and the integrated care program.**
7 **Aboriginal Health**

**Recommendations**

1. Implement and evaluate the impact of the NSLHD Aboriginal Health Services Plan 2013 to 2016.
2. Develop a plan to address the health needs of the Aboriginal community within NSLHD to the year 2021 building on the successes of the current plan and addressing identified gaps.

The first [Aboriginal Health Services Plan for NSLHD](#) was released in October 2013 and formally launched in February 2015. The Plan outlines strategies for service development for Aboriginal people within NSLHD to 2016. It incorporates the targets included in the NSLHD service agreement with the NSW Ministry of Health and reflects the national goals to close the gap in life expectancy and child mortality between Aboriginal and non-Aboriginal people. The Plan builds on the [NSW State Plan 2021](#) and [NSW Aboriginal Health Plan 2013-23](#) which identified 6 goals for Aboriginal Health:

- Building trust through partnerships
- Implementing what works and building the evidence
- Ensuring integrated planning and service delivery
- Strengthening the Aboriginal workforce
- Providing culturally safe work environments and health services
- Strengthening performance monitoring, management and accountability.

The NSLHD Aboriginal Health Plan recognises the importance of identifying patients, clients and their carers or family who are part of the local or other Aboriginal communities in order to link them with culturally appropriate care and to be accountable for improving their health outcomes. Improving the identification and recording of Aboriginal status in healthcare records will ensure the patient’s clinical service is appropriately weighted as part of activity based funding and will allow the LHD and NSW Health to better understand how and where Aboriginal people access health services and how those services might be improved, made more accessible and culturally appropriate.

To achieve this NSLHD will increase the representation of Aboriginal people working in the health workforce and support all staff by providing cultural awareness education and resources to promote their understanding of the needs of Aboriginal patients and of high quality services for Aboriginal patients and their communities.

The [Chronic Disease Management Program (CDMP)](#) and the [48 Hour Follow Up After Care Program](#) are key strategies that work to reduce preventable hospitalisation and to empower Aboriginal patients in self-managing their health conditions. NSLHD also focuses on increasing the social and emotional wellbeing of Aboriginal patients, improving childhood immunisation and providing better integrated care for mothers and babies, people with chronic conditions who require rehabilitation and people living with HIV and sexually transmitted infections.

Working in partnerships promotes professional practice, accountability and trust to ensure programs are sustainable and based on evidence. NSLHD has developed a number of external collaborative partnerships including with the Aboriginal Medical Service Cooperative Limited, neighbouring local health districts and the GP Academic Unit at KHK to provide the Hornsby Aboriginal Health Outpost and other partnerships with the two Medicare Locals and Catholic Care. Internal partnerships have been developed with Health Promotion, Mental Health and Women’s Health.

NSLHD is implementing the [Aboriginal Workforce Strategy 2011 – 2015](#). This includes collaborating with the education sector to increase the Aboriginal workforce and improve career pathways for existing Aboriginal health staff. This strategy will need to be evaluated and updated by 2016.

1. Implement and evaluate the impact of the NSLHD Aboriginal Health Services Plan 2013 to 2016.
2. Develop a plan to address the health needs of the Aboriginal community within NSLHD to the year 2021 building on the successes of the current plan and addressing identified gaps.
8 Multicultural Health

Recommendations

1. Implement and evaluate the NSLHD Multicultural Plan 2013 to 2016.
2. Implement and evaluate the NSLHD Refugee Health Implementation Plan 2014-2018
3. Develop a plan to address the health needs of the culturally and linguistically diverse communities within NSLHD to the year 2021 building on the successes of the current plan and addressing identified gaps.

The Multicultural Plan for NSLHD was released in February 2013 and outlines strategies for service development within NSLHD to 2016. The plan builds on the NSW State Plan 2021 and the NSW policy and implementation plan for Healthy Culturally Diverse Communities (2012-16) which identified three key areas of focus including health system enabling priorities, priority health issues and priority groups. The policy aims to:

- Improve the capacity of the health service to identify and respond to the needs of all culturally, religiously and linguistically diverse groups
- Identify and address behavioural risk factors and disease types among particular communities
- Identify the factors contributing to vulnerability in some groups so that actions can be developed to bring individual health outcomes to at least the level of their own communities and then to an optimal standard.

In 2013 priorities for the NSLHD to address to improve the health and well-being of refugees and people with refugee-like experiences who have settled in the NSLHD were identified and implemented. In December 2014 a NSLHD Refugee Health Implementation Plan will be released. The NSLHD Multicultural Plan recognises the importance of identifying patients, clients and their carers or family who have a culturally or linguistically diverse background (CALD) in order to link them with interpreter services and other culturally appropriate care and to be accountable for improving their health outcomes. Improving the identification and recording the status of people from CALD backgrounds (including where they were born and what language they speak at home) in healthcare records will also allow the LHD and NSW Health to better understand how and where CALD people access health services and how those services might be improved, made more accessible and culturally appropriate.

The Multicultural Health Service compiled a snapshot of cultural diversity in NSLHD in 2013 based on the 2011 Australian Bureau of Statistics census information as the basis for understanding the diversity within NSLHD, measuring the reach of the health service and monitoring interpreter usage.

The plan outlines a number of enabling strategies and priority health issues. Some key enabling strategies include cultural awareness training, seeking input from CALD communities, promotion and use of the health care interpreter service and culturally specific communication of health messages. Priority health issues include the need for accurate assessment of patients at the first point of contact and the development of targeted programs for older people, carers and people with a disability from culturally diverse and refugee backgrounds, particularly as older people lose their English language skills.

The plan also highlights the need to work with the health promotion service and chronic disease program to address the high prevalence in some ethnic communities of diabetes and other chronic and complex conditions and risk factors such as smoking or being overweight or obese. In addition the need to address the high prevalence of cervical cancer in some communities will require the support of a range of services related to women’s health including gynaecology and maternity services.

Five Multicultural Access Committees have been established to provide leadership and monitoring of the plan’s implementation. The NSLHD Multicultural Access Committee focuses on the Local Health District as a whole. The Multicultural Access Committees in the Hornsby Ku-ring-gai and Northern Beaches Health Service, the North Shore Ryde Health Service, Primary and Community Health (PaCH) and Mental Health Drug and Alcohol Service focus on the Multicultural Policies and Services Program and implementation within their services.

External partnerships with multicultural organisations and key health organisations, government departments and services have also been established to implement health promotion, prevention and early intervention initiatives and to coordinate care for people with complex needs and from culturally and linguistically diverse backgrounds.
1. Implement and evaluate the NSLHD Multicultural Plan 2013 to 2016.
2. Implement and evaluate the NSLHD Refugee Health Implementation Plan 2014-2018
3. Develop a plan to address the health needs of the culturally and linguistically diverse communities within NSLHD to the year 2021 building on the successes of the current plan and addressing identified gaps.
9  Primary and Community Health

Recommendations

1. Using management information captured through the Community Health and Outpatient Care (CHOC) program, progressively evaluate Primary and Community Health (PaCH) services to identify and address unwarranted clinical variation, or variation in service costs or resource utilisation.

2. Incorporate aged care services and child and family health services into the health contact centre.

3. Streamline NSLHD community based age care and related services and referral pathways into a single structure with clear service delivery and performance accountabilities.

4. Refine NSLHD Aged Care Assessment Team (ACAT) referral intake and comprehensive assessment services and secure accreditation as a service provider under the national aged care reform program.

5. Redesign NSLHD HACC service models to comply with the new Community Home Support Program (CHSP) guidelines by June 2015.

6. Expand the scope of Acute Post-Acute Care (APAC) services to encompass the provision of paediatric Hospital in the Home and expand the provision of acute geriatric care in the home in collaboration.

7. Develop a business proposal for the inclusion of a general physician on the APAC team to support the expansion of APAC services and increase the range of patients that can be managed by the service.

8. Expand the Chronic Disease Management Program (CDMP) to include additional diagnoses identified by Agency for Clinical Innovation (ACI).

9. Identify the impact of the new domestic and family violence framework for reform on NSLHD primary, community and acute health services and configure services so that they are accessible, flexible and responsive to the needs of victims.

10. Prepare a business case to identify the cost benefit of BreastScreen to being included in Community Health Service redevelopments.

11. Develop clinical service plans, as part of the NSLHD asset strategic planning process, for the provision of community based oral health services at Top Ryde and Northern Beaches.

12. Evaluate the impact of the National Disability Insurance Scheme (NDIS) on current NSLHD service users with disabilities and identify strategies to improve service provision, including tendering to be an NDIS service provider.

9.1  Introduction

Northern Sydney Local Health District (NSLHD) provides a range of community health services in people’s homes, and through early childhood centres, community health centres, and other locations. It includes a wide range of services that fall into broad streams under the auspices of the Primary and Community Health (PaCH) Division:

- Child, youth and family services (including child protection, Families NSW and Statewide Eyesight Preschool Screening (StEPS))
- Aged care including aged care assessment, home and community care, transitional aged care and community packages
- Acute post-acute care (APAC) and community nursing (including palliative care)
- Chronic and complex care including community rehabilitation, health coaching, and the Health Contact Centre
- Population health services including women’s health and domestic violence, BreastScreen, HIV and related programs, and multicultural health and interpreter services
- Oral health.

These services are part of a continuum of care that includes general practitioners (GPs) at the centre of primary health care delivery and other service providers or care settings include private allied health services, residential aged care facilities, and independent Aboriginal health services. Acute services and subacute services provided within the public or private hospital setting are at the other end of the continuum.
A number of these primary and community health (PaCH) services are outlined in separate chapters as part of the broader clinical networks or services such as Multicultural Health and Aboriginal Health which intersect with all other services.

While NSW Health is working with other government agencies to address the social determinants of health, the challenge for NSLHD is to transform services so that our acute hospitals work in partnership with the primary and community sectors (including NSLHD community health services, GPs, private allied health, non-government organisations (NGOs) and other service providers) to make sure that people with chronic and complex care needs, including people with disabilities, stay healthy and out of hospital and so that services are financially sustainable in the long term.

In addition to supporting the development of the integrated care framework for NSLHD (as described in the Service Drivers-Strategic Responses chapter of the NSLHD CSP 2015-2022 and in the Chronic and Complex Medicine chapter), the focus of PaCH Services will be on:

- Improving integration between primary and secondary services through the development of agreed clinical pathways across a range of chronic and complex conditions, initially for patients with chronic renal, respiratory or cardiac failure, and encompassing other conditions over time.
- Improving referral pathways between primary care (GPs, private allied health) and secondary or acute hospital services.
- Leading, partnering or linking with other organisations including local government, primary health networks and community services to improve health outcomes for high risk populations through the development of an Interagency Health Promotion Committee. This secondary prevention approach will focus on people who are identified at high risk of developing, or already have a chronic illness, to delay the onset or impact on their health. These strategies will complement the primary prevention strategies delivered by the NSLHD Health Promotion Unit which target four priority areas (tobacco control, overweight/obesity, falls prevention, and alcohol harm minimisation) for the whole population.
- Working with NSLHD Clinical Networks (in particular Child Youth and Family, Aged Care and Chronic and Complex Medicine) and other agencies to prepare for the roll out of the National Disability Insurance Scheme (NDIS) in 2017. This will include an assessment of the impact on NSLHD services, development of policies, referral pathways, and service entry/exit criteria.
- Working through the Inter-government Committee to improve integration across the human services sector e.g. identifying impacts of the National Disability Insurance Scheme, and working with the Department of Education and Communities to revise the pathways to care for children in Out of Home Care (OOHC), child protection and families with complex needs.
- The Collective – NSLHD is one of the agencies on the Community Engagement Board working on identifying the key projects to be proposed as multi-agency, public/private partnerships to work in disadvantage communities. The projects identified to date focus on Greenway Park, Macquarie Park, Dee Why, and young people.

9.2 Community Health and Outpatient Care Program

The Community Health and Outpatient Care (CHOC) program is a state-wide program delivering an Integrated clinical System (ICS) into clinical community health and outpatient services. It integrates community records from APAC, chronic and aged care and community based allied health and nursing services, with acute hospital service records. Clinical notes are accessible by users across primary, community and acute services and result in improved patient flow, reduced duplicate assessments and tests and improved referrals between clinical teams; overall this supports the delivery of patient focused care and provides a better patient experience.

Across NSLHD the roll out of the CHOC program was completed in late 2014. Current program activities focus on resolving outstanding implementation issues, the development of regular activity reports for individual services and refinement of the reporting and management framework. An evaluation of the program will be available in early 2015.
The CHOC program embeds standardised assessments, forms and reports into clinical practice and delivers meaningful and comparable patient and organisational level information. The availability of more detailed service performance information provides a sound basis for strategic decision making and service planning. To date improved management information has allowed APAC services to expand within existing resources by improving team efficiency and has allowed Oral Health services to better understand and take actions against its cost profile.

1. Using management information captured through the CHOC program, progressively evaluate PaCH services to identify and address unwarranted clinical variation, or variation in service costs or resource utilisation.

9.3 Health Contact Centre

The Health Contact Centre (HCC) is the patient referral intake and admission centre for a range of primary and community health services across Northern Sydney Local Health District including APAC, Northern Sydney Home Nursing, continence and oxygen ordering, and intake for Oral Health services. Referrals from community members and service providers are accepted during business hours by phone, fax or email. The HCC identifies or confirms patient needs and access to the appropriate service is scheduled in collaboration with them and/or their carer. Expanding the HCC to incorporate additional services will make it easier for consumers and carers to navigate and access the most appropriate services to meet their needs. Work is required to further improve referral processes to the HCC.

Incorporating aged care services into the HCC will provide a single point of access for the aged care assessment team (ACAT) and Home and Community Care (HACC) services so that NSLHD can comply with the Commonwealth government’s aged care reforms by July 2015.

Child, youth and family health services currently have variations in models of care, and the range of clinics and services offered at individual facilities across NSLHD would benefit from incorporation into the HCC. However, the child, youth and family health services will need to standardise their assessment and referral criteria and service provision under the CHOC program prior to inclusion in the HCC.

2. Incorporate aged care services and child and family health services into the health contact centre.

9.4 Community Aged Care

Aged care health services are available in public and private acute and sub-acute hospital settings as well as community settings. The Rehabilitation and Aged Care chapter of the NSLHD Clinical Services Plan provides an overview of acute hospital based services. The broader aged care sector is undergoing substantial change particularly for services provided within the community, residential aged care services and the pathways to access care. This chapter focuses on these changes and identifies the strategic directions for community based aged care services in NSLHD.

The Living Longer Living Better aged care reform package has been operational since June 2013 and includes significant changes to the organisation, funding and delivery of aged care services. It gives priority to providing more support and care at home, better access to residential aged care, more support for people with dementia, and strengthening the aged care workforce. The Commonwealth Department of Social Services has replaced the Department of Health and Ageing as the lead agency for the implementation of the reforms.

NSLHD provides a range of community based services; many of these services are also offered by other service providers including NGOs. The aged care reforms will open up the provision of these services to a range of accredited providers and will support consumers to determine which services meet their needs and how they will be provided. These community based services encompass:

- Aged Care Assessment Team (ACAT) Services
  - Access to most aged care programs and services require a comprehensive assessment by an Aged Care Assessment Team (ACAT). This assessment identifies a consumer’s eligibility for home care packages, respite care, transitional care or residential aged care. Referral to HACC services does not require ACAT
approval. These assessments will continue under the aged care reform package but there will be some changes in how this will be implemented over the next few years. The four ACAT teams based at Hornsby, Manly, RNS and Ryde hospitals are currently being amalgamated to form a single NSLHD ACAT service with greater capacity and flexibility to respond to the aged care reforms.

- **Home Care Packages (HCPs)**
  - Provide services for people with complex care needs that can be met in the community with varying levels of case management. NSLHD is not a direct provider of HCPs, but the NSLHD ACATs have long standing, well established referral and assessment networks of approved providers.
  - Have been in place since 1 August 2013. Four levels of [Home Care Packages](#) have now replaced the previous Community Aged Care Packages and the Extended Aged Care at Home program and Extended Aged Care at Home Dementia program.
  - Will be offered under a Consumer Directed Care model giving clients more choice and control over the types of services they receive, how care is delivered and who delivers it.

- **Transition Care Program**
  - Requires ACAT approval and offers time-limited flexible packages of specified care and low intensity therapy services in community and or residential care settings, for a maximum of 12 weeks. The program assists older people over 70 years and people over 50 years from culturally and linguistically diverse backgrounds, discharged from hospital to recover and to have some time to make decisions about long term living arrangements.
  - Provides 88 community based places and 20 residential care places to NSLHD residents, provided in partnership with experienced Aged Care Providers.

- **Home and Community Care (HACC)/Commonwealth Home Support Program (CHSP)**
  - Provides community care services to older persons aged over 65 years, younger people with disabilities and their carers, assisting people who want to stay in their own home, but need some help with daily tasks, or require basic care. NSLHD services provided include: nursing, allied health, centre-based day care, social support, counselling, and advocacy services. Other aged care providers within NSLHD provide a range of other services. Access to day therapy centres is also available under this program although NSLHD does not provide this service type (allied health services can be directly accessed through NSLHD outpatient programs without the need to attend a day therapy centre).
  - From 1 July 2015 existing programs including the [National Respite for Carers Program](#), the [Day Therapy Centres Program](#) and the [Commonwealth HACC Program](#) will be combined under a single streamlined [Commonwealth Home Support Program (CHSP)](#), to provide basic maintenance, care and support and respite services for older people living in the community, and their carers.

- **My Aged Care Gateway**
  - The Commonwealth is currently staging the implementation of the My Aged Care website and national telephone contact centre (also known as the [My Aged Care Gateway](#)). The Gateway’s key functions will include registration of consumers, screening, assessment, matching and referral, service planning and delivery and reassessment. The website and contact centre are now in place, but the role of the Gateway will change over time as will its interface with other aged care providers. Some of these changes are still under negotiation.
  - From 2015/16, most referrals for access to aged care services will be made via the Gateway whether these are for services which require assessment by ACAT (HCP, transition care, residential care or respite services) or for access to HACC/CHSP services. Eventually the Gateway will be the central point of contact with referrals being made by the Gateway directly to the HACC/CHSP or HCP services for the provision of services to the consumer.

These policy and funding changes to aged care service provision will affect current NSLHD models of care, intake and assessment processes, and service delivery models and the management of activity targets for NSLHD and other aged care providers.
In order to become an accredited provider of referral intake and comprehensive assessment services under the national aged care reform a single point of access needs to be established to make navigation and communication with services easier for consumers, service partners and funders. Streamlining and standardising services will enable full integration and connection with the Health Contact Centre as a central point of contact for NSLHD services. This review of service models will also provide opportunities to evaluate and redesign services so that they are delivered in the most efficient way in the activity based funding environment.

3. **Streamline NSLHD community based age care and related services and referral pathways into a single structure with clear service delivery and performance accountabilities.**

4. **Refine NSLHD ACAT referral intake and comprehensive assessment services and secure accreditation as a service provider under the national aged care reform program.**

5. **Redesign NSLHD HACC service models to comply with the new Community Home Support Program (CHSP) guidelines by June 2015.**

### 9.5 Acute Post-Acute Care and Northern Sydney Home Nursing Service

Acute Post-Acute Care (APAC) and the Northern Sydney Home Nursing Service (NSHNS) amalgamated under a single management team in 2013/14. APAC and NSHNS intake referrals are now managed through the NSLHD Health Contact Centre and clinical records are fully integrated across acute and community settings through the CHOC program. Strong relationships have been developed with the Northern Sydney, and Sydney North Shore and Beaches Medicare Locals, and GPs play an integral role in the provision of services along with other service partners such as HammondCare.

- APAC provides intense, short term, interdisciplinary acute health care and management to patients in their own home or in a clinic environment, as a direct substitution for in-patient hospital care.
- NSHNS community nurses provide non-acute care including oncology care and support, medication education and management, wound management and stoma care, palliative/end of life care, chronic and complex care (including care coordination and health coaching), continence, aged and dementia care, and spinal injuries care.

As a result of better access to activity data and patient information, APAC has been able to develop a clear profile of activity and cost structures. Activity has increased by approximately 17% with separations growing from 3,125 to 3,650 over the last three years. This growth has been accommodated within existing resources through improved team efficiency and through innovative programs such as the partnership with the Sydney Adventist Hospital to provide intravenous antibiotic treatments under APAC leadership to 200 people living in residential aged care facilities.

Future directions for APAC services include expansion of the scope of services and improving partnerships with other NSLHD services, GPs and other service providers. Expansion of APAC services aims to reduce the need for hospital services (including emergency department and acute inpatient services) for an increasing range of patient groups. Service developments will focus on:

- interagency working with the Ambulance Service of NSW to facilitate direct access to APAC
- collaboration with paediatric services and the Child Youth and Family Network to provide paediatric hospital in the home services
- collaboration with the Rehabilitation and Aged Care Clinical Network, residential aged care facilities (including independent living centres, nursing homes and hostels), GPs and community pharmacies to provide health care for residents in their “home”
- collaboration with geriatric services, to improve the range of acute post-acute care that could be provided at home.

Consideration is also being given to the inclusion of a general physician on the APAC team to support the ongoing expansion of services and service scope.
6. Expand the scope of APAC services to encompass the provision of paediatric Hospital in the Home and expand the provision of acute geriatric care in the home.

7. Develop a business proposal for the inclusion of a general physician on the APAC team to support the expansion of APAC services and increase the range of patients that can be managed by the service.

9.6 Chronic Care

The Chronic Disease Management Program (CDMP) is a service for people with chronic disease who have difficulty managing their condition and who are at risk of hospitalisation. Using the ACI model of care Connecting Care in the Community, the NSLHD service provides care coordination and self-management support to help people with selected chronic diseases better manage their condition and access appropriate services in order to improve health outcomes, prevent complications and reduce the need for hospitalisation.

The CDMP connects the person and their carer with appropriate primary, community and acute care services by:

- proactively identifying people most in need of and likely to benefit from the program
- undertaking comprehensive assessment
- supporting shared care planning
- delivering care coordination and self-management support services
- regularly monitoring and reviewing participants.

The program now has over 5,000 patients enrolled, incorporates patient flow between specialist and community based services, and meets the Ministry of Health and ACI model of care key performance indicators. The ACI recently broadened their target groups for the chronic care program to include additional diagnoses, giving greater flexibility to the program.

8. Expand the Chronic Disease Management Program to include additional diagnoses identified by ACI.

9.7 Women’s Health and Domestic Violence

The NSW Health Framework for Women’s Health was released in 2013. The framework focuses on issues where the detrimental health impact is disproportionately experienced by women, or where the response is different for women than for men. The framework places women at the centre of decision making for their own health and acknowledges women’s health is impacted by many factors including housing, rural living, employment and access to services.

While the Women’s Health Framework is for all women, it is recognised that there are certain population groups which experience poorer health and/or due to their circumstances may require focused attention to better address their health needs. Examples of priority populations in women’s health include:

- Aboriginal women
- Women from culturally and linguistically diverse communities, migrant and refugee women
- Women who are socio-economically disadvantaged
- Women with disability
- Women who are primary or secondary carers for other people
- Women who experience violence (sexual, domestic and family violence)
- Women living in rural and remote areas
- Lesbian, bisexual, trans-gender and inter-gender women.

As health outcomes are influenced by the cumulative effect over time of social determinants, a life stage approach is used to structure opportunities for enhanced delivery of services and programs. Improving health outcomes for all women will require an across-government and multi-sectoral approach. The women’s Health Service in NSLHD is focused on responding to the issues, targets and challenges highlighted in this framework along with a range of other locally determined issues.
The release in February 2014 of the NSW Government’s domestic and family violence framework for reform “It stops here” will change the response to domestic and family violence to ensure that victims can quickly and safely access a range of services and get the support they need to recover.

Domestic and family violence includes behaviours, in intimate or family relationships, that control or dominate a person, causing them to fear for their own (or someone else’s) safety. It includes behaviour that controls, intimidates, terrifies or coerces a person. It includes physical, sexual, verbal, psychological, mental and emotional abuse; stalking; harassment; financial abuse and manipulation; denial of freedom and choice; and control of access to family and friends.

Some individuals or communities are more vulnerable to domestic and family violence including Aboriginal people, women with a disability, women from culturally and linguistically diverse backgrounds, people who identify as lesbian, gay, bisexual, transgender, intersex and queer (LGBTIQ), younger and older women, pregnant women and those living in remote communities.

Victims of domestic and family violence may seek help from, or be identified by GPs, emergency departments, maternity services, or child and family and other community health services. In addition to emergency and longer-term housing needs, case management and legal services, victims of domestic and family violence may require physical and mental health services including access to therapeutic counselling.

The overall outcomes of the framework for reform are that domestic and family violence is prevented, identified early, victims are safe and supported to recover, perpetrators stop using violence, and a supported, professional and effective sector is developed.

NSLHD and North Shore Ryde Health Service (NSRHS) in particular, as a pilot site for the new way of working, will need to collaborate with government and other agencies to:

- Develop and implement evidence based approaches to primary (whole population), secondary (high risk groups) and tertiary (individuals who have experienced domestic or family violence) prevention.
- Implement a common, streamlined referral pathway to services that support recovery once a victim is identified or seeks help. The referral pathway will ensure that robust and consistent responses are available to victims from their initial point of contact (health, police or criminal justice system, mainstream or specialist services) and that they will not have to tell their story to multiple agencies and services.
- Facilitate local responses and provide victims with face-to-face services and support through Local Coordination Points, and support victims that are identified as being at serious threat of further harm through Safety Action Meetings.
- Collect and share information with NSW Police Force and other service providers so that consistent and effective service responses can be put in place to provide safety, support recovery and support the criminal justice system to enforce laws that stop abusive and violent behaviour and protect victims.
- Configure services so that they are responsive to the physical and mental health needs, including improving access to therapeutic counselling services particularly for identified vulnerable groups such as pregnant women.

9. Identify the impact of the new domestic and family violence framework for reform on NSLHD primary, community and acute health services and configure services so that they are accessible, flexible and responsive to the needs of victims.

9.8 BreastScreen

Northern Sydney BreastScreen services are provided in both public and private sectors across NSLHD. In the public sector, services now operate from two fixed locations in the RNS Community Health Centre and a newly established service at Hornsby Hospital. A mobile van operates for nine months each year in various locations across the Northern Beaches and three months in various locations across the Ryde local government area. There
are two private services, one located in Dee Why on the Northern Beaches and the other located at Wahroonga in the Hornsby Ku-ring-gai area.

Northern Sydney BreastScreen has moved from a population based funding model to an activity based funding (ABF) model and implemented a new digital clinical record and information system. These changes allowed an increase in output, but also place considerable pressure on the service to maintain this high level of efficiency. Northern Sydney BreastScreen has identified the need to move from a private to a public model to reduce costs and improve quality through the use of higher quality imaging equipment.

The remodelling of the Hornsby Hospital site enabled the relocation of the service to a more cost effective and accessible location. It also allowed the service to work with the Hornsby Hospital Division of Surgery to improve patient pathways for people undergoing breast surgery. The service has investigated opportunities to provide screening within a number of community health centres if capital funds for redevelopment become available. Community health centres considered include the new community health hubs for the Northern Beaches and Top Ryde.

10. **Prepare a business case to identify the cost benefit of BreastScreen to being included in Community Health Service redevelopments.**

### 9.9 Oral Health

Oral Health has become digital and is moving from a population based funding model to an ABF model, requiring improved efficacies in service delivery.

The previous NSLHD Clinical Services Plan identified the need to source funding for innovative programs to address the needs of low income people and people with special needs that may not fit standard eligibility criteria but have difficulty affording private oral health services. A number of programs were commenced for patients with chronic care needs or disabilities and for people living in residential care. Oral Health is now reviewing how these programs may continue under the activity based funding model.

The redevelopment of a number of community health centres across NSLHD has provided opportunities to consolidate and provide more comprehensive, collocated adult and child oral health services. Further capital developments on the Northern Beaches and at Top Ryde may offer additional opportunities to expand and improve the provision of oral health services:

- The redevelopment of acute and community health services for the Northern Beaches provides opportunities to establish a single laboratory for NSLHD and the consolidation and better integration and accessibility of adult and child oral health services that are currently spread across multiple locations
- The redevelopment of community health services in a new, purpose built facility at Top Ryde offers opportunities to improve services and collocate oral health with other community health services.

These projects are included in the NSLHD Asset Strategic Plan but capital funding has yet to be identified.

11. **Develop clinical service plans, as part of the NSLHD asset strategic planning process, for the provision of community based oral health services at Top Ryde and Northern Beaches.**

### 9.10 Disability Services

NSLHD Primary and Community Health conducted a comprehensive review of services as part of the implementation of the [NSLHD Disability Action Plan (2011-2016)](https://www.nswhealth.gov.au) and continues to work with the NSLHD Disability Action Steering Committee to monitor implementation of recommendations and improve service provision for people with disabilities and their carers.

An Intellectual Disability Assessment Service commenced at the Cremorne Community Health Centre in 2013/14. The service assesses patients with intellectual disability who have complex health needs and helps facilitate care across a range of primary, community and acute healthcare settings.
The introduction of the National Disability Insurance Scheme (NDIS) in 2017 will change how people with disabilities access services. These changes are complex and will have a significant impact both on people with disabilities and organisations that provide services. While it is anticipated that the changes will benefit the majority a small number of NSLHD residents may not meet revised eligibility criteria. The most significant impact is understood to be in child and family health and community allied health services. NSLHD will need to prepare for the roll out of the NDIS including the development of local policies, referral processes, and develop strategies to ensure that the health needs of these patients will continue to be met by primary and community health services.

NSLHD will tender to become an NDIS service provider for community nursing services and will collaborate with HammondCare and Royal Rehab for the provision of additional or specialist services.

12. **Evaluate the impact of the National Disability Insurance Scheme (NDIS) on current NSLHD service users with disabilities and identify strategies to improve service provision, including tendering to be an NDIS service provider.**
10 Maternal, Neonatal and Women’s Health

Recommendations

1. Continue to implement the “Towards Normal Birth in NSW” policy with particular focus on achieving target measures for spontaneous vaginal births, overall vaginal births and attempted vaginal birth after caesarean section, and provision of midwifery support at home after the baby is born.
2. Improve access to, and increase the capacity of, a sustainable Midwifery Group Practice service for NSLHD mothers and babies.
3. Increase the number of women who book and birth in the GP Shared Care Program to 3.3% of births by end 2014 and to 10% of births by 2016.
4. Develop a staged implementation plan, including resource requirements, to expand the Early Pregnancy Assessment Service (EPAS) in NSLHD facilities.
5. Improve patient experience for women requiring minor procedures through the development of procedural capacity in Women’s Health Ambulatory Care services.
6. Deliver an efficient and coordinated LHD neonatal service including assessment of well babies by midwives prior to discharge, pathways for acute admission of neonates on Midwifery Support Program, and arrangements for back transfer of neonates from RNSH to Special Care Nurseries at Hornsby and Northern Beaches Hospitals.

10.1 Towards Normal Birth

Over the last few years the Maternal, Neonatal and Women’s Health Network has implemented a range of strategies to improve women’s experience of birthing in Northern Sydney Local Health District (NSLHD) facilities and to maximise the use of resources within the Maternal, Neonatal and Women’s Health Services. These strategies reflect the policy directions identified in the National Maternity Services Plan and the NSW Health Policy Towards Normal Birth in NSW released in 2010 which aims to ensure all women have “access to high-quality, evidence based, and culturally competent maternity care in a range of settings close to where they live.” These strategies are echoed in the more recently released NSW Kids and Families Strategic Health Plan 2014-2024.

The Network has provided substantial interdisciplinary training for midwives and other clinical staff as the basis for the policy implementation and established the infrastructure for monitoring the types of births and program implementation. Additional policies have been released including the National Clinical Practice Guidelines for Antenatal Care – Module 1 in 2012 and Module 2 in 2014; also in 2014 NSW Kids and Families published guidelines for the Management of Pregnancy beyond 41 Weeks and Supporting Women in their Next Birth After Caesarean Section.

The Maternity, Neonatal, Women’s Health Network has consolidated the infrastructure required to support system change in response to the “Towards Normal Birth in NSW” policy. This has included:

- Development of new policies, guidelines and procedures
- Access to practices such as external cephalic version for breech presentation, targeted next after caesarean section services and water immersion for labour and birth at all Health Services
- Interdisciplinary training and education
- Trending reporting systems to raise awareness of outcomes in relation to the types of delivery.

With these system changes and structures now in place and embedded in normal practice efforts will be focused on achievement of improved outcomes by 2015 with specific emphasis on achieving target measures for spontaneous vaginal births, overall vaginal births and attempted vaginal birth after caesarean section, and provision of midwifery support at home after the baby is born.

Best outcomes for mothers and babies are also ensured through continuing access to Safe Start Programs and piloting the Perinatal Conferencing Program at Hornsby to promote early engagement and interagency planning with pregnant women and families at risk of their newborns entering out of home care at birth.
1. **Continue to implement the “Towards Normal Birth in NSW” policy with particular focus on achieving target measures for spontaneous vaginal births, overall vaginal births and attempted vaginal birth after caesarean section, and provision of midwifery support at home after the baby is born.**

The Towards Normal Birth policy requires LHDs to provide or facilitate access to midwifery continuity of care programs in collaboration with general practitioners (GPs) and obstetricians, for all women, with appropriate consultation, referral and transfer guidelines in place. The development of these models of care will improve choice for women and is a key performance measure for the NSLHD.

Currently NSLHD provides this type of care through two key programs: Midwifery Group Practice and GP Share Care. These models of care provide a good use of resources for low risk pregnancies with obstetricians focusing on more complex and high risk pregnancies. Midwifery group practice programs are provided at Hornsby, Northern Beaches, RNS and Ryde hospitals. Approximately one third of low/normal risk mothers who access NSLHD services choose and are eligible for these programs. The Towards Normal birth policy identifies a target of 35% of women accessing midwifery continuity of care programs by 2015.

Strategies are in place for women who require a higher level of care prior to the birth or during delivery. Higher level care is available when required onsite at Hornsby, Northern Beaches and RNS hospitals while mothers planning to birth at Ryde can be readily transferred to RNSH if complications arise. Approximately 15% of women need to be transferred from Ryde to RNSH for labour (e.g. for induction or augmentation) or during labour (e.g. for prolonged labour or foetal issues). If the woman is transferred to RNSH for the delivery she will generally continue to be supported during the delivery and receive post natal care by her existing Ryde midwife; however continuity of care is not always possible and hospital midwives and other resources are sometimes accessed to provide the level of care required.

There is a high degree of consumer satisfaction with midwifery group practice models. To improve the sustainability and support the expansion of these models across NSLHD it is important to gain a more complete understanding of the costs of the service, the implications of current practices on both the midwives providing the service and the demands on hospital based services when mothers are transferred. Pathways and processes for the continuity or transfer of care between the Midwifery Group Practice and local health services within NSLHD also need to be developed.

2. **Improve access to, and increase the capacity of, a sustainable Midwifery Group Practice service for NSLHD mothers and babies.**

Under shared care programs women who have uncomplicated or low/normal risk pregnancies are cared for by hospital antenatal clinics in conjunction with their general practitioner. Women can receive ongoing care with their regular GP throughout the duration of the pregnancy and after the baby is born.

In 2013 across NSLHD 4.9% of women booked into the GP shared care program and at the time of birth the rate was halved to 2.2%. The reasons for this reduction are unclear at this time. This model is the preferred or default service mode in Sydney LHD and an estimated 50% of women with normal/low risk pregnancies book into the GP shared care program.

NSLHD maternity services have worked collaboratively with the Medicare Locals to develop GP education and training resources to support the delivery of high quality evidence based GP shared care. Further work will be required to establish a similar relationship with the new Primary Health Networks so that this work can progress.

This model will also provide opportunities to support general practitioners to monitor patients with gestational diabetes, diet controlled diabetes and patients on replacement thyroxine. This workload is anticipated to increase in coming years particularly for women with uncomplicated pregnancies, as a result of changes in clinical practice outlined in the new National Clinical Practice Guidelines for Antenatal Care. These guidelines recommend action including a schedule of antenatal visits based on the individual women’s needs. Module 1 was released in 2012, Module 2 in 2014 and a further module is expected to be released in 2015. Women with complicated pregnancies will continue to be monitored by their obstetrician or obstetric staff specialist.
The development of an efficient integrated service would provide a positive experience for consumers. The Medicare Locals have confirmed that there is capacity and willingness to increase the provision of GP Shared Care. NSLHD is moving to increase the number of women cared for under the GP Shared Program over time with a long term target of 3.3% of births by end 2014 and up to 10% by 2016.

3. **Increase the number of women who book and birth in the GP Shared Care Program to 3.3% of births by end 2014 and to 10% of births by 2016.**

### 10.2 Women’s Health Ambulatory Care Services

The Women’s Health Ambulatory Care service at RNSH opened in December 2014 in the new Clinical Services Building. In addition to providing outpatient consultation services the centre will also accommodate the Early Pregnancy Assessment Service (EPAS) and a range of minor surgical procedures.

The Early Pregnancy Assessment Service provides an alternative model of care for women experiencing issues of concern in their early pregnancy to attending the Emergency Department. The service currently operates for about 20 hours each week.

It is proposed to expand this service over time, initially by extended the service hours at RNSH to provide a more comprehensive service from Monday to Friday and on Saturdays. Subsequent expansion will focus on developing similar services at Hornsby Hospital and on the Northern Beaches.

4. **Develop a staged implementation plan, including resource requirements, to expand the Early Pregnancy Assessment Service (EPAS) in NSLHD facilities.**

A number of minor procedures have been identified as suitable to be provided in the clinical services building women’s ambulatory care space as an alternative to day surgery. These could include loop biopsy, endometrial biopsy, inter-uterine device (IUD) implant/removal, and hysteroscopy. This type of change may be appropriate to consider in the other health services over time.

Service and business proposals for minor procedures to be provided in the ambulatory environment will need to address staffing and resource requirements as well as clinical pathways, protocols and procedures. This model of care will shift activity from admitted day only to ambulatory care, provide a better use of new infrastructure and is expected to provide women with a more pleasant environment to receive their care.

5. **Improve patient experience for women requiring minor procedures through the development of procedural capacity in Women’s Health Ambulatory Care services.**

In addition to the provision of minor procedures the Maternal Neonatal and Women’s Health Network along with the Clinical Directors and Gynaecology Department Heads have proposed that admitted “high volume short stay” gynaecology services be provided at three nodes in NSLHD including Hornsby, Northern Beaches and RNS hospitals. The Surgical and Anaesthesia Network will determine the volume and type of surgery to be provided within each facility.

### 10.3 Neonatal Care

The NSLHD Neonatal Service is developing policies, guidelines and procedures to standardise practice across all NSLHD facilities and match service delivery to role delineation. Two key focus areas include follow-up assessment of the well newborn baby before discharge, and readmission pathways for neonates on the midwifery support program.

Assessment of neonates prior to discharge has traditionally been conducted by medical officers. Mother and baby discharge can be unnecessarily delayed at times when the medical officer’s workload is high. A Follow-up Assessment of the Well Newborn (FAWN) program has been developed which accredits midwives and nurses in the assessment of well babies prior to discharge. This program aims to avoid the need for parents to return to the hospital for the assessment and to reduce bed block while parents await medical review.
The provision of an efficient and coordinated neonatal intensive care and special care service is dependent on clear and consistent pathways for sick babies to access acute services whether they are born in hospital or born in the community under the midwifery support program, and for the back transfer of babies from neonatal intensive care services to special care nurseries closer to home as their condition improves.

There have been inconsistencies across NSLHD and across LHD boundaries that present risks in terms of ability to access the right care by the right people in a timely manner. The Neonatal Committee has developed admission pathways for neonates on the Midwifery Support Program (MSP) to avoid actual or potential adverse events.

The Committee also recognises the shared responsibility for care across the LHD and the need to facilitate back transfers to local hospitals which will enable RNSH to effectively provide its state-wide neonatal intensive care role and enable Hornsby and the Northern Beaches hospitals to provide care closer to the family’s home.

6. Deliver an efficient and coordinated LHD neonatal service including assessment of well babies by midwives prior to discharge, pathways for acute admission of neonates on Midwifery Support Program, and arrangements for back transfer of neonates from RNSH to Special Care Nurseries at Hornsby and Northern Beaches Hospitals.

### 10.4 Maternal Mental Health

The Maternal Neonatal and Women’s Health Network has identified gaps in services for pregnant women and mothers with severe mental illness. Collaboration between mental health and the other major service providers such as maternity services, child and family health services, and medicine is required to promote good mental health and reduce the impact of parental mental illness on the developing infant. More detailed discussion on this aspect of care and service provision is included in the Mental Health and Drug and Alcohol chapter of the clinical services plan.

### 10.5 Tresillian Care Services

Tresillian is Australia’s largest child and family health organisation providing specialist parenting advice to families during the early years. The service has a strong reputation for their effectiveness, safety and quality of care.

Tresillian Care Centres offer support to women with transition difficulties associated with bonding with baby, feeding and sleeping. Their services promote breast feeding and its health benefits and address prolonged adverse emotional responses, post natal depression and potential risks of harm to infants.

Tresillian Family Care Centre is currently located in Wollstonecraft although there is insufficient capacity at that location to meet the demand of new families in the transition to parenting.

Preliminary discussions between Tresillian and NSLHD have resulted in the identification of potential space in the clinical services support zone on the RNSH master plan for Tresillian services. This collocation of the Tresillian service on the RNSH campus would enhance the interface between Maternity and Child & Family Health services and provide a valuable adjunct for referral.
11 Child Youth and Family Health

Recommendations

1. Define a model of care and develop a business proposal to establish a youth health service addressing the specific and unique health needs of young people aged 12-24 years in NSLHD acute and community services.

2. Evaluate the impact and outcomes of the Hornsby Healthy Kids program, and develop and implement strategies for the prevention, early intervention, and management of childhood and adolescent obesity across NSLHD.

3. Develop, implement and evaluate strategies and models of care to better respond to the mental health needs of children presenting to the Emergency Department (ED), admitted to paediatric inpatient services or accessing Child and Family Health services.

4. Evaluate NSLHD performance against the Out of Home Care Health Pathway and NSLHD performance agreement, and identify and implement strategies that will strengthen and consolidate business processes, clinical referral pathways, and partnerships with other service providers (GPs, NGOs, Family and Community Services (FaCS)) in providing a health care pathway for children and young people entering Out of Home Care.

5. Review and determine the longer term size, configuration, role delineation and standardised models of care for paediatric services at NSLHD hospitals and support the Surgery and Anaesthesia Network in the implementation of the strategic framework for paediatric surgery for children in metropolitan Sydney.

6. Develop paediatric hospital in the home services for NSLHD in collaboration with the APAC Service.

7. Develop models of care and a business proposal for the expansion of ambulatory care services (acute review, short stay and specialist outpatient services) at Hornsby, Mona Vale and RNS hospitals.

8. Streamline intake and information sharing processes and incorporate Child and Family Health Services into a single point of entry.

9. Streamline pathways to secondary and tertiary Child and Family Health Services.

10. Review and modify Community Health Outpatient Care (CHOC) health record business rules to support clinical pathways and decision making.

11. Implement the Collaborative Practice Management Group Working Together Plan and participate in the joint initiatives with FaCS and relevant NGOs, as identified by the Community Engagement Board.

12. Work with GPs and Medicare Locals/Primary Health Networks to develop pathways for vulnerable families.

11.1 Introduction

The Child, Youth and Family Network brings together Child and Family Health; child developmental disability services; child protection and child sexual assault; Paediatric inpatient, outpatient and ambulatory care services; paediatric endocrine services; Youth health; and neonates (shared with the Maternity, Neonatal and Women’s Health Network).

In NSLHD, acute paediatric services are provided at three hospitals: Hornsby, Mona Vale and Royal North Shore. Children also present to the emergency departments (ED) at Manly and Ryde Hospitals and where the child’s clinical need exceeds the scope of the service available in the ED, they are referred to other hospitals in the LHD or to a tertiary children’s hospital.

Child and Family Health Services are established across the LHD and provide universal services such as early childhood health centres (ECHC) such as vision and hearing screening services as well as targeted services such as community paediatrics, sustained health home visiting, allied health services (speech pathology, physiotherapy and occupational therapy), and building stronger foundations programs.

Child and Family Health Services are based on a wellness model of care and the principles of health promotion, prevention, early intervention, helping parents learn to care for babies and young children and support parents in understanding how to maintain their own health. They provide preventive health care and address the significant health and development issues of infancy and childhood.
The provision of child youth and family health services is dependent on the integration of a large number of service providers and activities including:

- Other NSLHD clinical networks (particularly maternal, neonatal and women’s health; mental health and drug and alcohol; surgery and anaesthesia; chronic and complex medicine; primary and community health)
- General practitioners (GPs), Medicare Locals/primary health networks and non-government organisations (NGOs) and private allied health providers
- NSW Kids and Families
- Other government agencies (particularly Family and Community Services, Education)
- NSW Health Child Health Networks
- Level 4 metropolitan and outer metropolitan paediatric services network (MP4).

The Clinical Network has strengthened governance and management arrangements to bring together these stakeholders and facilitate collaboration in the development and improvement of services. This networking will continue to play a significant role in the development of integrated models of care and the improvement of access to appropriate paediatric services and to primary child and family health services for all families. In addition, secondary and tertiary child and family health services will continue to target the needs of vulnerable populations.

Currently many early childhood and community health premises are rented from local councils through a historical agreement for rates to be minimised; however some councils are looking to redevelop sites and/or increase rents significantly. The Child, Youth and Family Network considers that the child and family health services should be located in community settings and where the service can be easily accessed. Continued work and advocacy is required to ensure that these community settings are retained. The NSLHD Capital Assets Planning Committee will address this issue.

The impact on families of technologies generally, including social media, is significant. Child and Family Health Services need to adapt to these changing technologies as part of their work to support families.

The National Disability Insurance Scheme (NDIS) has been legislated and will be rolled-out by 2017. It is anticipated that the NDIS will affect the referral pathways from Child and Family Health for children with disabilities; some of these impacts are already evident. It will be critical to establish clear referral pathways for children with disabilities to ensure that appropriate services both within and outside of public health services are accessible. The impact of any increase on demand for health services will need to be assessed and strategies developed to respond to the changes. The Child, Youth and Family Network will work closely with NSLHD Primary and Community Health Services to prepare for the roll out of the NDIS.

Paediatric presentations and admissions have increased since 2012, putting additional pressure on emergency departments and wards. This makes the development of new models of care and increased ambulatory care for children and young people imperative.

In particular, mental health admissions have increased, creating unique challenges for paediatric staff in the management of mental health patients in children’s wards. Child and family health services are also experiencing the impact of increased mental health presentations among children. The network has a role in developing strategies to respond to children, young people and families presenting to paediatric and child and family health services with mental health needs.

The Clinical Network also plays a key role in supporting professional development for clinical staff and developing quality medical, nursing and allied health workforces across both paediatrics and child and family health to ensure that present and future staff have skills and knowledge to meet the changing needs of infants, children, and their families.

Each of these core functions will continue to be included in the Clinical Network’s action plan and will inform each of the recommendations proposed for inclusion in the revised clinical services plan. The clinical network action plan will also align with the recently released NSW Kids and Families Strategic Health Plan for Children, Young People and Families 2014-24.
11.2 Youth Health Service (12-24 years)

Until recently NSLHD had no dedicated youth health service. The Forgotten Generation Project, funded by the Greater Eastern Child Health Network in 2012-2013, recruited a Clinical Nurse Consultant (CNC) in adolescent health for an 18 month period to facilitate the implementation of the NSW Youth Health Policy 2011-16, scope the need for youth health services in NSLHD, and to undertake clinical consultancy, education and strategic policy work in relation to youth health. Following the success of this project, the Youth CNC position has been made permanent. The new position has a dual role with approximately 3 days per week in an acute care setting based at Royal North Shore Hospital and 2 days per week in a community setting at headspace Chatswood.

In the acute care setting, the Youth CNC will establish and manage a consultancy service at RNSH for young people aged 12-24 years, providing age-appropriate assessment, brief intervention and referral with the aim of reducing repeat ED presentations and admission to acute inpatient care. In the community setting, the Youth CNC will establish and run clinics at headspace Chatswood to provide assessment, brief intervention and referral in regard to physical health issues. Strong links will be developed with the RNSH acute and community health services. The CNC will work also to support the general practitioners and the practice manager to ensure robust physical health care systems are in place for young people presenting to headspace Chatswood.

The establishment of further youth health services in NSLHD is a high priority for the Child, Youth and Family Network. Models of care and service delivery options, through the development of a business proposal, will consider:

- Youth Health nursing resources for Northern Beaches and Hornsby areas (funding has been secured for a clinical nurse specialist position) to be based in the community
- GP/visiting medical officer (VMO) resources with expertise in youth health issues to deliver medical services across NSLHD
- Liaison and referral pathways between NSLHD acute and community services and headspace (Chatswood, Brookvale) and GPs
- Strategies to improve the experience of adolescents in non-youth-specific admitted and ambulatory services encompass capacity building and skills development for general and specialist clinical staff in creating and maintaining therapeutic environments for, and relationships with, young people in their care, and evaluation of opportunities to provide cohabited outpatient clinics for young people
- Strategies to support the transition from children’s to adult services in conjunction with ACI transition coordinators and Trapeze service.

1. Define a model of care and develop a business proposal to establish a youth health service addressing the specific and unique health needs of young people aged 12-24 years in NSLHD acute and community services.

11.3 Childhood and Adolescent Obesity

A key direction of the NSW State Health Plan Towards 2021 is keeping people healthy; it identifies a target of reducing overweight and obesity rates of children and young people from 22.8% in 2010 to 21% by 2015. Rates of obesity have tripled in Australian children in the last 15 years. Overweight children may be twice as likely to be overweight or obese in adulthood. Adolescent overweight is associated with a broad range of adverse health effects in later life which are independent of adult weight after 55 years.

Child and Family Health Services support healthy weight through the promotion and support of breastfeeding, including through breastfeeding drop in sessions and early parenting groups; parent education sessions on the appropriate introduction of solid foods to infants, in line with National Health and Medical Research Council recommendations; and measuring of body mass index (BMI) from 2 years of age and implementation of the BMI pathway developed for NSLHD Child and Family Health clinicians in 2010.
At Hornsby Ku-ring-gai Hospital, the paediatric service has led the establishment of a multi-disciplinary weight management clinic. The clinic follows a group model for education of parents and children, a family approach to exercise and activity and peer and professional support as well as medical monitoring. The program commenced in 2014 and is already fully booked.

This and other possible models of care may be considered in developing strategies across Paediatrics and Child and Family Health for the prevention, early intervention, and management of childhood and adolescent obesity.

2. **Evaluate the impact and outcomes of the Hornsby Healthy Kids program, and develop and implement strategies for the prevention, early intervention, and management of childhood and adolescent obesity across NSLHD.**

### 11.4 Mental Health

Children, young people and families with both physical and mental health needs regularly present to emergency departments, acute paediatrics and child and family health services. A close working relationship with Child and Youth Mental Health service (CYMHS) supports joint management and referral pathways into the most appropriate care setting. Some children and young people, while requiring the support of Child and Youth Mental Health Service (CYMHS), may continue to receive treatment from acute or community paediatricians, and/or may be most appropriately cared for in general paediatric wards.

Caring for children and young people with mental health needs in children’s wards and in child and family health services creates unique challenges for paediatric staff who may be less familiar with the range of skills and approaches used in CYMHS. Paediatric and child and family health staff require training and support to develop a range of skills to successfully manage the mental health needs and challenging behaviours of these patients and clients.

3. **Develop, implement and evaluate strategies and models of care to better manage the mental health needs of children presenting to ED, admitted to paediatric inpatient services or accessing Child and Family Health Services.**

### 11.5 Out of Home Care

Out of home care (OOHC) provides alternative accommodation for children and young people who are unable to live with their parents. In most cases, children in OOHC are also under a care and protection order. Children and young people placed in out of home care are likely to have experienced a significant life disruption and loss, and require support to catch up on some developmental stages. Children and young people who have experienced abuse and neglect require specialised, highly skilled and well-supported out of home care.

The proportion of children in OOHC differs across jurisdictions and is estimated at 9.4 per 1000 in NSW. In 2010/11 over 600 referrals were made to NSW local health districts for primary health screening, comprehensive assessments, and completion of health management plans for children and young people in OOHC. NSLHD has a very small number of children in out of home care.

Under the [NSW Keep Them Safe program](#) model pathways and a clinical assessment framework for children and young people entering OOHC have been developed and implemented across LHDs.

NSLHD has developed local agreements with Family and Community Services, Medicare Locals, GPs, acute paediatrics, child and family services, *headspace* and other community services to support timely health assessments for children and young people entering OOHC who are expected to remain in care for more than 90 days. OOHC wrap around support provided by NSLHD include access to mental health assessment and support, physical health and paediatric assessments and intervention, dental assessment, occupational therapy, and speech pathology. The target that all children and young people be offered a health assessment within 30 days of entering OOHC presents challenges due to delays in receiving notification of children and young people entering OOHC.
4. Evaluate NSLHD performance against the Out of Home Care Health Pathway and NSLHD performance agreement, and identify and implement strategies that will strengthen and consolidate business processes, clinical referral pathways, and partnerships with other service providers (GPs, NGOs, Family and Community Services (FaCS)) in providing a health care pathway for children and young people entering Out of Home Care.

11.6 Acute Paediatric Services

Acute paediatric services continue to be provided at Hornsby, Mona Vale and RNS hospitals in conjunction with maternity and neonatal services. Children presenting to Manly and Ryde emergency departments are transferred to other hospitals when their clinical needs exceed the capabilities of those hospitals.

In late 2014 paediatric services at RNSH moved into new purpose built accommodation in the Clinical Services Building with space for inpatient beds and ambulatory care (short stay beds, acute review and outpatient clinics). The development of the new Northern Beaches Hospital at Frenchs Forest will see acute paediatric services transfer from Mona Vale when it opens in 2018. Service planning for the redevelopment of the Hornsby Hospital site is underway and will include planning for paediatric services to meet anticipated demand.

In 2014 NSW Kids and Families released a strategic framework for the provision of surgery for children in metropolitan Sydney. The focus of the strategy is provision of appropriate services for children as close to home as possible and balancing proximity of access and the concentrated expertise of specialist children's hospitals. Further details of this strategy are included in the Surgery and Anaesthesia section of this Clinical Services Plan as that clinical network will have carriage of implementation. The Child Youth and Family clinical network will play a key role in shaping and supporting implementation strategies.

These significant capital redevelopments along with the introduction or expansion of ambulatory care models and changes in the delivery of emergency and elective paediatric surgery across metropolitan Sydney provide impetus to review and determine the medium to long term functions of each of the three paediatric services including the range and volume of inpatient and ambulatory services provided and role delineation levels. Models of care for Ryde and Manly hospitals should also be reviewed to ensure the appropriate care is provided to children and their families when they present to their local hospital.

5. Review and determine the longer term size, configuration, role delineation and standardised models of care for paediatric services at NSLHD hospitals and support the Surgery and Anaesthesia Network in the implementation of the strategic framework for paediatric surgery for children in metropolitan Sydney.

11.7 Hospital in the Home

Hospital in the home (HitH) services are currently provided by the Acute Post-Acute Care (APAC) service across NSLHD to eligible patients aged over 13 years. APAC provides intense, short term, interdisciplinary acute health care and management to patients in their own home or in a clinic environment, as a direct substitution for inpatient hospital care.

In 2013/14 the NSLHD paediatric and APAC services agreed to jointly develop a service model for the delivery of acute services to children of all ages in their own homes. The model will function as an extension to the existing APAC service but will be adapted to the paediatric context and will include paediatrician referral and other paediatric support along with appropriate staff training in the care of children. Development of the model of care is being progressed by a working group under the auspices of the Child Youth and Family clinical network.

6. Develop paediatric hospital in the home services for NSLHD in collaboration with the APAC Service.

11.8 Ambulatory Care

Paediatric ambulatory care services (PACS) encompass:
Ambulatory care clinics for children and young people referred from the emergency department (ED), GPs or outpatient services who need specialist assessment and treatment for urgent non-critical illnesses. Acute review clinics have been developed at each of the three acute hospitals with paediatric wards: at Hornsby Hospital in 2006, at Mona Vale Hospital in 2012, and at Royal North Shore Hospital in 2013.

Short stay beds (day only, extended hours, not overnight) for children and young people who require a period of treatment or observation after assessment in ED or referral by GP prior to discharge home. A short stay unit is being trialled at RNSH in 2014 and one has been proposed for inclusion in stage 2 of the Hornsby Hospital redevelopment.

Outpatient clinics for children and young people who require specialist or multidisciplinary follow up for a range of acute illnesses or for chronic and complex diseases. Specialist medical outpatient clinics are currently provided at RNSH only.

As well as being a preferable option for many families, ambulatory care services have supported emergency departments and inpatient services to manage the increasing number of children and young people who present for treatment or require hospital admission. Expansion of the ambulatory care model may offer further opportunities for hospitals to manage anticipated growth in activity and respond to other system changes that will increase local demand such as the return of non-complex patients from the specialist children’s hospitals.

Development and standardisation of the models of care for each of the ambulatory care components across the three acute hospitals is being progressed by a working group under the auspices of the Child Youth and Family clinical network. This work will include the development of a business proposal to set out resources required, how they will be applied and how the services can be delivered within the activity based funding model.

7. Develop models of care and a business proposal for the expansion of ambulatory care services (acute review, short stay and specialist outpatient services) at Hornsby, Mona Vale and RNS hospitals.

11.9 Child and Family Health Services

The rollout of the Community Health and Outpatient Care (CHOC) program was completed in September 2014 delivering an integrated clinical system that allows clinical notes to be shared across primary, community and acute services. Current program activities focus on resolving outstanding implementation issues, the development of regular activity reports for individual services and refinement of the reporting and management framework. For Child and Family Health Services current activities are focusing on the streamlining intake and information sharing processes and developing a model that will support the inclusion of Child and Family Health Services in the NSLHD health contact centre.

In addition, strategies need to be developed to ensure that business processes adapt to the challenges and optimise the opportunities created through implementation of CHOC.

8. Streamline intake and information sharing processes and incorporate Child and Family Health Services into a single point of entry.

Child and Family Health Services offer a universal health home visit to all families when they have a baby, and ongoing access to universal care via community based Early Childhood Health Centres. Access to these services could be improved through greater collaboration with partners, referral pathways, and strategies targeted at vulnerable population groups.

NSLHD also offers secondary services for families requiring additional support, including through Family Care Centres, Extended Home Visiting and Child and Family multidisciplinary teams. Some tertiary services are also provided, such as developmental diagnostic services and child protection services.

In 2013-2014 an evaluation of secondary child and family health services in NSLHD was undertaken. The evaluation report provided a series of recommendations, the implementation of which will increase service integration and improve access for families requiring additional support.

9. Streamline pathways to secondary and tertiary child health services.
10. Implement the Collaborative Practice Management Group Working Together Plan and participate in the joint initiatives with Family and Community Services (FaCS) and relevant NGOs, as identified by the Community Engagement Board.

11. Work with GPs and Medicare Locals/Primary Health Networks to develop pathways for vulnerable families.
12 Rehabilitation and Aged Care

Recommendations

1. Evaluate the commissioning process and impact of new sub-acute inpatient rehabilitation services at Mona Vale and Ryde hospitals against the principles of the NSW Health/ACI rehabilitation model of care and anticipated improvement in access from acute services, identifying service gaps and further service changes required across NSLHD.

2. Review and streamline general and specialist rehabilitation roles across Hornsby, Mona Vale, Ryde hospitals and NSLHD community health services, and affiliated service providers Greenwich and Royal Rehab.

3. Review and make recommendations for the provision and distribution of specialist rehabilitation services, including amputee care, across NSLHD hospitals and affiliated health organisations.

4. Implement and evaluate standardised models of care across NSLHD with reference to best practice models described by ACI for in-reach, sub-acute inpatient, ambulatory and home based rehabilitation.

5. Determine activity targets for each rehabilitation modality and allocate available workforce and other resources across the LHD and at each facility to support the anticipated workload.

6. Develop and standardise referral guidelines and associated pathways to public and private rehabilitation services including transfer options if access is delayed.

7. Quantify and determine a preferred model of care for patient cohorts whose rehabilitation may be delayed or complicated by continuing acute care needs (e.g. patients who require regular renal dialysis).

8. Develop, implement and evaluate strategies to improve care integration for older persons with complex health needs with reference to the best practice principles and models of care identified by ACI.

9. Review hospital avoidance services for older people living in residential aged care facilities and develop, implement and evaluate a standardised, efficient and effective model of care across NSLHD.

10. In collaboration with RNSH, implement and evaluate an orthogeriatric and surgical-geriatric service at Ryde Hospital to support its role in the provision of acute and sub-acute aged care and rehabilitation services for NSRHS.

11. Implement the ACI orthogeriatric model of care (including NSW minimum standards for management of hip fracture and osteoporosis re-fracture prevention) and evaluate the outcomes and impact of service changes with a view to further improving care across NSLHD.

12. Implement and evaluate the NSLHD Dementia Service Framework Implementation Plan and best practice principles and models of care along the service pathway from awareness through diagnosis and assessment to continuing care in community, hospital and residential settings with reference to the NSW Health Dementia Services Framework.

13. Implement best-practice principles and models of care to improve the experiences and outcomes of patients with dementia and confused hospitalised older persons (CHOPs) across NSLHD.

12.1 Inpatient rehabilitation

Inpatient rehabilitation services are provided at Hornsby, Mona Vale and Ryde hospitals, in affiliated health organisations Royal Rehab and HammondCare at Greenwich Hospital, and in a large number of private hospitals across NSLHD. The Graythwaite Rehabilitation Centre at Ryde Hospital opened in 2013 with a built capacity of 64 beds and the Beachside Rehabilitation Unit at Mona Vale Hospital opened in 2014 with a built capacity of 26 beds complementing the existing 30 bed unit. Beds in these two units will be opened progressively to match demand over time (the remaining 20 publically funded rehabilitation beds at Greenwich Hospital transferred to Ryde Hospital in September 2014). Additional rehabilitation beds have been included in stage 2 planning for the redevelopment of Hornsby Hospital to complement the 40 rehabilitation beds already available on site.

The opening of additional rehabilitation beds is expected to have a significant impact on acute hospital services, particularly at RNSH where a large number of acute beds were used to accommodate sub-acute patients who required rehabilitation or other sub-acute care prior to accessing rehabilitation services. It is expected that the
number of beddays occupied by sub-acute patients at RNSH and other acute hospitals will decrease significantly as the rehabilitation services develop.

1. **Evaluate the commissioning process and impact of new sub-acute inpatient rehabilitation services at Mona Vale and Ryde hospitals against the principles of the NSW Health/ACI rehabilitation model of care and anticipated improvement in access from acute services, identifying service gaps and further service changes required across NSLHD.**

### 12.2 Ambulatory and specialist rehabilitation

In addition to sub-acute inpatient rehabilitation NSLHD provides a range of ambulatory rehabilitation services:

- Centre based day rehabilitation programs are provided at Hornsby, Manly and Mona Vale hospitals for their local populations while Greenwich Hospital provides a program for residents of North Shore Ryde. The NSLHD Chronic Disease Rehabilitation Program, under the auspices of the Primary and Community Health Service, is offered in each health service.
- Outpatient clinic based services, including medical, nursing, allied health and hydrotherapy, are provided at Hornsby, Manly and Mona Vale for their local populations, and at Greenwich, Royal Rehab and Ryde hospitals for North Shore Ryde residents.
- Across NSLHD, Royal Rehab provides home based rehabilitation services for up to 20 patients while the Chronic Disease Community Rehabilitation program offers home based support for selected patients. Hornsby and Greenwich services offer home-based services for Hornsby Ku-ring-gai and North Shore Ryde residents while Rehabilitation and Aged Care Outreach services provide allied health home visits for Northern Beaches residents.
- Specialist rehabilitation programs, clinics and services are offered at:
  - Hornsby for prosthetics/orthotics, spasticity and Parkinson’s disease
  - RNSH for early supported discharge for stroke, amputee, spinal cord injury (including sexuality), muscular dystrophy and spasticity, chronic pain
  - Royal Rehab for complex neurological conditions, brain injury, spinal cord injury, spasticity, prosthetics and orthotics, psychiatry and driver assessment and training service
  - Greenwich for chronic pain, lymphoedema, cancer rehabilitation, and driver assessment and training services.

In 2013/14 an external review of ambulatory rehabilitation services in NSLHD was conducted. Services were assessed against a set of criteria including:

- Provision of ambulatory rehabilitation by a multidisciplinary team
- Defined referral processes and patient eligibility criteria
- Coordinated multidisciplinary assessment and planning processes
- Time limited and goal directed programs and services
- Formal provisions for patient review and discharge
- Links with inpatient or post-acute care programs to ensure continuity of care and timely acceptance of clients referred from these areas
- Reporting against accepted general and discipline-specific outcome measures.

The draft report identified a number of issues and service gaps which the Review of Ambulatory Rehabilitation (RoAR) Working Group is now considering.

Among other things, the draft report identified the need to develop ambulatory rehabilitation services based on a model that more closely integrates delivery of in-patient, centre-based and home-based services within each of the three NSLHD health services and acknowledged the potential implications for affiliated health organisations Royal Rehab and HammondCare at Greenwich.

Royal Rehab and HammondCare at Greenwich Hospital previously provided inpatient rehabilitation services as part of their service agreement with NSLHD. While these contractual arrangements have concluded Royal Rehab has
opened two private rehabilitation wards and Greenwich Hospital plans to continue providing subacute inpatient services. Both services continue to provide a range of ambulatory rehabilitation services under their service level agreements. It will be important to continue to work in partnership with the affiliated organisations towards a more comprehensive integrated model for rehabilitation services in NSLHD reflecting the NSW Rehabilitation model of care.

The review of ambulatory rehabilitation services also provides opportunity to consider arrangements that are in place for the provision of specialist rehabilitation services so that equitable access to consistent and comprehensive services is available across the whole of NSLHD. Of note was the duplication of selected specialist clinics for amputees, prosthetics and orthotics across a number of sites (Hornsby, RNSH, Greenwich and Royal Rehab) and the provision of other specialist services in only one or two locations.

2. **Review and streamline general and specialist rehabilitation roles across Hornsby, Mona Vale, Ryde hospitals and NSLHD community health services, and affiliated service providers Greenwich and Royal Rehab.**

3. **Review and make recommendations for the provision and distribution of specialist rehabilitation services, including amputee care, across NSLHD hospitals and affiliated health organisations.**

### 12.3 Implementing the NSW rehabilitation model of care in NSLHD

In 2011, NSW Health released the final report of the Rehabilitation Redesign Project and the **NSW Rehabilitation model of care** and recommendations for implementation. The model defined six care settings from in-reach to the acute hospital setting, through sub-acute inpatient services, centre-based day services, outpatient clinics and home based services to out-reach services. It recognised the need for consistent patient journeys within each care setting and that patients may need to use one or multiple care settings. Key components of the patient journey common to each of the care settings include defined patient eligibility, pathways into and discharge from the settings, and clearly defined service delivery with a time limited goal setting approach to rehabilitation planning.

The NSLHD Rehabilitation and Aged Care Clinical Network, based on a gap analysis, the review of ambulatory rehabilitation services and other work since the last clinical services plan in 2012, has identified key challenges in the implementation of the NSW rehabilitation model of care:

- Uneven development of ambulatory rehabilitation services to date
- Expansion and delivery of in-patient rehabilitation as part of the care continuum at Mona Vale and Ryde hospitals, with further inpatient capacity in planning for Hornsby
- Variation in service costs and patient eligibility, pathways into and discharge from inpatient and ambulatory rehabilitation
- Estimation of demand for each rehabilitation modality, noting that demand for particular modalities may have been higher than anticipated due to capacity of alternatives
- Meaningful information and data collection to monitor and evaluate service performance and resource use, and clinical or patient outcomes
- Maintaining and developing relationships with affiliated health organisations and private sector to promote seamless care across service providers.

NSLHD will need to work collaboratively across health services and with affiliated health service providers to agree on common and consistent service models, workforce standards and skill mix to support models of care and to determine the mix and capacity of each rehabilitation modality.

4. **Implement and evaluate standardised models of care across NSLHD with reference to best practice models described by ACI for in-reach, sub-acute inpatient, ambulatory and home based rehabilitation.**

5. **Determine activity targets for each rehabilitation modality and allocate available workforce and other resources across the LHD and at each facility to support the anticipated workload.**

6. **Develop and standardise referral guidelines and associated pathways to public and private rehabilitation services including transfer options if access is delayed.**
The NSW rehabilitation model of care also recognised that defining “ready for rehabilitation” is an ongoing challenge for services. Balancing a patient’s readiness for rehabilitation with service specific admission criteria can be problematic particularly where patients require continuing acute care services or where there is a delay in access to the appropriate rehabilitation setting. For example, accessing rehabilitation services can be more complex for patients who also require regular and ongoing renal dialysis.

With the opening of new rehabilitation beds at Ryde and Mona Vale hospitals there is opportunity to explore a range of models to deliver the best possible rehabilitation service to this, and other similar patient cohorts.

Service delivery models to be considered could include in-reach rehabilitation to in-centre dialysis services, provision of dialysis at each rehabilitation service, or provision of dialysis at a single rehabilitation services for NSLHD. Where dialysis and rehabilitation services are provided on different facilities timely and responsive transport arrangements also need to be secured.

The rehabilitation service and clinical network are exploring opportunities and service models to deliver rehabilitation to patients whose needs are not currently met due to ongoing acute care needs. Identifying and meeting the needs of patients on dialysis will form part of this work.

7. Quantify and determine a preferred model of care for patient cohorts whose rehabilitation may be delayed or complicated by continuing acute care needs (e.g. patients who require regular renal dialysis).

12.4 Integrated aged care

Care of the older person is provided across the health journey by three specific sectors (acute, primary and community) with separate funding and management structures; care is often provided in parallel by different healthcare professionals and different services with little coordination or linkage between them. There is currently significant duplication across settings as little information is transferred between providers and each care episode is not connected to previous or future episodes of care.

Even within the acute hospital setting care can be fragmented with older persons receiving care from a variety of specialist services following presentation to the emergency department or referral from their GP. A significant proportion of older patients have their initial acute care needs managed in medical assessment units (MAU) and for longer inpatient stays care is provided under a range of models: at Hornsby Hospital older patients are managed in a shared care model between geriatricians and other medical specialists; at RNSH older patients are admitted either under geriatricians or other medical specialists with or without geriatric consultation support; at Ryde, Manly and Mona Vale Hospitals older patients are admitted under general physicians or medical specialists and may receive consultation support from geriatric services.

These circumstances often results in fragmentation of services from the perspective of an older person, their carer and family, and silos between providers. Evaluating current models against the ACI Framework for Integrated Care for Older People with Complex Health Needs will highlight service gaps and opportunities for service improvement. This is particularly pertinent to inform the development of services at Ryde Hospital that increasingly focus on the care of older patients i.e. with an increased role in the management of older patients with hip fractures and sub-acute rehabilitation services.

The ACI Framework for Integrated Care for Older People with Complex Health Needs recognises that older people are living longer and a significant proportion of older people will be living with chronic and complex conditions including dementia. The Framework identifies six components of the older person’s health journey including initial contact, management and planning, crisis or acute need, specialised health care, recovery and rehabilitation and supportive palliative and end of life care. It recognises that there are multiple stakeholders in the older person’s health journey and that developing a shared vision with clear and transparent governance across multi sector organisations at the regional level will be crucial for strategic change.

To ensure this integration occurs across sectors, the LHD must engage older people and carers in care planning and coordination and develop shared processes with external stakeholders. In particular it will be important to work
with general and specialist hospital services to improve acute care and with external stakeholders to develop a culture of shared information and collaborative initiatives. An alignment of policies, guideline and tools with information technology connectivity across sectors will be essential to make integration happen.

8. **Develop, implement and evaluate strategies to improve care integration for older persons with complex health needs with reference to the best practice principles and models of care identified by ACI.**

### 12.5 Hospital avoidance

NSLHD Hospitals currently operate a number of hospital avoidance programs for older people living in residential aged care facilities (RACF). These include GRACE (Geriatric Rapid Acute Care Evaluation) at Hornsby, ARRT (Agedcare Rapid Response Team) at RNS and Ryde hospitals and Rapid Response at Northern Beaches hospitals. While there are common elements to each of the three models, there are some variations, both in the models themselves and in how they have been implemented at each site. Variation from hospital to hospital has made integration with primary and community care (particularly APAC (acute post-acute care) services) across NSLHD more difficult.

There is a need to review each of the models, with the aim of aligning the models with a common objective and in the most effective and efficient service delivery model. Evaluation of the North Shore Ryde and Northern Beaches models is in progress through the Subacute Service Evaluation Steering Group of the Rehabilitation and Aged Care Network. This review along with evaluation of the Hornsby model will inform the development of a standardised program for NSLHD that is well integrated with primary and community services.

9. **Review hospital avoidance services for older people living in residential aged care facilities and develop, implement and evaluate a standardised, efficient and effective model of care across NSLHD.**

### 12.6 Orthogeriatric services

The **ACI Orthogeriatric model of care** (clinical practice guideline 2010) provides a practical guide for the care of frail older orthopaedic patients. The model of care is based on the **ACI Minimum Standards for the Management of Hip Fracture** which includes re-fracture prevention. It identifies preoperative care, postoperative management and rehabilitation and discharge planning for the older orthopaedic patient and has been found to reduce medical complications and readmissions within 6 months and to a lesser degree reduce mortality.

The 2012 Clinical Services plan identified that orthogeriatric models have been implemented to varying degrees in all NSLHD acute hospitals, but that these were limited at Ryde Hospital. A Hip Fracture Steering Group has been working towards the implementation of the ACI standards and model of care. This has included a recent audit of acute hip fracture admissions to NSLHD hospitals for people aged 65 years and over. Evaluation of these service changes will provide input to future service development.

10. **In collaboration with RNSH, implement and evaluate an orthogeriatric and surgical-geriatric service at Ryde Hospital to support its role in the provision of acute and sub-acute aged care and rehabilitation services for NSRHS.**

11. **Implement the ACI orthogeriatric model of care (including NSW minimum standards for management of hip fracture and osteoporosis re-fracture prevention) and evaluate the outcomes and impact of service changes with a view to further improving care across NSLHD.**

### 12.7 Dementia and confused hospitalised older people

NSLHD has developed a NSLHD Dementia Service Framework Implementation Plan in collaboration with Specialist Mental Health Services for Older People (SMHSOP), Medicare Locals, Alzheimer’s Australia NSW, HammondCare, Greenwich Hospital and the Northern Beaches Community Care. The plan is based on the **NSW Health Dementia Services Framework 2010-15** and aims to improve access to services and supports for patients with dementia and their carers.
The NSLHD plan identifies 20 priorities for implementation. Raising awareness of dementia, its risk factors and their management are key strategies requiring collaboration across the aged and primary care sectors. The development of integrated models between general practitioners, Aboriginal Medical Services and specialist memory assessment and review teams will be essential to promote earlier access to assessment and diagnosis.

Other proposed outcomes to be sought include:

- better management, support and specialist services for patients with behavioural and psychological symptoms of dementia (challenging behaviours) at home or in residential aged care facilities, and through specialist services and dementia-specific accommodation in acute hospital settings
- better community management (e.g. early identification of illness, medication issues or delirium) and support to minimise avoidable hospitalisations
- improving the hospital experience for patients and carers where admission is unavoidable
- better pain management and end of life care planning, and access to specialist palliative care for patients with advanced dementia.

The new HammondCare dementia behaviour management advisory service (DBMAS) service is available as part of the national DBMAS service to provide guidance and support to community, residential and hospital services. The HammondCare service leads on informing national DBMAS strategies on pain management for people with dementia including through the appointment of a senior staff specialist focused on practice in this area and a two year project on changing pain management practice. The HammondCare Dementia Centre is located at Greenwich Hospital and, through the HammondCare College, undertakes research and education and engages in a range of work to improve the lives of people with dementia at home and in residential and hospital care. HammondCare’s younger onset strategy and service development will aim to provide a range of younger onset dementia-specific respite and residential options in NSW.

Complementing the NSLHD Dementia Service Framework Implementation Plan, the Confused Hospitalised Older Person (CHOP) program was launched in 2014 and aims to identify and treat older people presenting with confusion in hospital as a result of delirium or dementia. The program, developed by ACI, the NHMRC Cognitive Decline Partnership Centre and the Mental Health Drug and Alcohol Service, identifies seven principles including cognitive screening, risk identification and prevention, assessment and management of older people with confusion, creating care environments and communication processes which are supportive to older people with confusion and ensuring that staff members are supported in providing timely care through training, education and leadership.

12. Implement and evaluate the NSLHD Dementia Service Framework Implementation Plan and best practice principles and models of care along the service pathway from awareness through diagnosis and assessment to continuing care in community, hospital and residential settings with reference to the NSW Health Dementia Services Framework.

13. Implement best-practice principles and models of care to improve the experiences and outcomes of patients with dementia and confused hospitalised older persons across NSLHD.
13 Surgery and Anaesthesia

Recommendations

1. Develop and implement a change management plan to prepare for and facilitate the reconfiguration of surgical services across NSLHD hospitals, making best use of increased surgical capacity, providing a sustainable mix of emergency and elective work at each hospital, and improving the quality and/or efficiency of services.

2. Develop specialty-specific service plans that determine the efficient distribution of non-tertiary activity and outline service quality improvements that will deliver contemporary standards of care across the five acute hospitals in NSLHD.

3. Establish working group and determine strategies to increase the capacity, capabilities and scope of services at designated paediatric surgical sites in NSLHD.

4. Develop a data governance framework for NSLHD surgical services to ensure access to meaningful regular and comparable reports and information that can inform service planning and evaluation across NSLHD hospitals.

5. Develop a performance management framework for NSLHD surgical services encompassing a detailed set of operating theatre metrics, operational and strategic governance, and strategies to manage internal and external factors that influence the efficiency of surgical services.

6. Working collaboratively with the NSLHD finance and performance units and the ACI, quantify the average cost of procedures and operating theatre sessions and understand the impact of variations in service configuration and service delivery.

7. Evaluate current service configurations, arrangements and models of care for the management of emergency surgery and develop strategies to improve the consistency, quality and efficiency of services provided.

8. Develop strategies to improve the management of waiting lists for elective surgery across NSLHD hospitals and specialty services.

9. Evaluate current service configurations, arrangements and models of care for the management of elective and short stay surgery and develop strategies to improve the consistency, quality and efficiency of services provided.

13.1 Introduction

The focus of this chapter is the strategic framework that will guide and support sub-specialties in the organisation and delivery of surgical services. Key strategic issues encompass, among other things:

- the impact of major hospital redevelopments and associated increased operating theatre capacity
- design and management of surgical services in the context of a robust and large private sector with high utilisation of private health insurance by Northern Sydney Local Health District (NSLHD) residents
- the introduction of activity based management and the need to manage cost drivers, unwarranted or unplanned clinical or cost variations
- equitable access and service provision, and measurement against performance indicators
- more efficient management of available resources and improved access to reliable, validated activity data
- implementation of strategies to balance the demands of both elective and emergency surgery.

The chapter does not include detailed information on current activity in individual sub-specialties or hospitals. It is acknowledged that more detailed information will be required by the Surgery and Anaesthesia Clinical Network, health services, divisions of surgery and anaesthesia, and individual sub-specialty services to support the planning for and implementation of recommendations. More detailed data and service level recommendations and strategies will be developed by sub-specialty services under the guidance of the Network during 2015.
13.2 Hospital roles

Surgical and procedural services are provided at all five acute hospitals in Northern Sydney Local Health District (NSLHD). With the opening of the new acute services building at RNSH in 2012 and the redevelopment and expansion of Ryde Hospital operating suite in 2014 NSLHD currently has 35 operating theatres. An additional 4 operating suites will be added on completion of the Hornsby Hospital stage 1 redevelopment in 2015 and the development of the new Northern Beaches Hospital at Frenchs Forest in 2018 will further increase the total number of operating theatres in NSLHD. With sufficient capacity built to meet demand through to 2027 approximately 75% of built capacity is used to manage current demand. Remaining capacity will be progressively opened to match population growth and increases in service demand.

Hornsby Hospital

- Hornsby Hospital currently manages approximately 18% of NSLHD emergency and elective surgical activity.
- Stage 1 redevelopment of the hospital will deliver enhanced surgical, theatre, anaesthetic and recovery services in a purpose-built facility. When the new facility opens in 2015 there will be opportunities to consider the relocation of some secondary level activity in a more efficient and streamlined service.
- Hornsby Hospital will also have significantly increased capacity to provide more elective surgical work with up to 8 operating theatres and procedure rooms (and two additional uncommissioned operating rooms) available to manage current and future surgical demand.

Northern Beaches Hospitals

- Manly and Mona Vale Hospitals in combination provide approximately 25% of NSLHD emergency and elective surgical activity. This proportion will increase significantly when the services are brought together and Northern Beaches residents who currently receive secondary services at RNSH access services at the new Northern Beaches Hospital at Frenchs Forest.
- When the new hospital opens in 2018 it is expected to provide a comprehensive range of surgical services that will meet most health care needs of local residents while continuing to refer to RNSH for clinically necessary surgical services beyond its scope and for specialised services such as major trauma, interventional radiology, cardiothoracic and neurosurgical services.

Royal North Shore Hospital (RNSH)

- Approximately 47% of surgical activity in NSLHD is managed at RNSH. This reflects its role in the provision of complex surgery, a range of statewide services (major trauma, severe burn injury, spinal cord injury) and highly specialised activity (pancreatectomy, oesophagectomy and complex cancer surgery) as well as a broad range of secondary level services for residents of surrounding local government areas.
- The opening of the acute and clinical services buildings at RNSH has resulted in a significant increase in capacity to manage current and future workload.
- The opening of expanded operating theatres at Ryde in 2014 and the anticipated opening of new operating theatres at Hornsby Hospital in 2015 and at the new Northern Beaches Hospital at Frenchs Forest in 2018 will provide opportunities to review the configuration of service provision at RNSH to ensure ongoing sustainable and effective service delivery.

Ryde Hospital

- Ryde Hospital provides approximately 11% of NSLHD emergency and elective surgical activity. The recent refurbishment and expansion of the operating suite provides capacity to increase the volume and type of surgery undertaken including general and orthopaedic surgical services.
- The Surgery and Anaesthesia Clinical Network in collaboration with the RNSH Division of Surgery and Anaesthesia and Ryde Hospital will need to consider how to make best use of this enhanced capacity. In 2014 preliminary consideration was given to the development of a centre of excellence in the management of hip fractures given the collocation of rehabilitation services at Graythwaite; the feasibility and practicalities this will need to be further considered before progressing the strategy.
Planning to provide a quantum of elective work at Ryde Hospital (general and orthopaedic surgery) aims to provide a sustainable balance of elective and emergency work to support the ongoing role of the emergency department and the provision of emergency surgery.

**Private hospitals**

NSLHD surgical services are provided in the context of robust and large private sector provision. Major providers of surgical services include the Sydney Adventist Hospital at Wahroonga, Mater Hospital at Crows Nest, Macquarie University Hospital at Marsfield-North Ryde and North Shore Private on the RNS Hospital campus at St Leonards. There are also a significant number of smaller hospitals and day procedure centres across the LHD. The majority of the NSLHD surgical visiting medical officer (VMO) workforce also have appointments in these and other private facilities.

The majority (approximately 85%) of NSLHD resident demand for elective surgery is provided in the private sector; emergency demand in the private sector is relatively small at approximately 11%. Overall the private sector provides 79% of surgical demand for NSLHD residents.

Overall NSLHD hospitals provide approximately 17% of all adult surgical demand (elective and emergency) for residents of NSLHD. NSLHD hospitals manage 82% of all emergency surgical demand and a significant proportion of the elective workload in NSLHD hospitals (supply) is for patients from other LHDs. A key function of public hospitals in NSLHD is the provision of emergency surgical services, particularly given that most elective activity for NSLHD residents is undertaken in the private sector.

Surgical services in NSLHD are predominantly delivered by a visiting medical officer (VMO) workforce that combines commitment to public hospital services with practice in the private sector. While the balance of the surgical activity at these hospitals is elective this workload is critical in supporting the provision of emergency surgical services and emergency department services at each hospital. The elective workload also supports the provision of specialist-led services, supervision of surgical trainees, sustainable on-call rosters, and patient follow-up and post-operative management for both elective and emergency surgical patients. As such, elective and emergency surgical services cannot be planned in isolation from each other and any changes in elective surgery proposed by individual specialist services need to consider the impact on the provision of emergency surgery and the functions of the emergency departments at each hospital.

Some consolidation of elective activity has occurred over the last 5 years. In some instances the consolidation has occurred where there is a significant relationship between volume, quality and outcomes or to allow RNSH to fulfil its tertiary and statewide roles within constrained capacity prior to the opening of the new acute and clinical services buildings; in other instances it has occurred to provide greater surety for both patients and surgical teams in bed and operating theatre capacity for elective surgery. In general the current distribution of elective activity is working well but in light of recent and anticipated redevelopments across all five acute hospitals it is appropriate that the distribution and allocation of activity and resources are reviewed to make the best use of the additional operating theatre and bed capacity across the five acute hospitals and that services are provided at the most convenient and appropriate locations for patients. A comprehensive review of surgical services would also afford the opportunity to explore clinical and/or cost variation highlighted by the move to activity based management.

In particular, the Surgery and Anaesthesia Clinical Network, divisions of surgery in each health service and individual surgical craft groups will need to collaboratively develop strategies to make best use of enhanced operating facilities at Ryde Hospital, the new operating theatre and surgical bed capacity to be commissioned in 2015 at Hornsby Hospital and to inform the contractual arrangements for activity at the new Northern Beaches Hospital at Frenchs Forest in 2018. Strategies will also need to consider how RNSH can best manage the operating theatre and surgical bed capacity that will be released as a result of these changes and how services will be delivered within the activity and resources (NWAUs - national weighted activity units) specified in the NSLHD performance agreement with NSW Health.

1. Develop and implement a change management plan to prepare for and facilitate the reconfiguration of surgical services across NSLHD hospitals, making best use of increased surgical capacity, providing a
sustainable mix of emergency and elective work at each hospital, and improving the quality and/or efficiency of services.

13.3 Specialist surgical services

Surgical services are managed operationally through the divisions of surgery in Hornsby Ku-ring-gai, Northern Beaches and North Shore Ryde health services. The divisions encompass specialties and craft groups including:

- Anaesthesia
- General surgery
- Orthopaedics
- Hand surgery
- Breast/endocrine
- Ear Nose and Throat (ENT)
- Head and neck
- Maxillo-facial
- Plastics and reconstructive
- Ophthalmology
- Gastrointestinal and colorectal
- Urology
- Vascular
- Paediatric general surgery
- Major trauma (statewide service)
- Acute spinal cord injury (statewide service)
- Severe burn injury (statewide service).

Some specialties and craft groups are available at selected hospitals only and a small number are only provided at RNS Hospital. Surgical oncology services are currently managed across a number of specialties and locations. In some instances these groups are further specialised, for example, anaesthesia includes subspecialties for cardiothoracic and neurosurgery services, and gastrointestinal includes colorectal, small bowel and oesophago-gastric subspecialties. Interventional radiology services, while provided through the operating suite at RNSH, are detailed in a separate Medical Imaging chapter and not further discussed in this chapter.

In 2014 the Surgical Network, with the support of the Health Services Planning Unit and sponsored by the Executive Director of Operations, commenced a review of selected surgical services. Starting with ENT, orthopaedics and breast/endocrine surgery in what was anticipated to be a 12 month process, the review sought to identify the most clinically appropriate configuration of individual specialties across the five acute hospitals. While the project has not yet identified specific service changes for inclusion in this Clinical Services Plan (decisions anticipated by end 2015), the process acknowledges the need to:

- Understand emergency arrangements at each hospital along with the availability and on-call rostering of VMO and staff specialists (it is unlikely that there will be any significant changes in relation to the emergency workload unless specific problems or service gaps are identified).
- Identify tertiary work that should be provided at RNSH where patient needs are beyond the scope of clinical and support service capabilities and resources at Hornsby, Northern Beaches or Ryde hospitals.
- Determine strategies to distribute the remaining elective work across sites with an emphasis on providing secondary non-complex surgery at Hornsby, Northern Beaches and Ryde hospitals rather than at RNSH.
- Evaluate clinical and cost variations and seek opportunities to eliminate unwarranted variation, improve service delivery and design care around best practice where defined.

The review of the functions of the clinical networks in NSLHD lends further impetus for the Surgery and Anaesthesia Network to explore and determine how and where specific services and surgical procedures should be provided. Clinical Networks, in addition to providing formal evidence-based advice on the profile and configuration of clinical services, will be charged with overseeing the quality of care and common clinical standards to be met no
matter where the service is provided, and determining how the service can be delivered in the most cost-effective way. As such the ongoing review of specialty services will also need to consider the following principles:

- **Service and provider volumes** – acknowledging the relationship between volume and quality and that NSLHD faces some unique challenges since a considerable proportion of surgical demand for NSLHD residents occurs in the private sector.

- **Teaching, training education and research capabilities** – acknowledging the role that the five acute hospitals play in the training of future surgical specialists, meeting training accreditation requirements and translating research into practice.

- **Technical capacity to deliver contemporary standards of clinical care** – acknowledging that there is significant variation in work practices and models of care across hospitals and specialties. This encompasses the medical (surgical and anaesthetic, and other medical support), nursing, allied health and support service (operating theatre technical support as well as clinical support services such as medical imaging, pathology, etc.) capabilities from initial patient assessment, surgical preparation and pre-conditioning, care in the operating suite and recovery, post-operative care on surgical wards, and follow up in the community or ambulatory care setting.

- **Economic efficiency and proficiency** – acknowledging that the volume of surgical activity is determined each year through the performance agreement with the NSW Ministry of Health, that services need to be provided with full understanding of costs and the implications of intended or unintended variations, and that networking and collaborating with the private sector may offer further opportunities to improve service efficiency and scope.

- **Accessibility** – acknowledging that services should be patient-centred and provided at the most convenient location(s).

In addition to determining the distribution of non-tertiary surgical activity and detailing contemporary standards of care these individual specialty/craft group reviews will consider opportunities for collaborative teaching, combined clinical audit and mortality and morbidity reviews, and research across the traditional boundaries of clinical networks, divisions, health services and specialties.

Consideration should also be given to arrangements for academic surgery to encourage and connect research that improves patient outcomes by translating research into clinical practice. This could encompass linking clinicians with researchers and other professional partners and adopting a collaborative surgical research model. The professor of surgery would be the academic surgical leader for the LHD supported by a team of associate professors and senior lecturers, capable of fostering and enhancing the considerable academic surgical talent in the LHD. Funding from the university and the LHD may need to be supplemented by approaching the private sector.

2. **Develop specialty-specific service plans that determine the efficient distribution of non-tertiary activity and outline service quality improvements that will deliver contemporary standards of care across the five acute hospitals in NSLHD.**

### 13.4 Paediatric general surgery

NSW Kids and Families released the [Surgery for Children in Metropolitan Sydney Strategic Framework](#) in May 2014 to facilitate and guide the delivery of appropriately selected surgical procedures for children as close to home as possible. The framework recognises that balancing the perspectives of stratification according to clinical risk, age group and local capacity along with the historic trend of reduced surgical activity outside the Specialist Children's Hospitals Network (SCHN) is challenging, not least when paediatric services are provided in proximity to the specialist hospitals.

The strategic framework distinguishes between emergency and planned surgical activity and further stratifies surgical specialties with adequate paediatric training (orthopaedics, ENT, plastics and ophthalmology) and surgical specialties with variable paediatric training (general, hand, vascular, cardiothoracic, oral and facio-maxillary, urology, gynaecology and neurosurgery).
LHDs are required to develop local strategies and plans to progressively lower the threshold for non-tertiary emergency surgery to three years of age for specialties with adequate paediatric training and 12 years of age for other specialties. The age thresholds are templates for guidance and can be varied in accordance with clinically appropriate care; this recognises, for example, that younger children requiring intra-abdominal surgery (e.g. appendicitis) are more likely to need tertiary paediatric surgical, medical and anaesthetic expertise and working towards an age threshold of 8 rather than 3 years is more appropriate.

In parallel LHDs are required to expand their planned surgical capabilities as an essential element of capacity building for the future. Such expansion will require operating sessions, outpatient clinics and specific arrangements with the SCHN to divert and/or transfer appropriate activity. ENT, orthopaedics and general paediatric surgery will constitute the bulk of the non-tertiary planned activity at LHD level.

Since 2013/14 the NSLHD performance agreement with NSW Health has included new service measures for “surgery for children”. The intent is to measure, monitor and understand the pattern of activity and to move to specific targets in subsequent years. Strategies to achieve the new service measures could include, among others, designation of level 4 paediatric surgical sites, timely availability of local surgical and paediatric consultation, identification of easily accessible, consistent support from the specialist children’s hospitals, arrangements with appropriately skilled surgeons working in the SCHN, skills acquisition and maintenance programs.

In NSLHD Hornsby, Mona Vale and RNS hospitals are designated paediatric surgical sites. The volume of paediatric surgical demand managed at NSLHD hospitals is relatively small, particularly for planned surgery where the majority (78%) is managed in the private sector.

The Surgery and Anaesthesia Clinical Network, in conjunction with paediatricians, emergency medicine physicians and representatives from the SCHN, will convene a steering committee to consider and make recommendations on the sustainable provision of elective and emergency paediatric surgery within the Surgery for Children in Metropolitan Sydney Strategic Framework. The steering group will consider, among other things, appropriate training and credentialing of anaesthetic, nursing, allied health, radiology, pathology and pain management staff to safely deal with the needs of paediatric surgical patients both within and outside normal working hours across the care continuum (not just in the operating suite), designation of paediatric surgical sites, incremental implementation of the emergency surgery algorithm and expansion of elective surgery.

3. **Establish working group and determine strategies to increase the capacity, capabilities and scope of services at designated paediatric surgical sites in NSLHD.**

### 13.5 Running an efficient surgical service and operating suite

In 2013 the NSW Auditor General’s Office published the results of the Managing operating theatre efficiency for elective surgery performance audit. Key findings suggested that operating theatres could be managed more efficiently and that there was potential for higher volumes of elective surgery to be conducted at current funding and resourcing levels. The audit noted that NSW Health was not meeting its three elective surgery efficiency targets for theatre utilisation (80%), cancellation on day of surgery (<2%) and first case start on time (95%), and that there was wide variation between LHDs and individual hospitals. The audit also noted that operating theatre managers did not have all the information they needed to manage operating theatre efficiency.

During 2014 the Agency for Clinical Innovation (ACI) worked with clinical and other key staff across NSW to develop guidelines in three priority areas: operating theatre metrics, whole of surgery, and operating theatre costs. The resulting Operating Theatre Efficiency Guidelines were released in December 2014. These guidelines complement the earlier NSW Health and Surgical Services Task Force Emergency Surgery Guidelines (released in 2009), the Surgery Futures Plan for Greater Sydney (released 2011) and the High Volume Short Stay Surgical Model Toolkit (released 2012).
Information to manage services

In 2014 a NSLHD surgical service project exploring the provision of after-hours emergency surgery highlighted significant gaps in the availability, accessibility and accuracy of information that would allow operating theatre managers to monitor and deliver services efficiently and effectively. The project report noted that there was significant variation in data definitions, data entry processes and work practices across the five operating theatre services in NSLHD and that there was limited use of electronic surgical booking and scheduling systems. Separate discussions with surgical staff noted that data collection for surgical and procedural services that occur outside the main operating theatre suite (e.g. endoscopy, radiology, cath lab, specialist operating theatres, anaesthetic bays and other associated spaces) do not always use Surginet or a compatible data system to capture activity centrally.

Access to real-time clinical information and meaningful, validated activity reports are essential tools that will support operating theatre managers and clinicians to better manage and plan for the provision of appropriate and efficient surgical services in NSLHD.

4. Develop a data governance framework for NSLHD surgical services to ensure access to meaningful regular and comparable reports and information that can inform service planning and evaluation across NSLHD hospitals.

Whole of surgery and operating theatre efficiency

The challenges of providing efficient emergency and elective surgical services will be further brought into focus with the application of activity based funding models. Since surgical budgets will be based on the ‘efficient price’ set by the state for each surgical separation and associated procedure, hospitals whose costs are higher than this price will need to improve their efficiency or bear the financial loss while hospitals that operate efficiently will have a financial surplus that can be invested in other areas of health need or support additional surgical activity or resources.

For the purposes of the performance audit report the Auditor General defined operating theatre efficiency as the management of theatre time, costs, resources and staff to undertake as many procedures as possible within given levels of resources, or doing the same number of procedures using a lesser amount of resource. The report noted that there was considerable scope for more elective surgery to be delivered within existing resources if operating theatres were managed more efficiently in NSW.

The Auditor General highlighted the three operating theatre efficiency targets which LHDs provide regular reports on including:

- Theatre utilisation – 80%
- Cancellations on day of surgery - <2%
- First case start on time - >95%

Performance against these targets varied significantly between LHDs and hospitals. While Ryde and RNS hospitals achieved the theatre utilisation target in 2013/14, trends for the 2014/15 year to date suggest that the target will not be achieved at any NSLHD hospital.

While the Auditor General report and the three efficiency targets focus on elective surgery they reflect how surgical services are organised generally and are influenced by arrangements for the provision of emergency surgery. This is particularly pertinent for NSLHD where the ratio of elective to emergency surgery is more evenly split (55%: 45%) when compared to other LHDs. These themes are further explored in the more recent ACI Operating Theatre Efficiency Guidelines which provide a range of strategies that LHDs can consider as part of service improvement and development processes. The guidelines span:

- Operating theatre metrics – suggesting that in addition to the measures and performance indicators LHDs are required to report to the NSW Ministry of Health more detailed local measures and indicators would assist services to evaluate and monitor their efficiency and effectiveness. For example, the Surgical and Anaesthetic Clinical Network has suggested that the “first case start on time” measure should incorporate additional
information that quantifies the amount of lost operating theatre time so that significant variations can be investigated and action plans developed.

- **Whole of surgery** – encompassing a range of recommendations on processes that could be employed by clinical and executive leadership, managers and staff to enhance operating theatre efficiency while maintaining a high standard of care. Processes include redesigning operational and strategic governance structures, anaesthetic, surgeon and nursing leadership roles along with Nurse Screeners, Operating Theatre Nurse Managers and Waiting List Managers. These groups will support and provide opportunities to optimise access, efficiencies and management of the surgical patient. Other processes include managing internal (staff, resources and infrastructure) and external factors (hospital patient flow systems including ED and bed management protocols, admission and pre-operative processes, and other clinical and non-clinical functions such as sterilisation services, medical imaging, pathology, and equipment) that influence operating theatre efficiency.

- **Operating theatre costs** – encompassing tools to enable accurate and consistent costing of operating theatre activity at hospital, departmental and even clinician level.

The Surgical and Anaesthesia Clinical Network and Divisions of Surgery in each of the health services need to consider these new guidelines to determine how they might underpin and enhance the review and provision of surgical services in NSLHD.

5. **Develop a performance management framework for NSLHD surgical services** encompassing a detailed set of operating theatre metrics, operational and strategic governance, and strategies to manage internal and external factors that influence the efficiency of surgical services.

6. **Working collaboratively with the NSLHD finance and performance units and the ACI**, quantify the average cost of procedures and operating theatre sessions and understand the impact of variations in service configuration and service delivery.

**Emergency Surgery**

Key challenges associated with emergency surgery include allocation of sufficient operating theatre time, matching resources to emergency demand, avoiding disruption to elective surgery, and managing and responding to a range of workforce issues including availability of on-call specialists, safe working hours, and training and supervision of junior staff. Inadequate planning for emergency surgery, long delays and after hours work have been the catalyst for change among clinicians across NSW and NSLHD.

NSLHD is progressively reviewing the operating theatre templates at each hospital to allocate sufficient emergency sessions and operating theatre resources to match demand and minimise disruption to elective surgery. Further work will be required in this regard as new capacity is commissioned and to maximise the allocation in standard working hours where possible while continuing to accommodate VMO service provision at other times where necessary.

NSLHD monitors and reports achievement of the emergency surgery access targets including:

- < 15 minutes: immediately life threatening – 100%
- < 1 hour: life threatening – 100%
- < 4 hours: organ or limb threatening – 85%
- < 8 hours: non-critical or emergent – 85%
- < 24 hours: non-critical, non-emergent, urgent – 85%
- < 72 hours: semi-urgent, not stable for discharge – 95%

NSLHD hospitals generally achieve these targets, although there is some variability at selected hospitals over time. Further work is required to refine the collection of data relating to the most urgent life threatening categories, typically major trauma or other critical emergency department presentations where resuscitation and stabilisation can delay transfer to the operating theatre.

Further work is also required to evaluate emergency surgery models of care that have been adopted or which are being considered for implementation. This includes evaluation of current operational configurations and the acute
surgical unit (ASU) model, and discussion of how services could be improved at each hospital with particular reference to designation of hospitals, realignment of emergency and elective sessions and rosters, patient flow, specialist-led care, and the appropriateness of dedicated beds for emergency surgery. Solutions will vary by hospital and will be dependent on patient volume and available resources.

7. **Evaluate current service configurations, arrangements and models of care for the management of emergency surgery and develop strategies to improve the consistency, quality and efficiency of services provided.**

**Elective Surgery**

The management of waiting times for elective surgery within clinically recommended times has received increasing focus in NSLHD since the introduction in 2010/11 of the National Elective Surgery Targets (NEST) and their inclusion in the LHD performance framework. The objective of the NEST is to progressively improve service organisation and provision so that by 2016, 100% of patients receive their elective surgery within the clinically recommended priority times. Indicators and their respective targets include:

- **Patients treated within clinically recommended times:**
  - Category 1 - 30 days – achieved.
  - Category 2 – 90 days – 100% already achieved at Manly, Mona Vale and Ryde; Further work will be required achieve the 100% target by December 2015 across all hospitals.
  - Category 3 – 365 days – 100% achieved at Manly and Mona Vale Hospitals. Hornsby, Ryde and RNS, while achieving the 2014 target of 97% will have further work to achieve the 100% target by December 2015.

- **Number of overdue elective surgery patients:**
  - Category 1 – waiting more than 30 days – nil waiting on NSLHD hospital waiting lists at end October 2014
  - Category 2 – waiting more than 90 days – 4 patients waiting at Hornsby Hospital at end October 2014
  - Category 3 – waiting more than 365 days – 12 patients waiting at RNS Hospital at end October 2014.

In NSLHD hospitals the elective surgery targets are generally achieved and variations are most commonly attributed to causes other than operating theatre capacity or bed availability. Clinical redesign projects are currently underway at Hornsby and Northern Beaches hospitals to decrease the number of “no bed” surgical cancellations by 50% by December 2014 and to increase the percentage of surgical patients treated as day only or extended day only to 80%.

NSLHD will continue to monitor achievement of targets and improve responses to under-performance by strengthening escalation systems. More active management of waiting lists across the LHD would also provide opportunities for the LHD to smooth waiting times within each priority category, improve the scheduling and workflow of activity in individual hospitals, and minimise the risk of any patient experiencing an excessive waiting time.

Further work is also required to evaluate elective surgery models of care that have been adopted or which are being considered for implementation. This includes evaluation of the high volume short stay model and how the principles of the model can be applied in NSLHD hospitals where volumes are not always large, in addition to the development of specialist centres for selected secondary level services.

8. **Develop strategies to improve the management of waiting lists for elective surgery across NSLHD hospitals and specialty services.**

9. **Evaluate current service configurations, arrangements and models of care for the management of elective and short stay surgery and develop strategies to improve the consistency, quality and efficiency of services provided.**
14 Critical Care

Recommendations

Emergency Medicine
1. Collaborate with General Practitioners, Primary and Community Health, and Chronic and Complex Medicine services to reduce avoidable hospital admissions and improve the care and management of older patients with chronic and complex health needs.
2. Engage with Acute Medicine Network to develop standardised short stay medical models of care and clinical pathways that reduce length of stay in the emergency department and improve the care and management of older patients with chronic and complex health needs.
3. Develop and standardise emergency department models of care (senior decision making, patient streaming, short stay, clinical pathways) across NSLHD to improve NEAT performance.

Intensive Care
4. Develop a sustainable medical workforce model (junior, middle and senior grades) for ICU/HDU services not accredited for specialist training by the College of Intensive Care Medicine at Hornsby, Manly, Mona Vale and Ryde hospitals in partnership with RNS Hospital.
5. Strengthen the networking of services across NSLHD to improve the utilisation of ICU/HDU beds across NSLHD hospitals and develop sustainability, efficient and affordable critical care units capable of supporting local clinical services.
6. Develop internal (NSLHD) critical care funding model to support the determination of activity budgets that reflect the anticipated workload and patient mix (ICU or HDU type care) at individual hospitals.
7. Improve and evaluate real time monitoring of performance and resource (beds, staff) utilisation and develop strategies for rapid response to unplanned variations.

Organ donation
8. Improve the rates of organ donation within NSLHD and achieve the national targets identified by 2018.

14.1 Emergency Medicine and Short Stay Services

Over the next decade the population of older people is expected to increase across Northern Sydney Local Health District (NSLHD). While the Rehabilitation and Aged Care Network has implemented a number of hospital avoidance programs, the Critical Care network has also identified the need to improve their engagement with other networks and service providers to improve the management of complex elderly patients with comorbidities.

This may include developing alternative emergency department (ED) models of care for this population incorporating change to local ED work practices (e.g. early senior decision making/referral to consultant rather than registrar/junior medical officer). It will also require Emergency Departments to determine and maintain the most appropriate mix of well-trained senior and junior medical staff and nursing staff to support the models of care. Other options for consideration fit with the Agency for Clinical Innovation ACI Framework for Integrated Care for Older People with Complex Health Needs and include improving services in primary or community health to keep patients out of ED and improving acute management and follow up of patients who require inpatient admission.

1. Collaborate with General Practitioners, Primary and Community Health, and Chronic and Complex Medicine services to reduce avoidable hospital admissions and improve the care and management of older patients with chronic and complex health needs

At present Emergency Medical Unit (EMU) or ED short stay service models appear to work most effectively if admission selection criteria are restricted to patients whose length of stay is anticipated to be less than 24 hours and where 90% of patients expect to be discharged home. These models work in conjunction with other medical short stay units, including Medical Assessment Unit (MAU), Acute Assessment Unit (AAU), Clinical Decision Unit
(CDU) and Acute Planning Unit (APU), although length of stay in these units is generally longer at up to 48 or 72 hours.

Each of the ED and medical short stay units across the LHD have different governance and business rules and often different titles. There are also variations in where they are located in relation to the emergency department and their resourcing. The Critical Care Network has identified the need for better engagement with acute medicine teams providing acute short stay type services (however titled) as the capacity and throughput of these units has a direct relationship with ED and its ability to achieve the National Emergency Access Targets (NEAT).

This is supported by the Acute Medicine Network which identified opportunities to improve patient flow from the ED into the MAU and to increase MAU capacity in all facilities to assist with the achievement of NEAT targets for timely patient care and reduce the number of patients (particularly older patients) in ED.

2. **Engage with Acute Medicine Network to develop standardised short stay medical models of care and clinical pathways that reduce length of stay in the emergency department and improve the care and management of older patients with chronic and complex health needs.**

In the current organisational structure the achievement of National Emergency Access Targets (NEAT) models is governed at a local facility level and is oversighted by the NSLHD Sustainable Access Committee and their equivalent committees at each facility. RNSH and Hornsby are also part of the NSW Health Whole of Hospital Program which is designed to support Local Health Districts in driving the strategic change needed to improve access to care and patient flow and the sustained achievement of NEAT. These arrangements recognise that achievement of NEAT is the responsibility of not just the emergency Department but also admitted inpatient services.

Implementation of the NEAT models of care has been site specific. While all the models in place support early intervention by senior medical staff the implementation of this is variable across sites and there is no real measure to determine how successful this has been.

There is good clinical evidence to support the achievement of NEAT, particularly outcomes for patients with sepsis, trauma, cardiac infarct, and stroke. Manly Hospital has been a statewide leader in achievement of targets. It may be worthwhile for the Network to engage with the proposed Academic Health Science Centre to evaluate the critical features of clinical practice that most influence target achievement and incorporate the results into standardised ED models of care with clear mechanisms to measure the appropriateness and relative success of the models.

3. **Develop and standardise emergency department models of care (senior decision making, patient streaming, short stay, clinical pathways, etc.) across NSLHD to improve NEAT performance.**

### 14.2 Intensive Care

Demand for and utilisation of ICU beds has changed significantly within NSLHD as a result of the impact of programs such as Sepsis Kills, Between the Flags and rapid response teams which promote earlier identification and response to patient deterioration, along with improved advanced care planning and end of life care planning. The changes at Hornsby Hospital have been further influenced by the expansion of critical care capacity across the state, including at RNSH, and the shift of some complex surgery to RNSH or the private sector.

The mix of intensive care (ICU) and high dependency (HDU) type activity across NSLHD facilities has changed with more significant growth in HDU activity and a reduction in ICU activity, particularly at Hornsby, Manly, Mona Vale and Ryde hospitals. It is anticipated that demand for HDU type services will increase with the workload associated with older persons’ medicine (including time critical non-urgent (P3) ambulance diversions) and joint replacement surgery at Ryde Hospital.

Due to the reduced clinical workload and casemix at Hornsby and subsequent capacity to support the supervision and education of College of Intensive Care Medicine (CICM), trainees it will no longer have accreditation as a training unit other than for foundation training. In addition to efforts to regain CICM accreditation alternative
Critical Care

staffing models will be required to appropriately staff the ICU. This situation applies equally to Northern Beaches and Ryde services where registrars in accredited training positions are not generally part of the rostered workforce and the units are heavily reliant on junior medical officers supported by intensive care specialists.

4. Develop a sustainable medical workforce model (junior, middle and senior grades) for ICU/HDU services not accredited for specialist training by the College of Intensive Care Medicine at Hornsby, Manly, Mona Vale and Ryde hospitals in partnership with RNS Hospital.

Under activity based funding (ABF) only RNS and Hornsby Hospital attract the Independent Hospital Pricing Authority intensive care funding adjustment and it is likely that Hornsby will no longer meet criteria from 2015. In addition, there are high fixed costs associated with the provision of ICU/HDU and the additional cost of unanticipated activity is significant. The low utilisation of beds at Hornsby (<50% occupancy over extended periods in 2013/14) and the higher than anticipated utilisation of RNS beds (approx. 16% growth since move to new acute services building) have budgetary implications and represent a significant risk to the LHD.

A review of ICU/HDU services across the NSLHD in 2014 included an initial assessment of the utilisation of each of the ICU/HDU services and an analysis of transfers to RNSH. This review identified a mismatch between the 13 ICU beds currently funded at Hornsby Hospital and the number that are underutilised on average. In contrast, RNSH is currently funded up to 39 beds but utilised more on average. The review noted the need to finalise the admission and discharge policy for RNSH ICU including a clear escalation process when the service is exceeding capacity.

These risks could be better managed through networking of services across NSLHD. This may require innovative arrangements for the sharing of staff and other resources and maintaining or distributing activity across the LHD where clinically appropriate.

5. Strengthen the networking of services across NSLHD to improve the utilisation of ICU/HDU beds across NSLHD hospitals and develop sustainability, efficient and affordable critical care units capable of supporting local clinical services.

The development of an appropriate intensive care funding model will assist NSLHD to better match available beds and their related budget allocation to local ICU/HDU demand. Such an approach would have the benefit of being able to temporarily scale back the number of beds to match current demand at Hornsby Hospital while anticipating and planning for increased demand that may occur as a result of the stage 2 redevelopment.

Regular monitoring of performance and utilisation will be required to ensure each facility is working within the allocated budget and maintaining high quality care. Operating within the available budget can be challenging for RNSH when demand is high. All facilities will need to monitor variations in the utilisation of HDU and ICU beds and admission/discharge criteria.

6. Develop internal (NSLHD) critical care funding model to support the determination of activity budgets that reflect the anticipated workload and patient mix (ICU or HDU type care) at individual hospitals.

7. Improve and evaluate real time monitoring of performance and resource (beds, staff) utilisation and develop strategies for rapid response to unplanned variations.

14.3 Organ Donation

In 2008 the Australian Government announced a national reform program to implement a best practice approach to organ and tissue donation for transplantation. The program aims to improve access to life-transforming transplants through a sustained increase in the donation of organs and tissues by implementing a nationally coordinated approach to organ and tissue donation. The twin objectives of the national reform program are to:

- increase the capability and capacity within the health system to maximise donation rates, and
- raise community awareness and stakeholder engagement across Australia to promote organ and tissue donation.

In 2012 NSW Health released a state plan to increase organ donation. Despite making significant progress in partnership with the Australian Government to reform and improve organ donation, the rate of organ and tissue
donation in NSW compares poorly with other states. In 2011 a donation rate of 36% of all potential donors supported transplantation for a total of 228 people. Increasing the donation rate to 70% would support transplantation for almost 500 people. This would have a significant impact for the 1,596 Australians currently on the transplant list. NSW Health has an agreed target of 25 donors per million population by 2018.

The focus of the NSW organ donation plan includes:

- Enabling peoples’ intentions regarding donation to be known to their family and having it documented and accessible through the single national donation register
- Addressing information gaps, myths and misperceptions about organ donation
- Supporting living donor programs by participating in the national paired kidney exchange program
- Identifying all opportunities for organ donation in NSW hospitals
- Supporting clinicians to have conversations with donor families which enable fully informed decisions about proceeding with organ donation.

NSLHD plays a direct and key role in achieving the last two points and has recently signed a performance agreement with NSW Health to increase organ and tissue donation consent rates. Priorities include

- Building medical leadership to drive hospital-wide cultural change
- Increasing emergency department capacity to identify and refer potential donors
- Increasing recognition of potential donors after circulatory death, and
- Using evidence to drive service improvement.

The targets agreed include:

- 100% of potential brain death donors are identified and a request is made to family
- 75% of requests made receive consent for donation
- 70% of potential brain death donors become actual organ donors.

NSLHD has made significant progress in supporting and developing the Organ and Tissue Donation Service based at RNSH where the highest caseload of potential donors is anticipated. A local action plan based on the domains included in the performance agreement has been developed and will be reported on six monthly

8. **Improve the rates of organ donation within NSLHD and achieve the national targets identified by 2018.**
15 Acute Medicine

Recommendations

1. Develop and standardise short stay medical admission unit (MAU) models of care, consistent with the current philosophy and future directions of the ACI MAU model, with the aim to reduce pressure on ED services, inpatient admission avoidance, improve timely access to admitted patient services, and better management of older patients with chronic and complex health needs.

2. Develop an inclusive governance framework for NSLHD short stay clinical units including consistent monitoring and reporting processes.

3. Establish a General Medicine Academic Department to provide clinical leadership and direction for the ongoing development of acute medicine services and the expansion of medical short stay units across NSLHD hospitals.

4. Monitor and report on acute gastro-intestinal bleeding activity and develop business proposal for the provision of sustainable emergency and elective endoscopy services at NSLHD hospitals.

5. Continue to provide endoscopic retrograde cholangio-pancreatography (ERCP) service at a single hospital site (RNSH) to meet LHD needs, including for public patients at the new Northern Beaches Hospital.

6. Develop models of care and a business proposal for the delivery of a sustainable integrated hepatology service for patients with viral and non-viral liver disease in NSLHD.

7. Develop a NSLHD Infectious Diseases service that is responsive to the increasing clinical demand, particularly in Emergency and Intensive Care, for the management of patients with multi-resistant organisms and side effects of antibiotics (e.g. Clostridium Difficile).

8. Progress improvements in antimicrobial stewardship by the NSLHD-wide Infectious Diseases service collaboratively with pharmacy and infection control staff.

9. Improve access to an inpatient dermatology consultation services at each hospital site using a range of service delivery models including telemedicine.

15.1 Short stay medical units

The five acute hospitals in NSLHD have short stay units designed to manage patients who present to the ED and who are expected to be discharged in 24-48 hours following more detailed investigation, observation and/or definitive treatment. A variety of models have been developed across NSLHD including medical assessment units (MAU) and Emergency Medical or Short Stay Units (EMU or EDSS).

- In 2013/14 Hornsby Hospital instituted an Acute Assessment Unit (AAU) model which accommodates MAU, EMU and transit patients in a single clinical space.
- Manly Hospital has an EMU but no MAU.
- Mona Vale has a MAU and opened a separate ED short stay unit in 2014.
- RNSH has both an EMU and an Acute Assessment Unit. The AAU accommodates MAU and general medicine patients in a single clinical space adjacent to the ED; additional ward beds are available for patients who require longer lengths of stay. The EMU is a separately defined clinical space within the ED.
- Ryde Hospital has an EMU and opened an Assessment and Planning Unit (APU) in 2013/14.

The MAU model of care was first described in 2007 when the initial tranche of units were being established across NSW. MAU key performance indicator reports have consistently shown that there is significant variation in the operation of MAUs across NSW and it is evident that this is also true for NSLHD hospitals. This variability has the potential to adversely impact on patients, particularly patients with chronic conditions who have complex needs.

Under the auspices of the Agency for Clinical Innovation (ACI), the Acute Care Taskforce, in conjunction with consumers, clinicians and managers, is further developing and refining the MAU model and a self-assessment checklist. When finalised, these documents will support NSLHD services to provide consistent, standardised, evidence based care that will result in improved patient and clinical outcomes and more efficient care.
1. Develop and standardise short stay medical admission unit (MAU) models of care, consistent with the current philosophy and future directions of the ACI MAU model, with the aim to reduce pressure on ED services, inpatient admission avoidance, improve timely access to admitted patient services, and better management of older patients with chronic and complex health needs.

2. Develop an inclusive governance framework for NSLHD short stay clinical units including consistent monitoring and reporting processes.

15.2 Acute Medicine Services

In addition to investment in MAU and acute short stay services NSLHD hospitals have adopted a range of models of care that aim to improve the acute medical inpatient journey including safe clinical handover, multidisciplinary ward rounds that involve all members of the health care team as well as patients and their families e.g. In Safe Hands (Structured Interdisciplinary Bedside Rounds SIBR), whole of hospital sustainable patient flow improvement strategies and acute care pathways for stroke and chest pain. These models and programs are supported by the ACI, Clinical Excellence Commission (CEC), Health Education and Training Institute (HETI) and the Ministry of Health.

Continued change in models of care for acutely ill medical patients (the majority of whom are elderly and complex) is anticipated and will require strong clinical leadership and governance across NSLHD acute medicine services to provide strategic direction and guide changes that will deliver consistently high quality, effective and efficient care and result in better patient experience and clinical outcomes. In addition to further development of the MAU model the future of acute medical services will need to consider:

- development of acute medicine as a distinct service/specialty and the establishment of acute medical units as the focus for acute medical care in hospitals
- early assessment and frequent review of acutely ill patients by competent clinical decision makers supported when necessary by ready access to senior clinical decision makers to ensure efficient patient flows, reduce length of stay and manage fluctuations in demand
- seven-day access to diagnostic and treatment procedures such as diagnostic gastrointestinal (GI) endoscopy, echocardiography, diagnostic ultrasound, bronchoscopy, and computed tomography (CT) and magnetic resonance imaging (MRI) with clearly defined pathways and protocols to access services at larger hospitals if services are not available locally
- acute care pathways for common presentations and closer working of related clinical specialities to facilitate more effective streaming of patients to the right place for their ongoing care along with strategies to avoid hospital admission whenever possible, and facilitate it when necessary, particularly for long term residents of aged care facilities with acute illness

Specialties likely to require regular interaction with acute medicine include: geriatric medicine, gastroenterology, diabetes and endocrinology, neurology, cardiology, respiratory medicine, infectious diseases, dermatology, rheumatology and mental health.

3. Establish a General Medicine Academic Department to provide clinical leadership and direction for the ongoing development of acute medicine services and the expansion of medical short stay units across NSLHD hospitals.

15.3 Gastroenterology

The National Bowel Cancer Screening Program received additional federal government funding in 2014 to accelerate the implementation of biennial screening for all Australians; by 2020 everyone over the age of 50 years will be eligible to participate in the program. With the higher screening rate it is anticipated that the demand for gastroenterology and endoscopy services are likely to increase. To continue providing an efficient and timely endoscopy service consideration will need to be given to improving referral and clinical pathways so that patients referred following a positive screen can be followed up within 30 days along with other patients requiring
colonoscopy (e.g. lower GI bleeding, active inflammatory bowel disease, or clinically significant iron deficiency anaemia). Visiting Medical Officer (VMO) remuneration and hospital revenue models to support public and privately referred non-inpatient colonoscopy and ambulatory care may also need to be evaluated.

Acute gastrointestinal bleeding services are provided at each of the five acute hospitals in NSLHD with gastroenterologists participating in general medical or sub-specialty on-call rosters. There are issues of consistency of management of acute GI bleeding. Alternative tiered risk based models have been considered where lower risk patients are admitted under general physicians and reviewed by gastroenterologists within 24 hours while high risk patients are transferred to RNSH on the few occasions when no suitable gastroenterologist is available locally. Further work is required to ensure a sustainable service can be provided as part of the general medical or separate sub-specialty on-call rosters across each of the five acute NSLHD hospitals.

Endoscopic retrograde cholangio-pancreatography (ERCP) is provided at RNSH with referral pathways from the other NSLHD hospitals. While additional sessions have been scheduled to meet current demand there are further opportunities to reduce inpatient waiting times and length of stay. Given the relative low volume, the specialist equipment and technical skills and support services required to provide an ERCP service the gastroenterology network supports provision for all NSLHD public patients at RNSH only.

4. **Monitor and report on acute gastro-intestinal bleeding activity and develop business proposal for the provision of sustainable emergency and elective endoscopy services at NSLHD hospitals.**

5. **Continue to provide endoscopic retrograde cholangio-pancreatography (ERCP) service at a single hospital site (RNSH) to meet LHD needs, including for public patients at the new Northern Beaches Hospital.**

### 15.4 Hepatology

In 2014 NSLHD commissioned an external review of ambulatory hepatology services. A number of factors provided the impetus for the review including:

- Growth in the incidence of hepatitis C and B and developments in treatment regimes
- Issues relating to historical funding sources and the need to build a sustainable funding model to meet projected demand
- Issues relating to current organisational arrangements in which responsibility is shared across the Division of Medicine at RNSH and NSLHD Primary and Community Health services under a service level agreement, and the need to develop an integrated service model.

Hepatology and other liver disease services are predominantly provided at RNSH with a small hepatitis clinic provided at Hornsby Hospital. The service manages patients with viral liver disease (hepatitis C and B), compensated and decompensated cirrhosis, hepatoma (primary liver cancer) and non-viral liver conditions such as non-alcoholic fatty liver disease (NAFLD) and metabolic and liver enzyme derangements. Waiting times for new referrals is generally 6-8 weeks although more recently waiting times have increased to 6 months for non-urgent referrals.

Arrangements have been put in place for the transfer of funds from Primary and Community Health to the Department of Gastroenterology within the RNSH Division of Medicine. Strategies are being considered to maximise revenue through improved referral and VMO and Medicare billing practices. Further work will be required to progress:

- Integrating services with appropriate medical, nursing and allied health support for patients with viral and non-viral liver disease
- Re-focusing the role of the specialist service to manage patients with advanced and/or complex conditions
- Collaborating with Medicare Locals/Primary Care Organisations to build capacity and provide support to the primary and community sectors, and developing protocol driven nurse-led models of care for selected patients, to share monitoring and management of non-complex and stable patients
- Improving the quality and safety of care through the development of agreed clinical protocols for referral, diagnosis, management and treatment of hepatology patients
Addressing capacity issues including estimation of projected patient demand with reference to new and anticipated changes in treatments for viral liver disease, evaluation of opportunities to provide additional appropriately equipped and supported clinics in the RNSH ambulatory care centre for advanced or complex conditions and in other NSLHD hospitals and community health facilities for non-complex and stable patients, and improving clinic administration systems

Strengthening clinical audit and hepatology research capacity in collaboration with the NSLHD Academic Health Science Centre.

6. Develop models of care and a business proposal for the delivery of a sustainable integrated hepatology service for patients with viral and non-viral liver disease in NSLHD.

15.5 Infectious Diseases

The provision of a consulting infectious diseases service is increasingly important in the delivery of appropriate care for patients with multi-resistant organisms in acute hospitals along with leadership, advocacy and expertise in evidence-based anti-microbial stewardship and infection control measures for the LHD.

Microbiology laboratory services continue to be provided by Pathology North; clinical consultation services are predominantly located at RNSH and Hornsby hospital has a small VMO led service. Medical staffing levels were recently benchmarked against similar LHDs. Future service provision will focus on the provision of a single LHD consultation and admitting service and anti-microbial stewardship for the LHD incorporating medical, nursing and pharmacy disciplines.

Antimicrobial stewardship (AMS) is a systematic approach to optimise the use of antimicrobials which has been shown to improve the use of drug therapies, reduce patient morbidity and mortality and reduce rates of bacterial resistance and healthcare costs. NSLHD has established processes to monitor, review and restrict antimicrobial use in order to encourage best practice prescribing. Further work is required to embed processes in everyday clinical management and to make further improvements in patient care and clinical practice.

7. Develop a NSLHD Infectious Diseases service that is responsive to the increasing clinical demand, particularly in Emergency and Intensive Care, for the management of patients with multi-resistant organisms and side effects of antibiotics (e.g. Clostridium Difficile).

8. Progress improvements in antimicrobial stewardship by the LHD-wide Infectious Diseases service collaboratively with pharmacy and infection control staff.

15.6 Dermatology

There are issues of consistency and equity of access to dermatology services at each of the five acute hospitals in NSLHD with response times to consultation requests varying from rapid review from the staff specialist service at RNSH, to 24-48 hours for VMO services on the Northern Beaches, and very limited services at Hornsby and Ryde hospitals. Opportunities to provide a networked service across NSLHD using telehealth and a range of other models need to be considered.

9. Improve access to an inpatient dermatology consultation services at each hospital site using a range of service delivery models including telemedicine.
16  Chronic and Complex Medicine

Recommendations

1. Develop an integrated care strategy, governance and information communication technology framework for the provision of integrated care in collaboration with consumers, NSLHD services and service partners, and other stakeholders.

2. Trial home tele-monitoring for efficacy, feasibility and sustainability in empowering patients with chronic and complex conditions to better monitor and manage their own health and avoid hospital admission.

3. Review current use of telehealth and develop a framework for the provision of telehealth as an element of integrated chronic and complex service delivery models.

4. Develop health pathways for chronic and complex health conditions in collaboration with primary care.

5. Review current initiatives and develop a strategy to improve medication compliance for patients with chronic and complex conditions.

6. Implement and evaluate the type 2 diabetes model of care in each health service to align with the recommended ACI model.

7. Develop a Diabetes Info-line via the Health Contact Centre to provide specialist support to GPs for management of patients with diabetes to avoid hospital admission.

8. In conjunction with review of the provision of elective joint replacement, implement the Osteoarthritis Chronic Care Program for all patients across NSLHD who are referred for elective knee and hip replacement.

9. In conjunction with Primary Care identify an optimal and sustainable Osteoporosis Re-fracture Prevention (ORP) service delivery model for NSLHD.

10. Participate in the implementation and evaluation of the Musculoskeletal Initiative in Primary Care program and provide advice on sustainable service delivery models for NSLHD on completion of the pilot program.

11. Develop a clinical services plan for respiratory services across NSLHD hospitals, outpatient and ambulatory services and links with primary care and other service providers.

12. Implement service developments identified in the NSLHD Tuberculosis service plan.

13. Develop pathways into the specialised heart failure and rehabilitation services.

14. Develop a service development plan for pain medicine services across NSLHD consistent with NSW Health policy.

15. Develop a NSLHD model of care for the provision of conservative and palliative care for patients with end stage respiratory and heart failure and other chronic and complex conditions.

16.1 Introduction

The Chronic and Complex Medicine Network currently includes endocrinology, respiratory medicine, chronic heart failure, pain management, and rheumatology and some musculoskeletal services. These services are included in this chapter. It is anticipated that some of these services will move to other clinical networks once arrangements have been finalised. As such the contents of this chapter may need to be revised at a later date to reflect agreed changes.

The overarching challenge for the Chronic and Complex Medicine Network is the transformation of services so that acute hospital services work in partnership with the primary and community sectors (including NSLHD community health services, general practitioners (GPs), private allied health, non-government organisations (NGOs) and other service providers) to make sure that people with chronic and complex care needs, including people with disabilities, stay healthy and out of hospital and so that services are financially sustainable in the long term.

In addition to supporting the development of the integrate care framework for NSLHD (as described in the Service Drivers-Strategic Responses, and Primary and Community Health chapters of the NSLHD CSP 2015-2022), the focus of the Chronic and Complex Medicine Network will be on the development or implementation of a range of associated approaches to integrated care and chronic disease management programs. This will include trialing
home tele-monitoring for selected patient groups and exploring opportunities to use telehealth more effectively, developing health pathways with GPs and allied health providers, and other selected projects.

1. Develop an integrated care strategy, governance and information communication technology framework for the provision of integrated care in collaboration with consumers, NSLHD services and service partners, and other stakeholders.
2. Trial home tele-monitoring for efficacy, feasibility and sustainability in empowering patients with chronic and complex conditions to better monitor and manage their own health and avoid hospital admission.
3. Review current use of telehealth and develop a framework for the provision of telehealth as an element of integrated chronic and complex service delivery models.
4. Develop health pathways for chronic and complex health conditions in collaboration with primary care.
5. Review current initiatives and develop a strategy to improve medication compliance for patients with chronic and complex conditions.

16.2 Endocrinology and Diabetes

Endocrinology encompasses disorders of the pituitary, thyroid, adrenal and other hormone producing organs as well as metabolic bone disease. RNSH provides tertiary and referral services for complex endocrine conditions in NSLHD and secondary care is available through endocrinologists at Hornsby, Manly, Mona Vale and Ryde hospitals as well as at RNSH. Diabetes is the biggest component of the endocrinology service.

Type 2 Diabetes is the most common form of diabetes and although it usually affects mature adults, more young people are being diagnosed. High risk groups include Aboriginal people, people from culturally and linguistically diverse backgrounds, people with mental illness, and people who are overweight or obese. These groups are also at increased risk for the other diseases linked to type 2 diabetes including cardiovascular disease, high blood pressure, stroke, renal disease, some cancers, osteoarthritis, and psychological problems.

- Most patients with type 2 diabetes can be cared for in the community by GPs and the general practice team with variable input from allied health professionals and specialist services. Ongoing education and support for General Practices and their patients are important components of diabetes care. When acute or complex management is required specialist care is recommended. A significant proportion of patients access services in medical specialist rooms and public clinics are available across NSLHD hospitals:
  - Specialist outpatient clinics are provided at RNS and Ryde hospitals. RNSH clinics include the Healthy Weight Clinic for patients with severe obesity (body mass index (BMI) >35 plus one or more identified comorbidity including diabetes) and the Sydney Diabetes Assessment Unit.
  - Diabetes education services are provided at Hornsby, Manly, Mona Vale, RNS and Ryde hospitals and community health centres.
  - A High Risk Foot Clinic is provided at RNSH and general podiatry services are provided at Hornsby, Manly, Mona Vale and Ryde hospitals and community health centres.

Type 1 diabetes mainly occurs in children or young adults although it can occur at any age. Most cases are caused by the destruction of the insulin producing cells in the pancreas by the body’s immune system.

- Patients with type 1 diabetes require long term care by a specialist multidisciplinary team with specific skills in managing all aspects of this complex medical condition.
  - Specialist outpatient clinics for patients with type 1 diabetes are provided at RNSH and Ryde Hospital.
  - The RNSH clinic includes insulin pump assessment, commencement and review; diabetes education and the high risk foot service for patients on insulin pumps are also provided at RNSH.
  - Patients not on insulin pumps access diabetes education and podiatry services at Ryde, Hornsby, Manly or Mona Vale hospitals as well as at RNSH.
  - Paediatric diabetes type 1 care and adolescents with type 1 diabetes transitioning from child to adult services is provided at RNSH.
Pre-gestational and gestational diabetes can develop during pregnancy and while it usually disappears after the baby is born it can recur in later pregnancies and is a marker for increased risk of type 2 diabetes later in life.

- Gestational diabetes should be managed within a specialist multidisciplinary team encompassing the obstetric and midwifery teams, the endocrinology team, and the General Practice team.
  - Women who develop gestational diabetes are referred for consultation to specialist antenatal clinics at RNS, Hornsby and Manly hospitals with access to dietetic services and diabetes education.
  - The GP shared care program can successfully monitor and provide medical management for the majority of women with uncomplicated pregnancies and those same patients with gestational diabetes.
  - Where complex care is required (e.g. for women with pre-existing type 1 or 2 diabetes, uncontrolled gestational diabetes and/or complicated pregnancies) the woman is referred to RNSH for management through the high risk pregnancy service with input from the endocrinology and obstetric teams including the maternal-foetal medicine unit.
  - Workload associated with gestational diabetes is anticipated to increase in coming years particularly for women with uncomplicated pregnancies.

The Agency for Clinical Innovation (ACI) is finalising a model of care for the management of people with diabetes providing a framework for comprehensive, accessible, efficient and coordinated services. In addition to reducing the frequency of diabetes-related presentations to hospital emergency departments, lowering rates of hospital admission, shortening lengths of stay and improving patient outcomes, the key objective is to ensure that diabetes services are optimally configured to:

- Prevent or delay the onset of diabetes (raise awareness, early diagnosis)
- Improve the quality of life for people who have diabetes (optimal initial and long-term management)
- Prevent and slow progression of diabetic complications, especially heart disease, renal failure, impair vision and lower limb amputations (early detection and optimal management)
- Reduce inequities in diabetes service provision, particularly for Aboriginal people and other disadvantaged groups.

NSLHD has been identified as a metropolitan pilot site for the implementation of the model of care for diabetes. The key focus of the model will be on GP coordinated multidisciplinary prevention and management with referral to specialist services for insulin stabilisation and management of advanced complications, and for children, pregnancy and other complex cases. Standardised criteria for referral to acute (secondary and tertiary) services have been refined as part of the model; the model will also identify the type of supportive services that GPs will require so that they can appropriately manage most patients with type 2 diabetes.

NSLHD has recently confirmed funding for the recruitment of a Diabetes Project Officer. The project will include a gap analysis against the ACI model of care, development of an implementation plan based on identified gaps and priorities, and implementation of the plan including managing communications and risks. The project will include collaboration with Medicare Locals/Primary Health Networks to better understand current gaps in service provision across primary, community and acute health services and identification of strategies that will support primary care providers to manage an increasing number of patients with diabetes.

6. Implement and evaluate the type 2 diabetes model of care in each health service to align with the recommended ACI model.

7. Develop a Diabetes Info-line via the Health Contact Centre to provide specialist support to GPs for management of patients with diabetes to avoid hospital admission.

16.3 Rheumatology and Musculoskeletal Services

Rheumatology and musculoskeletal services treat a range of chronic diseases that include arthritis, osteoporosis and back pain, autoimmune disorders and disorders of muscles and ligaments. Arthritis is characterised by joint inflammation and degeneration while osteoporosis or lower bone density results in decreased bone strength and bone fractures from minimal trauma. Both conditions lead to pain, stiffness and disability and, in the case of
Chronic and Complex Medicine

osteoporosis, can lead to premature mortality. Morbidity from overall musculoskeletal disorders is thought to affect over 30% of the Australian population.

Musculoskeletal conditions have been identified as one of Australia’s National Health Priority Areas, recognising the major health and economic burden these conditions place on patients and communities. The ACI has developed models of care for chronic osteoarthritis management and osteoporotic re-fracture prevention. A third model of care for acute low back pain is in development.

Rheumatology services are closely linked with other medical specialties including endocrinology, immunology and orthopaedic surgery, and are provided on an outpatient, ambulatory care, inpatient and consultative basis. An increasing range of acute problems can be managed on an outpatient basis.

Osteoporosis Re-fracture Prevention

The ACI Model of Care for Osteoporosis Re-fracture Prevention (ORP) aims to “guide the implementation of services across NSW that will accelerate the diagnosis and optimal clinical management of osteoporosis in people who are at high risk of sustaining minimal trauma fractures”. It provides an outline for a range of evidence based interventions to ensure that osteoporosis and fracture risk are proactively addressed through early identification, diagnosis, treatment and follow up. The model has been evaluated at three pilot sites across NSW, and found to have significant outcomes, both in terms of reduction in the number of subsequent fractures and reduced costs through avoided hospital admissions.

The NSLHD ORP Advisory Group was established in 2013 and an ORP Project Officer was engaged in 2014 to develop sustainable implementation strategies. ORP services were established in 2012 at Manly Hospital for residents of the Northern Beaches, in 2011 at Hornsby Hospital for residents of Hornsby Ku-ring-gai, and more recently at RNSH for residents of North Shore Ryde. A key element of the ACI model is a Fracture Liaison Coordinator which is funded through Aged Care and Rehabilitation Service trust funds in Hornsby Ku-ring-gai Health Service and a time limited grant in the Northern Beaches Health Service. Funding for a Fracture Liaison Coordinator at North Shore Ryde has not yet been identified. While some service costs can be funded through Medicare rebates for bone scans and facility fees, there is a recurrent budget shortfall that needs to be addressed if the service is to be sustained and expanded.

Osteoarthritis chronic care program

The ACI model of care for chronic osteoarthritis of the hip or knee aims to reduce pain, increase the functional capacity, improve quality of life, slow disease progression and encourage self-management through better coordination of care and multi-disciplinary conservative management. The ACI model was initially piloted in seven sites across NSW and a further four, including RNS and Ryde hospitals, were added to the program in 2012/13. Under the ACI program a musculoskeletal physiotherapist has been engaged at each pilot site. The role of this coordinator is to identify and coordinate the care of eligible patients, lead the development, implementation and evaluation of the program and collaboratively lead the multidisciplinary team. The patient’s general practitioner is a key member of the multidisciplinary team.

Patient eligibility criteria include pain associated with hip/knee on most days of the last month and a visual analogue score of at least four out of ten at initial assessment. For patients who do not reach these criteria alternative management is offered including community exercise programs and Arthritis NSW self-management programs. Eligible patients receive a care coordination and case management following initial face-to-face assessment and identification of care options that may include education, exercise, nutritional advice, occupational therapy, psychosocial support, medication review and pain management.

The RNS/Ryde service has seen an estimated 740 patients since the program commenced in February 2012. Approximately 50% of patients were referred from the joint replacement surgical waiting list and 50% from other specialists including rheumatologists, and General Practitioners. Since 2012 an estimated 16% (55) patients were removed from the waiting list for joint replacement and approximately 10% (30) patients had surgery earlier than initially planned.
Across the osteoarthritis chronic care program (OACCP) program in NSW approximately 8% of patients initially removed from the waiting list were re-listed within two years. It is estimated that when fully implemented the OACCP in NSLHD will have the capacity to see 275-300 new patients each year and follow up participants at 3, 6 and 12 months.

The musculoskeletal coordinator and the Chronic and Complex Medicine Network are currently considering options for the expansion of the program to reach patients referred for joint replacement surgery at other NSLHD hospitals as well as opportunities to improve the collection of data on outcomes and incorporation into the electronic medical records (eMR).

**Back and neck pain**

Back and neck pain accounts for a significant number of emergency department presentations across NSLHD hospitals and elsewhere. A recent review of emergency department presentations by the NSLHD Spinal Pain Pathway Steering Group noted that a total of 336 patients presented to NSLHD hospital EDs in March 2014 (253 with back pain and 83 with neck pain) equating to 10-11 presentations per day. Approximately 30-33% was admitted to an inpatient bed for further investigation and treatment. One third of admitted patients had back pain for more than one week.

The Chronic and Complex Medicine Network recognised that there were no clear guidelines available to General Practitioners for the management of back pain and GPs were generally uncertain about who to contact for advice. It was also recognised that some patients referred to ED or outpatient clinics could have been managed by their GP. ED avoidance could be made possible through the provision of urgent outpatient clinics and medical and surgical outpatient clinic waiting times could be shortened and better managed with clear referral criteria.

The NSLHD Spinal Pain Pathway Steering Group was established in 2013 to develop an evidence-based spinal pain pathway in collaboration with Primary Care for implementation across NSLHD. The group includes clinical representatives from Rheumatology, Orthopaedics, Neurosurgery, Pain Management Centre, and Physiotherapy, together with the Division of Primary and Community Health. The project aims to

- improve general management of back pain
- reduce emergency presentations
- reduce avoidable hospital admissions and, when admission is necessary, facilitate early discharge with a specialist-GP shared care plan
- provide a targeted efficient outpatient service with ready access to specialist care.

To date a pathway and clinical guideline has been developed and will be implemented and evaluated when resources have been identified. The Chronic and Complex Medicine Network is developing a business proposal for a physiotherapy role to develop a single point of access for NSLHD, triage referrals and ensure that patients are appropriately referred to rheumatology, neurosurgery or orthopaedic clinics.

**Primary Care Initiatives**

Over time it is expected that these three models of care will be provided in a variety of settings across primary, community and outpatient services according to local needs and resources. Together with Sydney North Shore and Beaches Medicare Local and Northern Sydney Medicare Local, NSLHD is implementing these three models of care under the umbrella Musculoskeletal Initiative in Primary Health Program. The program, funded by an ACI grant, commenced in 2014 and will run for two years to June 2016. Two other NSW sites have been selected: North Coast and Murrumbidgee.

The Musculoskeletal Initiative in Primary Health Program aims to provide better and more integrated care for people with chronic osteoarthritis, back pain and osteoporosis. The program is being led by, and is based in, Primary Care with two musculoskeletal coordinators working with general practices in the region to support the coordination of care, health literacy and self-management of people who meet eligibility criteria.

Patients recruited to the program will be provided with support and proactive management of their condition in the primary care setting including a GP management plan, prevention and self-care strategies, better pain
management and coordination of care across a multidisciplinary team of providers. GPs will be supported in
patient care by the Musculoskeletal Coordinator and access to risk stratification guidelines, clinical assessment,
and a resource directory detailing community options for disease management.

To date the program has recruited 5 General Practices and patient recruitment will commence in late 2014. The
project aims to recruit a total of 10 general practices and 300 patients by June 2016. When evaluated the ACI will
provide further advice on how the program can be sustainably rolled out across NSW.

8. **In conjunction with review of the provision of elective joint replacement, implement the Osteoarthritis Chronic Care Program for all patients across NSLHD who are referred for elective knee and hip replacement.**

9. **In conjunction with Primary Care identify an optimal and sustainable Osteoporosis Re-fracture Prevention (ORP) service delivery model for NSLHD.**

10. **Participate in the implementation and evaluation of the Musculoskeletal Initiative in Primary Care program and provide advice on sustainable service delivery models for NSLHD on completion of the pilot program.**

### 16.4 Respiratory Services

Respiratory Medicine encompasses a range of inpatient, outpatient and ambulatory services for acute and chronic
respiratory failure encompassing respiratory function laboratory, sleep study and laboratory services, prevention
and education, chronic and ongoing care programs and rehabilitation, as well as oncology and other complex care.

Respiratory Medicine services are provided at all five acute hospitals with tertiary and other highly specialised
services provided at RNSH. Since the last CSP (2012-16) the respiratory service has seen particular growth and
enhancements in the areas of sleep medicine, respiratory function testing, interventional bronchoscopy and lung
cancer management, and chronic pulmonary obstructive disease (COPD) and pulmonary rehabilitation. A more
structured approach to interstitial lung disease and pulmonary hypertension is currently under development
within the Department of Respiratory Medicine.

The respiratory services would benefit from the development of a comprehensive clinical services plan to
determine the appropriate distribution of services across all NSLHD hospitals, to define the required clinical
pathways and standards for common respiratory conditions, and to guide the development of specialist services
including respiratory laboratory, sleep laboratory and respiratory special care units (ReSCU).

11. **Develop a clinical services plan for respiratory services across NSLHD hospitals, outpatient and ambulatory services and links with primary care and other service providers.**

There are relatively low rates of Tuberculosis (TB) in Australia (6-6 per 100,000). Northern Sydney LHD has one of
the lowest rates in NSW, with 7.3 cases per 100,000. The majority of cases of TB in Australia manifest in overseas
born migrants. In this population, the rate of TB is 23 per 100,000. Immigration patterns are therefore the main
driver of demand.

Key goals for TB control in NSW are:
- Eliminate the transmission of TB
- Reduce the burden of disease from TB in overseas born persons and other high-risk groups
- Maintain the current low level of drug resistance
- Foster research and development in TB control
- Strengthen partnerships that contribute to TB Control.

Key strategies to achieve the goals of the TB control program are:
- Case finding to promote early and accurate diagnosis of people with TB (contact tracing, migrant worker
screening and latent TB screening)
- Prompt and effective treatment in people with active TB in supervised programs
- Screening high-risk groups to identify people who can be given TB preventive treatment and identify people
with active TB who require treatment
- Timely surveillance and reporting of program data.
There are three TB services in NSLHD: at Hornsby, Manly and RNS hospitals. The services are managed by Respiratory Physicians with Infectious Disease support, although there are some gaps in consistent medical support at the Manly service. Nursing staff with skill in TB management undertake work in each clinic and the NSLHD service will be coordinated by a Nurse Manager from January 2015.

The World Health Organisation Tuberculosis Guidelines (2010) and the Australian Guidelines for the public health management of TB (2013) continue to recommend Directly Observed Therapy (DOT) as a strategy for TB control. With treatment for active TB prolonged, side-effects of medication being common and serious, and patients often having poor English, international guidelines recommend service delivery is as accommodating as possible to enable effective treatment. NSW Health currently requires that DOT is administered in a coordinated fashion by TB clinics, with this being central to TB management [NSW Health policy directive PD2014_050].

While some service elements can be delivered at one or two sites, DOT needs to be delivered at each hospital clinic as well as off-site and out of hours. Alternative service delivery models will be considered based on data collection currently underway.

RNSH has been identified as the service hub that can accommodate centralised admissions and administrative services, provide access to multidisciplinary care, diagnostic services (radiology, cardiothoracic surgery), and 24/7 access to specialist respiratory TB and ID physician supervision), and where the volume of work may be greater, and could include tuberculin skin tests, BCGs, migrant screening.

In response to these and other issues, a Service Plan was developed in 2013 and endorsed by Clinical Council.

12. Implement service developments identified in the NSLHD Tuberculosis service plan.

16.5 Heart Failure Services

Heart failure continues to be a leading cause of hospitalisation across NSLHD hospitals although annual numbers have remained fairly stable. While re-admission rates (for 28-day readmission or 12 month readmission?) are low for heart failure, length of stay for these patients has tended to be higher in NSLHD hospitals than in other LHDs. An evaluation of length of stay in RNSH has identified opportunities for improvement that can be applied across all NSLHD hospitals along with strategies for hospital avoidance.

- The heart failure service (Management of Cardiac Function –MACARF) spans acute, chronic and asymptomatic stages for which good links between hospitals, GPs and community services are essential; as such the heart failure service is represented in both the cardiology and chronic-complex clinical networks in NSLHD. The service subscribes to the ten standards outlined in the NSW Health Clinical Services Framework for Heart Failure (2003) including prevention, management of precipitating and exacerbating factors, diagnosis, acute treatment, multidisciplinary care, pharmaceutical management, continuing care and rehabilitation, palliative care and monitoring of quality and outcome indicators.

- Patients with acute decompensated heart failure are admitted to the five acute NSLHD hospitals and are subsequently referred to and managed by the MACARF service. Heart Failure Nurse Specialists see patients at home and in hospital, and communicate with the patients GP. During home visits and/or regular phone calls patients receive clinical assessment and approved components of care (e.g. nutrition, exercise, medication adherence, symptom recognition and action plan) and referral to other health services including, for example, cardiac rehabilitation and exercise programs, home nursing, palliative care or aged care. The Service can also assist in the titration of medication.

- A heart failure clinic has been established at RNSH although it is currently underutilised. The clinic provides opportunities for GP referral for rapid medical review and could provide an alternative for selected patients presenting to the emergency department for whom hospitalisation could be avoided.

The NSW Agency for Clinical Innovation (ACI) developed a draft proposal to improve the management of patients with severe cardiac and respiratory disease (2010) as part of the NSW Chronic Care Program.

13. Develop pathways into the specialised heart failure and rehabilitation services.
16.6 Pain Management Services

Acute pain services are generally provided by anaesthetic and surgical nursing staff in each of the five acute hospitals in NSLHD. A chronic and complex pain management service is provided at RNSH with referrals accepted from specialists and General Practitioners across the LHD and elsewhere in NSW. The specialist service includes medical officers with backgrounds in anaesthesia, rehabilitation, rheumatology, oral surgery and psychiatry; the service is supported by a clinical nurse specialist shared between Mona Vale and Manly hospitals and a clinical nurse consultant position at Hornsby Hospital. The service has a lead role coordinating pain research and clinical training across NSW.

The specialist service is part of the statewide network of pain management services that encompasses:

- tier three multidisciplinary services located in major hospitals, managing patients with a high degree of complexity
- tier 2 specialist lead services located in smaller hospitals or non-hospital based teams managing patients with medium complexity
- tier 1 services based in primary care managing patients with low complexity.

The tier three services at RNSH include acute, persistent post-surgical, post-traumatic, chronic, and cancer pain. Service elements include:

- acute pain management of medical/surgical patients
- consultation services to patients admitted under other services
- inpatient admissions for chronic cancer and non-cancer related pain
- outpatient pain management service for new patient assessments, follow up assessments, pump refills and pump adjustments, spinal simulator re-programming, education about pain intervention procedures
- intensive outpatient cognitive behavioural programs for patients with chronic pain conducted by a multidisciplinary team (ADAPT and Compact ADAPT).

In addition to the specialist tier 3 service at RNSH, an unrelated tier 2 outpatient service is provided by HammondCare at Greenwich Hospital. Services provided by HammondCare at Greenwich Hospital include:

- Medical and multidisciplinary assessments
- Individual medical, physiotherapy and clinical psychology outpatient treatment
- Outpatient multidisciplinary pain management program for people with medium intensity chronic pain
- Specialist assessment and combined face to face/telehealth pain management program for people with pain following spinal cord injury.

Key clinical relationships include primary care and Medicare Locals, emergency departments, general and subspecialty surgical services, obstetrics, interventional cardiology, gastroenterology, orthopaedics, cancer, palliative care, acute psychiatry, addiction medicine, and rehabilitation services. An important feature of the specialist service is its integration with acute pain service to enable urgent assessment and treatment services for the whole LHD.

In July 2012 following the release of the NSW Pain Management Report (2012) and Plan (2012-2016), a 4 year funding program was identified to establish multidisciplinary pain clinics across regional NSW and to enhance existing services. This allowed RNSH to appoint a staff specialist, a psychologist and a nurse to run additional group programs, and to assist Port Macquarie and Lismore hospitals establish local services.

Implementation of NSW Pain Plan has been the main focus with appointment of clinical staff, appointment of research staff, new collaborative research and a range of educational and training activities. Educational initiatives have included a new webinar series for health care workers and collaborative presentations with the tier 2 Greenwich service at forums organised by the Northern Sydney Medicare local. The online masters program and extensive teaching and training continues with over 60 worldwide students currently enrolled.

The chronic and complex pain service now needs to develop a plan that will set out service directions over the next 5-10 years including:
 Development of standardised protocols for the provision of multidisciplinary acute pain management at Hornsby, Manly, Mona Vale, Ryde and RNS hospitals
 Streamlining the management of chronic pain in hospital settings and support the provision of community-based care
 Coordinating service provision across the tier 3 service at RNSH and the tier 2 service at Greenwich Hospital
 Development of service standards, referral and consultation arrangements and relationships to ensure seamless care between services provided at the new Northern Beaches Hospital at Frenchs Forest
 Fostering collaborative research activities across NSLHD hospitals and services partners.

14. Develop a service development plan for pain medicine services across NSLHD consistent with NSW Health policy.

16.7 End of Life Care

The management of chronic disease has improved considerably in recent years but there still remain a significant number of people who will die from end stage heart failure, renal failure and respiratory disease.

Often there is a heavy burden of symptoms, and psychological and social needs must also be met. Many patients could benefit from improved end of life or palliative care services. Much of what has been learned from cancer care could be applied to the care of patients with end-stage heart or respiratory failure. Discussion about treatment options and prognosis, managing pain, nausea and distress, and the many facets of good end of life care needs to be approached in a timely and sensitive manner. The development of end of life care pathways for the provision of conservative and palliative care for patients with end stage disease will improve the quality of care offered to patients in NSLHD.

15. Develop a NSLHD model of care for the provision of conservative and palliative care for patients with end stage respiratory and heart failure and other chronic and complex conditions.
17  Cancer and Palliative Care

Recommendations
1. Implement recommendations arising from the 2014 external review of cancer services in NSLHD.
2. Implement recommendations arising from the 2014 review of palliative care services in NSLHD.

17.1 Cancer Services

Northern Sydney Local Health District (NSLHD) had an expected annual cancer incidence of around 4,400 in 2009 with new cancer cases projected to increase to 5,000 by 2016. The NSLHD population has lower smoking rates and higher screening rates for breast and cervical cancers than the average for NSW. This most likely reflects the higher socio-economic status of the population, the lower incidence of lifestyle factors that cause cancer, and higher health literacy which predisposes to better cancer outcomes.

Cancer services are provided at each of the five acute hospitals in NSLHD although only Royal North Shore Hospital (RNSH) through the public comprehensive cancer centre provides a full suite of services including chemotherapy, radiotherapy and surgery. Hornsby Hospital has an outsourced model with medical oncology, haematology and chemotherapy services provided at Sydney Adventist Hospital. Manly Hospital provides chemotherapy services and, along with Mona Vale and Ryde hospitals, limited surgery. Palliative care is outsourced to HammondCare with services provided at Greenwich and Neringah hospitals and in a free-standing unit at Mona Vale Hospital.

There is substantial private sector provision and utilisation of cancer services reflecting the high prevalence of private health insurance in the NSLHD population. Cancer surgery is provided at multiple private hospitals including North Shore Private, Sydney Adventist, Macquarie University and Mater hospitals. Chemotherapy is provided at the Northern Cancer Institute at St Leonards and Frenchs Forest while both chemotherapy and radiotherapy are provided at Sydney Adventist, Macquarie University and Mater hospitals.

- The high utilisation of private sector services by the NSLHD population coupled with the spread of surgical cancer services across multiple public hospitals means that each site performs only a small number of low frequency but highly complex surgical operations and post-operative management each year. The annual volume of surgical resections, particularly for oesophageal, gastric and pancreatic cancer, falls below the volume benchmark proposed by the NSW Cancer Institute.
- The high utilisation of private sector services also means that much of the cancer care delivered at RNSH is highly complex, with a relatively small volume while difficulties sustaining a “critical mass” in other NSLHD services has reinforced a tendency to centralise some specialties; for example the is no formal haematological oncology service at Manly or Mona Vale Hospitals and, as noted previously, medical oncology for Hornsby Ku-Ring-Gai Health Service is outsourced to the Sydney Adventist Hospital.

This low volume of surgical activity and issues of sustainability will be further emphasised in 2018 with the opening of the new Northern Beaches Hospital at Frenchs Forest, a public-private arrangement where the new hospital will treat Northern Beaches public patients under contract from NSLHD. This will see a significant shift of activity, mainly from RNSH, to the new hospital. It is unclear at the time of writing whether the new hospital will provide radiotherapy services. The shift in activity from RNSH to the new hospital will require careful management both in the establishment of the service contract and the management of the reduced demand at RNSH. Consideration will also need to be given to how the clinical and multidisciplinary relationship will be developed between the new public-private hospital and services provided at other NSLHD hospitals.

Since the last Clinical Services Plan the Cancer and Palliative Care Network:

- Has developed an executive committee and consultative council which bring together representatives from each of the clinical specialties and associated services (medical and radiation oncology, haematology, surgery, palliative care) along with representatives from RNS, Hornsby and Northern Beaches hospitals. Tumour specific multidisciplinary teams have been established for breast, gynaecology, endocrine, lung, upper gastrointestinal, colorectal, hepatobiliary, head and neck, urology and neuro-endocrine services.
Is working towards the development of a uniform cancer data collection system. The CHARM™ Oncology Information Management System was introduced at RNSH. The program recognises that patients often receive treatment for cancer and related illnesses from a multidisciplinary team and at more than one facility and when implemented should support easy access to a single patient electronic medical record and treatment plan across facilities and services. Data linkages have not yet been successfully established and the system is being reviewed.

The NSLHD Clinical Network also recognises that cancer treatments, particularly chemotherapy, are becoming increasingly disease specific and smaller services often have difficulty maintaining sufficient expertise to manage the broad range of cancer presentations. The development of multidisciplinary teams encompassing services at North Shore Ryde, Hornsby Ku-ring-gai and Northern Beaches along with delivery of chemotherapy on an outreach basis at individual hospitals would assist in overcoming some of the problems resulting from increasing specialisation.

An external review of NSLHD cancer services was conducted in 2013/14 by Professor James Bishop, Executive Director Victorian Comprehensive Cancer Centre and former NSW Chief Cancer Officer. The review reinforced the need for more coordinated cancer services, integrated not only across NSLHD hospitals but also seeking to integrate with private sector services. It is suggested that this approach could support patients to access services in both public and private sectors according to their clinical needs and bring together common multidisciplinary teams. The breaking down and removal of cultural, funding and governance barriers between services that should ideally collaborate closely will also offer better opportunities for cancer services to work with the new Northern Beaches Hospital at Frenchs Forest when it opens in 2018. Other benefits of coordinated and integrated services include:

- efficiencies of scale, justifying a wide range of subspecialist allied health, nursing and medical clinicians who can provide services across the LHD
- cost-effective models of cancer care to contain and manage the costs associated with high utilisation of inpatient beds, medical imaging and pathology, use of expensive drugs, complex multidisciplinary care, high capital equipment costs and expensive end of life care with palliative management of advanced cancers.
- opportunities to meet increasing service demand in the longer term.

The review suggested that this new network should be “fund holding” so that it could directly manage its own budget and services while being required to meet clinical, access, quality and safety and financial targets at the same time as planning, overseeing and improving care. Implementation will require consideration of generic issues of service scope, services models, management structure, financial systems, governance and performance systems, workforce and research and development.

Work is currently underway to determine the best structure and governance arrangements to deliver a fund holding cancer services network and the Palliative Care Review is in progress. Both reports will be finalised in early 2015. Recommendations for the Cancer and Palliative Care services will need to be updated in the Clinical Services Plan once the service reviews are concluded and a comprehensive set of recommendations have been refined and developed and endorsed by the NSLHD executive and board.

1. Implement recommendations arising from the 2014 external review of cancer services in NSLHD.

### 17.2 Palliative Care

Palliative care is defined by the World Health Organisation as: an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.

Palliative care:

- provides relief from pain and other distressing symptoms
- affirms life and regards dying as a normal process
- intends neither to hasten or postpone death
- integrates the psychological and spiritual aspects of patient care
- offers a support system to help patients live as actively as possible until death
- offers a support system to help the family cope during the patients illness and in their own bereavement
- uses a team approach to address the needs of patients and their families, including bereavement counselling, if indicated
- will enhance quality of life, and may also positively influence the course of illness
- is applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy, and includes those investigations needed to better understand and manage distressing clinical complications.

A review of NSLHD palliative care services commenced in March 2014 and is expected to be finalised by end 2014. The purpose of the review is to profile and review the current palliative care services in NSLHD to identify options and provide recommendations on service delivery and how this should be structured into the future. In scope were all palliative care services serving the NSLHD population. The review was conducted in the context of local, state and national planning initiatives regarding palliative care and including:
- The National Palliative Care Strategy 2010
- The NSW Government Plan to increase access to palliative care 2012-2016
- NSW Framework for the Statewide Model for Palliative and End of Life Care Service Provision, May 2013

Palliative care inpatient, consultation and community services are outsourced to HammondCare under a service level agreement with NSLHD. HammondCare operate 44 palliative care inpatient beds at Greenwich Hospital (25 beds) and Neringah Hospital (19 beds). In addition palliative care outpatient clinics and community (at-home) services are delivered serving the NSLHD community and based out of Greenwich Hospital, Neringah Hospital and the Northern Beaches at the Mona Vale Hospital site. Consultation services are provided to RNSH and inreach services to Hornsby Hospital, Ryde Hospital and Manly/Mona Vale Hospitals. Northern Sydney Home Nursing Service supports palliative patients at home and RNSH maintains a Palliative and Supportive Care Department, with a clinical nurse consultant, clinical nurse specialist and basic physician trainee for inpatient palliative care.

During the palliative care review process the following principles for the provision of services were supported:
- Palliative care is provided where the patient is, i.e. in acute hospitals, community or sub-acute inpatient palliative care facilities
- Palliative care is everyone's business
- Most patients will have their first contact with palliative care while in an acute hospital.
- Palliative care consult services are important in acute hospitals
- Community palliative care services should be interdisciplinary and provide:
  - Medical assessment and ongoing symptom management
  - Nursing assessment and ongoing patient and family support
  - Psychosocial assessment and ongoing patient and family support
  - Physical assessment to optimise patient safety, exercise tolerance and care at home
- Inpatient palliative care units are to support hospital consultation and community services
- Bereavement services are part of palliative care provision and should be available to all NSLHD clients who are identified palliative care, acute or primary clinicians.

2. **Implement recommendations arising from the 2014 review of palliative care services in NSLHD.**
18 Cardiovascular Health

Recommendations

1. Evaluate coronary care (CCU) service delivery models across NSLHD hospitals to inform service developments and capacity requirements over next 5-10 years.

2. Develop, standardise and evaluate evidence-based clinical protocols and pathways across NSLHD hospitals for acute coronary syndromes, arrhythmia and pacemaker management, heart failure management and other common cardiac conditions.

3. Develop models of care and a business proposal for the provision of ambulatory care services for the referral, assessment and management of patients with arrhythmia and syncope, heart failure and decompensated heart failure, and other appropriate cardiac conditions.


5. Develop sustainable medical workforce models that determine arrangements for cross appointments for interventional cardiology, rotation of advanced cardiology trainees and integration of teaching and research functions across cardiology hub and spoke services in NSLHD.

18.1 Service delivery

Cardiology services are organised on an integrated hub and spoke model across Northern Sydney Local Health District (NSLHD).

- The tertiary hub is located at Royal North Shore Hospital (RNSH) providing diagnostic and interventional coronary procedures, a 24/7 infarct angioplasty program, structural heart disease program including trans-catheter aortic valve replacement (TAVR), balloon aortic valve replacement (BAV), mitral valve clip and repair of atrial septal defect (ASD), patent foramen ovale (PFO) and atrial appendage occlusion, diagnostic and interventional electrophysiology, and complex pacemaker implantation (automatic implantable cardioverter-defibrillator and cardiac resynchronisation therapy).

- Secondary services are provided at Hornsby, Manly, Mona Vale and Ryde hospitals, as well as at RNSH, managing patients who present with acute coronary syndromes, arrhythmias, heart failure and a range of other cardiology illnesses. While not all services are provided at each site the scope of services includes non-invasive cardiac procedures (echocardiography, computed tomography (CT) angiography, nuclear cardiology, and in the future may include magnetic resonance imaging (MRI) angiography) and implantation of temporary and simple pacemakers for less complex patients. Early identification of high risk patients is essential in the provision of appropriate care locally or transfer to RNSH for more complex care when required.

Telemetry is available in each cardiology ward and coronary care units (CCU) are provided at each hospital although a variety of different models of care are used and available beds vary considerably:

- RNSH has separate and distinct CCU with 8 beds
- Hornsby CCU is part of the cardiology ward with 4 beds used flexibly for CCU and ward patients
- Manly CCU is provided in conjunction with intensive care (ICU)/ high dependency (HDU) with up to 5 beds available for HDU and CCU patients
- Mona Vale CCU is provided in conjunction with HDU with up to 3 beds available
- Ryde CCU is provided alongside HDU with 10 beds for CCU patients.

Each of these models need to be evaluated to determine the most clinically appropriate and sustainable model that will support the mix of services and patient dependency at each hospital over the next decade.

1. Evaluate CCU service delivery models across NSLHD hospitals to inform service developments and capacity requirements over next 5-10 years.
18.2 Models of care

NSLHD hospitals have implemented the NSW Health chest pain pathway (policy directive PD2011_037) following its release in 2011 although patients are managed in different locations and by different teams in each of the five acute hospitals depending on local protocols, types of units available and according to patient risk stratification.

With the development of emergency short stay and medical assessment units at each of the five acute hospitals and the implementation of strategies to achieve the National Emergency Access Targets (NEAT), an increasing number of patients who were previously managed in the emergency department (ED) are now admitted to inpatient services; in 2013/14 an estimated 3,400 patients were admitted, over double the number of patients admitted in 2010/11.

Heart failure continues to be a leading cause of hospitalisation across NSLHD hospitals although annual numbers have remained fairly stable. While re-admission rates are low for heart failure, length of stay for these patients has tended to be higher in NSLHD hospitals than in other LHDs. An evaluation of length of stay in RNSH has identified opportunities for improvement that can be applied across all NSLHD hospitals along with strategies for hospital avoidance.

- The heart failure service (Management of Cardiac Function –MACARF) spans acute, chronic and asymptomatic stages for which good links between hospitals, general practitioners (GPs) and community services are essential; as such the heart failure service is represented in both the cardiology and chronic-complex clinical networks in NSLHD. The service subscribes to the ten standards outlined in the NSW Health Clinical Services Framework for Heart Failure (2003) including prevention, management of precipitating and exacerbating factors, diagnosis, acute treatment, multidisciplinary care, pharmaceutical management, continuing care and rehabilitation, palliative care and monitoring of quality and outcome indicators.

- Patients with acute decompensated heart failure are admitted to the five acute NSLHD hospitals and are subsequently referred to and managed by the MACARF service. Heart Failure Nurse Specialists see patients at home and in hospital, and communicate with the patients GP. During home visits and/or regular phone calls patients receive clinical assessment and approved components of care (e.g. nutrition, exercise, medication adherence, symptom recognition and action plan) and referral to other health services including, for example, cardiac rehabilitation and exercise programs, home nursing, palliative care or aged care. The Service can also assist in the titration of medication.

- A heart failure clinic has been established at RNSH although it is currently underutilised. The clinic provides opportunities for GP referral for rapid medical review and could provide an alternative for selected patients presenting to the emergency department for whom hospitalisation could be avoided.

- The NSW Agency for Clinical Innovation (ACI) developed a draft proposal to improve the management of patients with severe cardiac and respiratory disease (2010) as part of the NSW Chronic Care Program.

The NSLHD Cardiovascular Network proposes to establish expert committees to develop standardised, evidence based approaches to patient management for acute coronary syndromes, heart failure, arrhythmia management and pacemakers, including the development of ambulatory clinics and clinical protocols, for these and other cardiology conditions.

Development of models of care that avoid hospitalisation and facilitate the review of patients from specialist rooms, following ED presentation or hospital discharge is a high priority for the Cardiology Network. Ambulatory management is appropriate for patients with syncope, arrhythmia, heart failure and other cardiac conditions not stratified as high risk and could encompass rapid access clinics in acute hospitals, follow-up, review and ongoing management clinics in hospitals and community settings, and in patients’ homes.

Cardiology outpatient and ambulatory clinics are provided at Hornsby, Manly, RNS and Ryde hospitals. These include general diagnostic and rehabilitation clinics. Clinics could be provided in a number of locations including hospital and community health centres/GP practices although service provision across multiple sites will require good access to electronic medical records and investigation reports and telehealth capabilities.
2. Develop, standardise and evaluate evidence-based clinical protocols and pathways across NSLHD hospitals for acute coronary syndromes, arrhythmia and pacemaker management, heart failure management and other common cardiac conditions.

3. Develop models of care and a business proposal for the provision of ambulatory care services for the referral, assessment and management of patients with arrhythmia and syncope, heart failure and decompensated heart failure, and other appropriate cardiac conditions.

18.3 Interventional Cardiology and Cardiothoracic Surgery

A limited thoracic surgical service is available at Hornsby (mainly for pleural effusions and pneumothorax) and at Mona Vale (mainly adjustments for cardiac pacemakers). Patients with more complex needs including coronary bypass and other major heart and lung procedures are referred to RNSH where the cardiology service is closely aligned with the cardiothoracic surgical service. It is anticipated that a thoracic surgical service will be provided at the new Northern Beaches Hospital at Frenchs Forest.

The hub and spoke cardiology model of care supports the delivery of optimal evidence based interventional cardiology services at RNSH with a critical mass of specialist staff (cross appointed medical, nursing, radiographers, scientific officers) and a high volume of patients. To maintain the critical mass RNSH service works closely with North Shore Private Hospital to provide a campus-based service, particularly for electrophysiology, angigraphy and other interventional and surgical services. The demand for surgery continues to decrease reflecting the growth in interventional cardiology services; the volume of surgery performed at RNSH also reflects the increased rate at which residents access other private sector services.

Based on initial advice from the Cardiology Network, provision of a 24/7 interventional cardiology service was not included in the request for tender for the new Northern Beaches Hospital at Frenchs Forest in 2013/14 although a multidisciplinary and theatre-capable angiography suite is in scope along with the provision of thoracic surgical services. More recent advice from the Cardiology Network sub-committee supports the provision of 24/7 interventional services. NSLHD and the Cardiology Network will need to work collaboratively with the new hospital provider to determine the most appropriate model of care for residents of the Northern Beaches when the hospital opens in 2018. Deliberations will consider the views of clinical specialists and community members along with issues relating to clinical quality (timeliness of access, critical mass, clinical outcomes, cross appointment of specialists), sustainability (rostering, costs, opportunity costs), and the impact on RNSH (maintenance of critical mass and service quality).

The Network and the expert committees will consider best practice arrangements for the provision of non-invasive imaging, interventional cardiology, and structural heart disease (trans-catheter therapies and cardiothoracic surgery) as well as non-invasive imaging, interventional cardiology, and structural heart disease (trans-catheter therapies and cardiothoracic surgery) across acute hospitals in NSLHD and how networked arrangements with private providers could enhance service quality.


18.4 Cardiology workforce

The Cardiology Network has actively pursued the cross appointment of specialists, fractional appointments and the rotation of cardiology advanced trainees to support the provision of complex interventional services by high volume operators in a single high volume service and the provision of high quality general cardiology services at all five acute NSLHD hospitals. Further work is required to embed and enhance these arrangements across NSLHD.

These arrangements provide opportunities to improve academic cardiology including teaching, clinical trials, epidemiology, basic cellular/molecular and other research at both hub and spoke hospitals.
The development of new models of care requires services to review their workforce profiles and identify changes that can support the provision of ambulatory cardiology care and integration with other clinical services, including local private providers (particularly North Shore Private and the private hospital operator at the new Northern Beaches Hospital at Frenchs Forest) and other clinical networks (particularly chronic and complex medicine).

5. **Develop sustainable medical workforce models that determine arrangements for cross appointments for interventional cardiology, rotation of advanced cardiology trainees and integration of teaching and research functions across cardiology hub and spoke services in NSLHD.**
19 Renal Medicine

Recommendations

1. Improve networking and governance of dialysis services across NSLHD with common clinical pathways, practices and protocols to make best use of resources and to support the flow of patients to the closest and most convenient and appropriate service.

2. Develop a strategic plan to guide the staged opening of additional dialysis capacity to meet anticipated demand over the next 5-10 years and to transfer patients and resources from RNSH to dialysis service at the new Northern Beaches Hospital in 2018.

3. Determine the additional ongoing costs associated with the provision of assisted peritoneal dialysis and develop a business proposal, including a cost-benefit analysis and funding opportunities, to support service provision over next 5-10 years.

4. Compare NSLHD achievement of NSW dialysis benchmarks with other LHDs and renegotiate benchmarks with NSW Ministry of Health.

5. In collaboration with the Rehabilitation and Aged Care Services Clinical network review and make recommendations on the service delivery options for dialysis patients who require rehabilitation.

6. Develop a renal transplant plan to support the provision of services over the next 5-10 years.

7. Develop a NSLHD model of care and business proposal for the provision of conservative and palliative care for end stage renal failure patients.

8. Develop a NSLHD model of care and business proposal for the provision of outpatient and ambulatory care services for patients with renal disease.

Renal Medicine services are currently part of the Cardiovascular and Renal Medicine Clinical Network. It is proposed that Renal Medicine should move to the Chronic and Complex Medicine clinical networks once arrangements have been finalised. As such the location of this chapter may need to be revised at a later date to reflect agreed changes.

19.1 Renal services governance

A single unified governance structure across facilities and renal services will support the renal service in making the best use of resources and ensuring that patients are treated at the most convenient or closest facility to home for inpatient, dialysis and ambulatory/outpatient care.

Current linkages and cross appointment of senior medical staff between the Royal North Shore Hospital (RNSH) and Mona Vale dialysis services has ensured that dialysis capacity at Mona Vale is well utilised with patient filling vacancies when regular patients are admitted to inpatient services or when they go on holiday.

Further development and refinement of governance arrangements, including a collaborative relationship with the new Northern Beaches Hospital, will support the renal service in the improvement of dialysis and associated services and development of ambulatory/outpatient clinic services.

The move towards a fully electronic medical record linked with Powerchart offers further opportunities to improve seamless patient care across facilities, enhance clinical teaching and research, and to streamline auditing, data collection and participation in the Australian and New Zealand dialysis and transplant registry (ANZData).

1. Improve networking and governance of dialysis services across Northern Sydney Local Health District (NSLHD) with common clinical pathways, practices and protocols to make best use of resources and to support the flow of patients to the closest and most convenient and appropriate service.
19.2 Dialysis capacity

Inpatient renal dialysis services are provided at RNSH hospital and satellite dialysis is provided at the RNS community health centre and at Mona Vale. Home training services for NSLHD are provided by the Sydney Dialysis Centre based at RNSH.

- RNSH satellite dialysis service moved into the community health building in 2011 opening sufficient capacity to meet current needs. Additional capacity will be progressively opened over the next 10 years to match anticipated demand.
- The Mona Vale satellite service opened in 2011/12 and has been operating at near capacity. Dialysis services will move to the new Northern Beaches Hospital at Frenchs Forest in 2018 with sufficient capacity to meet resident demand. Northern Beaches residents currently being treated at RNSH will move to the new facility releasing some capacity at RNSH.

The expansion and development of new public dialysis capacity across the LHD will increase access to services and will ensure that NSLHD patients will not need to travel more than one hour to a metropolitan treatment facility as recommended by the NSW Health guidelines.

The opening of new dialysis capacity across NSLHD will need careful planning, not only for the new facilities themselves, but also to manage the impact of reduced demand at the RNSH facility. The opening of new satellite services will require improved networking across NSLHD, including the new Northern Beaches Hospital at Frenchs Forest, so that patients can easily access the closest and most convenient dialysis service.

2. Develop a strategic plan to guide the staged opening of additional dialysis capacity to meet anticipated demand over the next 5-10 years and to transfer patients and resources from RNSH to dialysis service at the new Northern Beaches Hospital in 2018.

19.3 Dialysis Benchmarks

NSLHD dialysis services continue to work towards the NSW benchmarks for peritoneal dialysis (PD) and haemodialysis (HD) across in-centre, satellite and home settings (50% home based of which 30% should be PD and 20% HD; and 50% facility based of which 30% should be satellite and 20% in-centre).

- In NSLHD services 41% of patients dialyse at home of which 21% use PD and 20% HD; Of the 59% of patients using facility based dialysis 43% attend satellite and 16% in-centre services. While the target for home HD has been achieved and sustained, the rates for home PD remain below the benchmark and facility based treatment rates continue to increase above the benchmark.
- The ANZdata 2013 report noted that on average across Australia 29% of dialysis treatments occurred at home (19% PD and 9% HD) and 71% occurred in facilities (49% satellite and 22% in-centre) while NSW provided 37% at home (25% PD and 12% HD) and 63% facility based (37% satellite and 26% in-centre).

Strategies that improve patient initiation and retention on home based therapies have been developed including home PD or HD being treatment of first choice, improved access to home dialysis training, and assisted peritoneal dialysis for selected patients. It is suggested that the current NSW home-based therapies benchmarks are unrealistic and should be re-negotiated with the Ministry of Health. The service also notes the higher costs associated with strategies such as the assisted PD which requires on-going social work and senior nursing resources after the initial home training is completed; the sustainability of the assisted PD strategy is dependent on a clearer understanding and management of costs and revenues.

3. Determine the additional ongoing costs associated with the provision of assisted peritoneal dialysis and develop a business proposal, including a cost-benefit analysis and funding opportunities, to support service provision over next 5-10 years.

4. Compare NSLHD achievement of NSW dialysis benchmarks with other LHDs and renegotiate benchmarks with NSW Ministry of Health.
19.4 Dialysis rehabilitation

Accessing rehabilitation services can be more complex for patients who also require renal dialysis. With the opening of new rehabilitation beds at Ryde and Mona Vale hospitals there is opportunity to explore a range of models to deliver the best possible rehabilitation service to this patient cohort.

Service delivery models to be considered should include in-reach rehabilitation to in-centre dialysis services, provision of dialysis at each rehabilitation service, and provision of dialysis at a single rehabilitation services for NSLHD. Where dialysis and rehabilitation services are provided on different facilities timely and responsive transport arrangements also need to be secured.

The rehabilitation service and clinical network is exploring opportunities and service models to deliver rehabilitation to patients whose needs are not currently met due to ongoing acute care needs. Identifying and meeting the needs of patients on dialysis should form part of this work.

5. In collaboration with the Rehabilitation and Aged Care Services Clinical network review and make recommendations on the service delivery options for dialysis patients who require rehabilitation.

19.5 Transplant services

Improved service networking and increased living donor rates has seen renal transplant services at RNSH grow from 15 transplants in 20010/11 to 22 in 2012/13 and 25 in 2013/14; a further 25% growth is anticipated.

With the increased activity it is appropriate to set out a clear understanding of costs and revenue streams and clinical resources required to provide the transplant and associated services. This includes medical, nursing, allied health and administrative support, operating theatre time and specialised equipment, apheresis and pathology services, pharmaceutical costs, and patient and donor support services such as access to low cost accommodation for donors. A renal transplant plan should also identify clinical pathways and protocols, and strategies to develop and retain medical and nursing expertise that will promote optimal outcomes for these complex patients.

6. Develop a renal transplant plan to support the provision of services over the next 5-10 years.

19.6 Conservative and palliative care for renal patients

Dialysis treatment is demanding and time-consuming and requires lasting changes to lifestyle. Many people on dialysis make these adjustments and lead a fulfilling life but it is recognised that dialysis is not the best option in all situations. Dialysis may not improve the quality of life for some people, particularly if they have other serious health problems such as heart disease or cancer, and some patients who have been on dialysis for an extended time find that their symptoms, range of functioning, wellbeing worsen despite dialysis.

Conservative management and palliative care options need to be further developed to support NSLHD patients who choose not to commence or continue with dialysis. The aim of conservative treatment is to manage the symptoms of kidney failure without using dialysis or transplantation. Conservative treatment includes medical, emotional, social, spiritual and practical care for both the person with kidney failure and their family.

The model of care established under Professor Mark Brown at the St George Hospital has focused on

- Review of commonly used Palliative medications in the context of end stage renal disease (ESRD)
- Preparation of an End of Life Care Pathway for patients with ESRD
- Creation of a Renal-Palliative Care Clinic

NSLHD needs to develop a pathway for patients not suitable for or who choose not to commence or continue with dialysis.

7. Develop a NSLHD model of care and business proposal for the provision of conservative and palliative care for end stage renal failure patients
19.7 Ambulatory Care

Given the ongoing care requirements and the chronic nature of renal disease, further development of outpatient and ambulatory care services is essential. Services encompass:

- High risk pregnancy clinic (currently provided at RNSH and Manly)
- General nephrology encompassing patients with chronic renal failure, acute renal failure, dialysis and transplant review (currently provided at RNSH and Hornsby)
- Transplant assessment, management and follow up (provided at RNSH)
- Conservative/palliative care clinic for end stage renal failure (not yet established)
- Ambulatory care to support:
  - administration of intravenous infusions such as iron, immunoglobulin, Aredia and Rituximab
  - phasmapheresis or plasma exchange (provided at RNSH).

Sustainable models need to be developed to provide these services including consideration of distribution of clinics and outreach services across NSLHD, partnerships with Medicare Locals/Primary Health Networks and General Practices, Medicare, private billing and other funding arrangements, nursing and allied health (social work, dietetics etc.) resources and administrative support and arrangements.

8. Develop a NSLHD model of care and business proposal for the provision of outpatient and ambulatory care services for patients with renal disease.
20 Neurosciences

Recommendations

1. Review the NSLHD acute stroke and associated models of care for stroke prevention, TIA and carotid surgery against the National Stroke Foundation Clinical Guidelines for Stroke Management and make recommendations regarding the ongoing role of each NSLHD hospital, standardisation of models of care across hospitals, and improving access to thrombolysis.

2. Review and make recommendations (in conjunction with the Rehabilitation and Aged Care Network) for stroke rehabilitation services including the provision of multidisciplinary care from time of admission, in-reach to acute stroke units not collocated with rehabilitation services, and access to home-based and ambulatory rehabilitation.

3. Evaluate the provision of rapid access neurology clinics at RNSH, make recommendations for the development and roll out of clinics across NSLHD, and develop a business proposal for a sustainable service delivery and workforce model.

4. Develop clinical protocols to guide the rational selection of appropriate imaging and other diagnostic tests for patients presenting to ED with neurological symptoms.

5. Reduce length of time from triage to MRI for neurology patients presenting to Emergency Departments in collaboration with Medical Imaging service.

6. Investigate and make recommendations on the feasibility and opportunities to develop a neurogenetics service for NSLHD.

7. Establish a service development framework for interventional neuroradiology that addresses sustainable workforce issues, agreed growth and scope of practice.

8. Investigate and make recommendations to improve access to advanced therapies for Parkinson’s disease including apomorphine infusion, duodopa therapy, and deep brain stimulation.

9. Investigate and make recommendations to increase the capacity of movement disorder clinics and improve provision of nursing support, allied health and rehabilitation clinics and programs for patients with neurodegenerative diseases.

10. Review the demand and provision of neuroimaging and neurogenetic testing for patients with neurodegenerative movement disorders.

11. Develop a business proposal for a sustainable workforce and service delivery model for neuroscience services.

20.1 Acute Stroke Services

In 2013 Hornsby, Manly and Royal North Shore (RNS) hospitals were nominated as acute stroke units as part of the statewide stroke reperfusion program with both Hornsby and RNS providing acute thrombolysis services. The Sydney Adventist Hospital also provides an acute stroke thrombolysing service in the private sector. Hornsby and Manly Stroke Units each manage between 100-150 patients per year while RNSH manages 350-400.

The NSW Ambulance Service has trained crews to recognise stroke using the Face-Arm-Speech- Time (FAST) tool and patients are preferentially transported to one of these three hospitals, or to Hornsby or RNSH if they are potentially eligible for thrombolysis. Despite the ambulance matrix a small number of stroke patients are transported to Mona Vale and Ryde Hospitals. These patients along with those who self-present to the emergency departments at Mona Vale and Ryde hospitals are generally transferred to their closest stroke unit for management although a small number continue to be managed locally.

Hornsby and RNS hospitals recently conducted an audit of activity and performance for patients on the stroke pathway. Results of this investigation will be available in early 2015 and will provide direction and guidance for the uptake of thrombolysis for ischaemic stroke and streamlined patient journey from home, ambulance, triage, radiology and rapid response across Northern Sydney Local Health District (NSLHD).

NSLHD has recently confirmed participation with the NSW Agency for Clinical Innovation (ACI) in the collection of the stroke minimum dataset to commence in 2014/15. This audit will support the evaluation of NSLHD stroke care
against the National Stroke Foundation Clinical Guidelines for Stroke Management and will allow the LHD to review its models of care and make appropriate service improvements.

The Clinical Guidelines for Stroke Management outline models of care for the organisation of stroke services from acute through rehabilitation and follow up phases along with best practice guidance on acute medical and surgical management, prevention, and associated models of care for transient ischaemic attack (TIA).

It will be important for NSLHD to develop a standardised approach to stroke management, including the provision of thrombolysis, based on the clinical guidelines. This will require consideration of whether it is better to provide thrombolysis through one or two centres within NSLHD in terms of patient outcomes, overall cost benefit and service sustainability. Like most other services, planning for the provision of inpatient and ambulatory services for patients with neurological and neurosurgical conditions will need to encompass services to be delivered at the new Northern Beaches Hospital at Frenchs Forest.

1. Review NSLHD acute stroke and associated models of care for stroke prevention, TIA and carotid surgery against the National Stroke Foundation Clinical Guidelines for Stroke Management and make recommendations regarding the ongoing role of each hospital, standardisation of models of care across hospitals, and improving access to thrombolysis.

20.2 Stroke Rehabilitation

Rehabilitation should commence from the day of acute admission and seven day access to allied health services, particularly speech pathology, is a critical component of stroke rehabilitation. An estimated 25-30% of stroke patients will require inpatient rehabilitation.

The acute stroke unit at Hornsby Hospital works closely with the aged care and rehabilitation team providing multidisciplinary care from the time of admission through to transfer to the onsite inpatient rehabilitation service. For patients at Manly Hospital, inpatient rehabilitation is provided at Mona Vale and for patients at RNSH rehabilitation is provided at Ryde Hospital. Privately insured patients can also access inpatient rehabilitation at Greenwich, Royal Rehab, Mt Wilga, Lady Davidson, Longueville and Hirondell hospitals.

A supported discharge rehabilitation program commenced at the RNSH Stroke Unit in May 2012 providing stroke specific multi-disciplinary team rehabilitation to patients in their own homes over a six week period following acute admission. Home-based rehabilitation is also provided to Hornsby residents by the Hornsby based Rehabilitation Discharge Team and to all NSLHD residents by Royal Rehab in Putney and HammondCare at Greenwich Hospital.

Centre-based ambulatory rehabilitation and outpatient follow up is provided through clinics at Hornsby, Mona Vale, RNS, Ryde and Greenwich hospitals. The Neurosciences Network and Stroke Units, in conjunction with the Rehabilitation and Aged Care Clinical Network, need to review current stroke rehabilitation arrangements to determine the most clinically effective ways to provide stroke rehabilitation. This is particularly important for acute stroke units which are not collocated with rehabilitation services; these services may benefit from the provision of in-reach rehabilitation for patients from the time of admission and clear pathways to inpatient services or home based rehabilitation post discharge. A detailed review of the Hornsby model may provide useful insights as the rehabilitation service is collocated on the hospital site and there are effective shared care arrangements in place for both inpatient and home based rehabilitation.

2. Review and make recommendations (in conjunction with the Rehabilitation and Aged Care Network) for stroke rehabilitation services including the provision of multidisciplinary care from time of admission, in-reach to acute stroke units not collocated with rehabilitation services, and access to home-based and ambulatory rehabilitation.
20.3 Ambulatory Care

Most patients access outpatient review and follow up in specialists’ rooms. Outpatient and ambulatory services for neurological disorders are provided at RNS and Manly Hospitals.

- The outpatient clinic at Manly Hospital provides follow up of general neurology and stroke patients discharged from inpatient care at Manly and Mona Vale hospitals and patients referred by their GP.
- At RNSH clinics are provided for general neurology, Parkinson’s disease and movement disorders, neuromuscular, neurophysiology, multiple sclerosis and neuro-immunology, neuro-genetics, botox, and a rapid access clinic. The focus of the rapid access clinic is the avoidance of inpatient admission for selected patients referred from the Emergency Department or General Practice with TIA and other neurological presentations such as headache/migraine, vestibular disorders, first seizures or movement disorders. Patients undergo a comprehensive assessment and investigations including pathology, CT/MRI, neurophysiology, allied health, and cardiovascular consultation as required.
- At Greenwich Hospital a comprehensive range of medical, nursing and allied health services are available including day hospital, outpatients, transitional care and home-based rehabilitation for both public and private patients. Specialty services include older people with complex needs, stroke rehabilitation, motor neurone disease, multiple sclerosis and selected spinal cord injury patients, cancer rehabilitation, lymphoedema management and driver assessment for the older driver.

Key benefits of the ambulatory care models include reduced demand for inpatient care and improved access to investigations and diagnostic services. However, it is suggested that in the absence of clinics in each health service and with long waiting times and out-of-pocket costs for diagnostic tests (especially MRI and neurophysiology assessment) patients often present to the Emergency Department in crisis, or with chronic and diagnostic issues rather than real emergencies. These presentations often result in an admission to hospital which was potentially avoidable and can influence achievement of National Emergency Access Targets (NEAT) in the Emergency Department. Sustainable service delivery, funding and workforce options need to be evaluated with a view to expanding and introducing ambulatory models to other sites across NSLHD or increasing the frequency of the RNSH service.

3. Evaluate the provision of rapid access neurology clinics at RNSH, make recommendations for the development and roll out of clinics across NSLHD, and develop a business proposal for sustainable workforce and service delivery models.

20.4 Diagnostic Testing

Many diagnostic tests come at high out of pocket expense for patients in the private sector and as a result there is a high demand for the bulk-billed services offered in public hospitals. This is especially the case for diagnostic imaging, particularly MRI, but also for neurophysiology tests such as electroencephalography (EEG), electromyography (EMG) and evoked potential (EP). Some of these tests are not readily available in the private sector due to the lack of Medicare rebates.

The full suite of neurophysiology testing is provided at RNSH and an EEG service is available at Hornsby Hospital. Planning is underway to include a neurology clinic which will incorporate neurophysiology and nerve conduction studies in stage 2 redevelopment of Hornsby Hospital.

Rapid access to MRI is increasingly important in the diagnosis and management of patients with neurological presentations in ED. Actual utilisation of MRI for this patient cohort has significantly exceeded anticipated demand. Under current arrangements MRI is available during business hours only; patients presenting after hours will often have a CT scan and then an MRI the following day either as an admitted patient or in the rapid access clinic.

The availability of specialists and specialty registrars in the ED could provide a greater focus on requests for diagnostic test and reduce the need for CT scanning. The Department of Neurology has placed a registrar or basic physician trainee in the Emergency Department at RNSH from 08.00-22.00 to reduce length of stay in ED and assist
in the achievement of NEAT, to guide diagnostic tests in a more selected, rational way and to reduce the need for inpatient admission. In addition to this, improved access to afterhours MRI could reduce the need to use both CT and MRI as a result providing a more cost effective service.

4. Develop clinical protocols to guide the rational selection of appropriate imaging and other diagnostic tests for patients presenting to ED with neurological symptoms.

5. Reduce length of time from triage to MRI for neurology patients presenting to Emergency Departments in collaboration with Medical Imaging service.

### 20.5 Neurogenetics

LHDs are expected to meet the cost of testing from within their global budget allocation, for clinically required specialised genetic testing for non-Medicare Benefits Schedule items for admitted public patients, non-admitted public patients, and, privately referred non-inpatients referred to a public sector specialist clinic. The rationale for this variation to include privately referred non-inpatients of a public sector specialist clinic is that the lack of Medicare Benefits rebates and the lack of public patient clinics would unfairly discriminate against patients with, or at risk of, genetic conditions by imposing test costs on them. The costs of tests are generally in the range of $100 to $2000 per test, and up to $5000 in rare instances.

As specialised genetic testing is generally complex with low throughput, it is appropriate that most testing for the State’s population is provided by a limited number of laboratories. The complexity of some testing might create a lengthy period to achieve a result (3-6 months in some cases). Some tests may need to be sent overseas and may incur transport costs.

The Kolling Institute Neurogenetics Research Laboratory, in conjunction with the RNSH Department of Neurogenetics, has identified new biomarkers and state-of-the-art methods that may offer patients much cheaper genetic testing and processes. Off-the-shelf whole human exome sequencing may reduce the number of tests required in the future and the use of biomarkers is expected to assist with triaging patients who do not require further testing.

In considering the need for this type of service it will be important to define the NSLHD population demand for genetic tests, and to clarify the current arrangements for this type of service across other NSLHD genetic services in maternal-foetal medicine and cancer services, within Pathology North, at a statewide level, and in terms of translational research through the Northern Sydney Academic Health Sciences Centre.

6. Investigate and make recommendations on the feasibility and opportunities to develop a neurogenetics service for NSLHD.

### 20.6 Interventional Neuroradiology (INR)

Interventional neuroradiology (INR) is a subdivision of the medical imaging/interventional radiology (IR) service performing procedures related to neurovascular disease including aneurysm coiling in subarachnoid haemorrhage, treatment of cerebral arteriovenous malformation or embolectomy and intra-arterial treatment for acute ischemic stroke.

There is no framework for service development in NSLHD that identifies how or whether it is meant to grow, workforce and infrastructure needs and sources of funding.

A focused neurovascular service could be established at RNSH through a collaborative arrangement between neurology, neurosurgery, diagnostic radiology, interventional neuroradiology, cardiology and vascular surgery drawing on the resources and expertise of each service. It will be important to establish a clear understanding of what an INR service should look like at RNSH, how it will relate to other hospitals in NSLHD and clinical pathways, and patient referral and selection criteria.

7. Establish a service development framework for interventional neuroradiology services at RNSH that addresses sustainable workforce issues, agreed growth and scope of practice.
20.7 Neurodegenerative disease and movement disorders

Parkinson’s disease (PD) is the second most common neurodegenerative disease. It is estimated there are 283 per 100,000 people living with PD in the general population, or 857 per 100,000 aged over 50. NSLHD has 366,914 people over the age of 45. This equates to approximately 3,144 people with PD in our area over the age of 45-50.

Manly Hospital provides an outpatient medical service to patients with movement disorders through the weekly general neurology clinic. RNSH provides a monthly movement disorder clinic, supported by a specialist PD nurse position. Access to specialised allied health care is available by referral to Aged Care Rehabilitation services with specialised PD clinics at Ryde, Hornsby and Mona Vale. Patients are referred to generic or dedicated PD exercise programs in the private or NGO sectors. A multidisciplinary approach (inclusive of allied health and psychology) is necessary to optimise the effects of medical therapy and contribute to hospital avoidance (inpatient admission) of affected patients.

For patients where sufficient control of Parkinson’s and other movement disorder symptoms is no longer achieved using standard drug therapies, newer high cost therapies approved by the Australian Therapeutic Goods Administration (TGA) may need to be considered. These therapies include apomorphine and duodopa delivered by a surgically implanted intestinal pump (similar to an insulin pump), and deep brain stimulation (DBS) which uses a surgically implanted medical device similar to a cardiac pacemaker to deliver electrical stimulation to a precisely targeted area deep within the brain.

Currently there is limited access to specialised diagnostic, medical and therapeutic and supportive services for PD in NSLHD. Apomorphine is the only therapy provided by NSLHD; Duodopa is not yet available. Deep brain stimulation for the treatment of Parkinson’s disease is eligible for reimbursement under the Medical Benefits Schedule. Currently DBS therapy is available at three centres in NSW: North Shore Private Hospital for admitted patients who are self-funded or have private health insurance, and small publically funded services at Westmead and St Vincent’s hospitals. The ACI has proposed a model of care for the treatment of patients with refractory movement disorders with DBS and is pursuing the implementation and operation of publically funded DBS with NSW Ministry of Health.

In NSLHD it is suggested that 6-10 public patients per year do not access DBS or other high cost therapies such as duodopa pump due to lack of private health insurance or capacity to self-insure. A comprehensive needs assessment is required to fully estimate the needs of the NSLHD population and to explore service delivery options including the development of a public service at RNSH or the purchase of a quantity of service from existing providers such as North Shore Private Hospital. This needs assessment and preferred service delivery options should be available to inform 2015/16 service and performance agreement discussions with the Ministry of Health.

Each of these three advanced therapies are proven to extend patients working life and level of independent living significantly, but they require adequate medical, nursing and allied health support to be successful.

8. Investigate and make recommendations to improve access to advanced therapies for Parkinson’s disease including apomorphine infusion, duodopa therapy, and deep brain stimulation.

9. Investigate and make recommendations to increase the capacity of movement disorder clinics and improve provision of nursing support, allied health and rehabilitation clinics and programs for patients with neurodegenerative diseases.

10. Review the demand and provision of neuroimaging and neurogenetic testing for patients with neurodegenerative movement disorders.

11. Develop a business proposal for a sustainable workforce and service delivery model for neuroscience services.

20.8 Neurosurgery

A comprehensive neurosurgery service is provided at RNSH meeting the needs of NSLHD residents and fulfilling a role in the management of neurosurgical trauma for the rural catchment of NSW North Coast. Facilities include a
dedicated neurosurgical ward, supported by a neurosurgical ICU, and outpatient clinics provided from the new ambulatory care centre. Brain injury rehabilitation is provided at the statewide Brain Injury Unit at Royal Rehab and other patients can access general rehabilitation at the Graythwaite Unit at Ryde Hospital.

Private neurosurgical services are provided at the Sydney Adventist Hospital and Dalcross Adventist Hospital, Macquarie University Private Hospital, and North Shore Private Hospital. The neurosurgery service at North Shore Private Hospital is the largest in NSW.

The development of an expanded campus based service through a partnership arrangement with North Shore Private Hospital could facilitate access for public patients to services such as deep brain stimulation, intra-operative MRI and CT and in the future stereotactic radiosurgery. It could also provide access for private patients to interventional neuroradiology services at RNSH.
21 Mental Health and Drug and Alcohol

Recommendations

1. Develop a service plan for Mental Health from 2016 to 2025 following the release of the NSW Mental Health Commission’s Strategic Plan to reflect the directions set by the Commission and based on a population planning model for NSLHD.

2. Undertake a mapping exercise against all the recommendations in the Strategic Plan for Mental Health in NSW 2014-2024 to formally identify service gaps and where appropriate develop plans to address these.

3. Establish a Mental Health Telephone Access Line in NSLHD.

4. Identify opportunities to diversify the MHDA Workforce and include additional employment of people with a lived experience of mental health into relevant positions and the introduction of assisted allied health workers where appropriate.

5. Continue to implement the action plan for Child and Youth Mental Health Services (CYMHS) based on the recommendations of the NSLHD Review of Child and Adolescent Mental Health Services, September 2012.

6. Develop and implement an action plan for the Coral Tree Family Service based on the recommendations of the MHDAO review of NSW Non-Declared Non-Acute CYMHS Inpatient Units.

7. Develop strategies to improve the provision of ECT for Macquarie Hospital and residents of the North Shore Ryde Health Service

8. Develop strategies to manage the Specialist Mental Health Service for Older Persons (SMHSOP) cohort of patients in the absence of any additional acute SMHSOP beds becoming available in NSLHD.

9. Develop strategies to respond to the recommendations in regard to non-acute services from the Strategic Plan for Mental Health in NSW 2014-2024 for stand-alone mental health hospitals.

10. Divest MHDA supported accommodation property management services to an appropriately skilled NGO.

11. Develop and pilot a GP clinic for mental health consumers on the grounds of Hornsby Ku-ring-gai Hospital.

12. Develop a service framework for the management of people diagnosed with borderline personality disorder within the context of the NSLHD service setting to identify and address barriers experienced by consumers accessing specialist treatments and clinicians in providing specialist treatments for this disorder.

13. Identify the opportunities to establish a lithium clinic within NSLHD within the longer term aim of providing best practice, evidence based care to those individuals with bipolar disorder from the NSLHD.

14. Develop innovative collaborative strategies with acute medical services, private providers, primary health care providers and organisations and NGOs to improve service provision for people with an eating disorder who present to NSLHD facilities in keeping with the implementation of the NSW Service Plan for People with Eating Disorders.

15. Be ready, if opportunity arises, to establish a parent infant mental health inpatient unit at RNSH for NSLHD or NSW to augment NSLHDs existing community-based specialist perinatal and infant mental health services for families where a parent experiences severe mental illness.

16. Define the requirements for Mental Health Services within the new Northern Beaches Hospital as part of the public private partnership with Healthscope from 2018.

17. Develop and implement strong partnering services with Healthscope to ensure optimal interface between community based and hospital based services within the new Northern Beaches Hospital and neighbouring sectors of NSLHD.

18. Identify opportunities to partner with non-government organisations to augment and improve MHDA service delivery.

19. Undertake a Drug and Alcohol Service planning process to provide strategic direction for service development from 2015 to 2022, based on the DA-CCP model estimator tool.

20. Implement recommendations from the 2014 review of Drug and Alcohol services across the NSLHD.
21.1 Mental Health Strategic Change

In 2012 the National and NSW Mental Health Commissions were established to provide strategic vision and leadership for service improvement in the field of mental health. The National Mental Health Commission has recognised the need to prevent mental illness and suicide and that a broad range of mental health and other services are needed to promote good mental health for everyone and support people’s recovery from mental illness and enable them to lead safe and contributing lives connected to their families. The National Mental Health Commissioner’s strategic vision for Mental Health Services will help set the agenda for mental health planning to 2022 and had been submitted to government at the time of writing, but had not been released.

The NSW Mental Health Commission released its strategic plan in December 2014, Living Well: A strategic plan for mental health in NSW 2014-2024, and has been endorsed by government. The Commissioner asks that the NSW Government recommit to completing the process of reform begun with the 1983 Richmond Report “by taking two important steps: we must close the remaining stand-alone psychiatric institutions and shift the focus of mental health care from hospitals to the community”.

The plan strongly supports the redirection of resources away from inpatient to community settings, but acknowledges a requirement to better articulate what a community mental health system should look like. The Commission has begun work with NSW Health on an essential care components framework to outline the necessary elements of community based mental health care. This will aim to define a 24-hour, locally based, coordinated and seamless community mental health system comprising primary care and specialised community based mental health services.

The plan noted inadequate guidance for LHDs in planning mental health services, and frequent imbalance between inpatient and community based care models. Models of innovative practice were inconsistently implemented across LHDs. The report noted that “LHDs will be required to increase their focus on mental health service innovation and reform [through] commitment from LHD boards and chief executives to seeing through the implementation of the reform priorities and ensuring that LHD directors of mental health have the necessary authority to act, including having certainty around the mental health budget” (p.117). The Commission recommends establishing a new outcomes agenda and performance indicators for mental health and clearer purchasing arrangements particularly in relation to community alternatives to inpatient care.

NSW Health has also begun a master planning process for all NSW stand-alone mental health services (formerly referred to as schedule 5 hospitals). The outcomes of this process and the timeframe for release are not clear at this time, but it is anticipated that there will be a change to the current configuration over time. The recommendations of these three processes will need to be incorporated into the future NSLHD strategic directions.

Northern Sydney Local Health District (NSLHD) Mental Health and Drug and Alcohol Service (MHDA) has undergone substantial change in the last few years including separation from the Central Coast Local Health District MHDA service and the establishment of a number of new services. A draft service level agreement now defines each LHD’s access to beds in the Child Youth Mental Health Service (CYMHS), Mental Health Intensive Care Unit (MHICU), and Rehabilitation; the mental health (MH) Information Team and MH Telephone Access Line remain as shared services across the two LHDs though these will separate at some stage in the future.

The current NSLHD MH Service Plan (2005-2016) has been largely achieved. NSLHD MHDA has a two year Operational Plan in development for the period 2014-2016. The MHDA Operational Plan 2012-2014 has been reviewed and actions that remain work in progress have been transferred across to the 2014-2016 Plan. In addition to the changing policy environment, MHDA will be affected by the implementation of the activity based funding model for MHDA and the National Disability Insurance Scheme (NDIS) in coming years.

1. Develop a service plan for Mental Health from 2016 to 2025 following the release of the NSW Mental Health Commission’s Strategic Plan to reflect the directions set by the Commission and based on a population planning model for NSLHD.
2. Undertake a mapping exercise against all the recommendations in the *Strategic Plan for Mental Health in NSW 2014-2024* to formally identify service gaps and where appropriate develop plans to address these.

3. Establish a Mental Health Telephone Access Line in NSLHD.

A well trained and focused workforce is vital to the implementation of the new strategic directions for MHDA. A MHDA specific Education and Practice Development Unit has been created in NSLHD and is operational. Over the last few years there has been a diversification of the MHDA workforce to include peer workers and it is envisaged that there will be further expansion and development of this workforce in NSLHD underpinned by the NSW Mental Health Plan 2014-2024 [Recommendation 8.2.2]. This trend is supported by the National Mental Health Commission.

4. Identify opportunities to diversify the MHDA Workforce and include additional employment of people with a lived experience of mental health into relevant positions and the introduction of assistant allied health workers where appropriate.

### 21.2 Child and Youth Mental Health Services

Child and Youth Mental Health Services (CYMHS) community-based services are currently provided in each of the three local health services, often on more than one site. The inpatient CYMHS service at Hornsby Hospital was opened in 2013 and provides for NSLHD and CCLHD residents. A community-based assertive outreach CYMHS virtual team now operates from Hornsby, Northern Beaches and North Shore Ryde sites, providing services across NSLHD.

*headspace* centres have now opened in Chatswood and Brookvale providing comprehensive health services to youth and young people. The *headspace* services are governed as a consortium under the leadership of the NSLHD CYMHS services and include partners such as councils, non-government organisation partners and the former Medicare Locals. *headspace* services extend the age range of CYMHS services from 18 years up to 24 years, a factor in the recent name change from Child and Adolescent Mental Health Services (CAMHS) to CYMHS.

An external review of NSLHD CYMHS Services was undertaken in 2012. This identified substantial variation in the range of services delivered across the three health services; issues with clinical governance processes and that a sustained increase in the volume and acuity of client presentations across NSLHD has placed a strain on the service. There is an action plan in place and while significant progress has been made further change is required to complete the implementation of all recommendations. All three CYMHS health services are now responding to the needs of high risk urgent referrals and providing acute interventions without substantial delays.

While it is expected that service enhancements will assist in managing workloads, there are a number of workforce issues to be resolved including multiple part time psychiatrists with minimal overlap within each health service. The review identified the need to manage the service changes with “leadership, strong governance and robust management processes”. A Director of CYMHS has recently been recruited to provide this leadership and guide the change. Additionally, the NSW Office of Mental Health and Drug and Alcohol Services (MHDAO) conducted a review of NSW Non-Declared Non-Acute CYMHS Inpatient Units based at Coral Tree Family Service (Macquarie Hospital), Redbank House (Western Sydney LHD) and Rivendell (Sydney LHD) in 2013, with the Report released in 2014. The aim of this review was to ensure alignment of service models with current best practice and evidence informed care. Internationally the focus has shifted to intensive community and day programs models. The implementation of activity based funding in mental health will pose challenges for these units which have historically low activity rates.

5. Continue to implement the action plan for Child and Youth Mental Health Services (CYMHS) based on the recommendations of the NSLHD Review of Child and Adolescent Mental Health Services, September 2012.

6. Develop and implement an action plan for the Coral Tree Family Service based on the recommendations of the MHDAO review of NSW Non-Declared Non-Acute CYMHS Inpatient Units.
21.3 Acute Adult Inpatient Services

Acute adult mental health inpatient services are located on four sites within NSLHD: Hornsby, Manly, RNS and Macquarie hospitals. Specialist inpatient services include three psychiatric emergency care centres (PECC) located at Hornsby, RNS and Manly hospitals and the mental health intensive care unit located at Hornsby Hospital. Consultation liaison psychiatry services are provided within the general hospital setting at Hornsby, RNS and Manly hospitals.

- Mental health inpatient services on the Hornsby Hospital site have recently expanded to include an additional 10 acute adult inpatient beds. The business case for Stage 2 of the Hornsby Hospital campus redevelopment will see the PECC relocated and increased from 4 to 6 beds.
- The services at Manly will be expanded and relocated to the Northern Beaches Hospital by 2018.
- A new 32 bed acute adult inpatient unit, located in the new RNSH Clinical Services Building, was commissioned in December 2014. This unit will provide an additional 8 acute beds in more contemporary accommodation. The RNSH PECC commenced operating in the new acute services building in 2012.
- Relocation of the remaining 14 acute adult inpatient beds from the Macquarie Hospital site is expected to be considered as part of the master planning process for NSW stand-alone mental health hospitals, and consistent with the recommendations of the NSW Mental Health strategic plan. No site has been identified for the relocation of these beds.

Electroconvulsive therapy (ECT) is currently provided at Hornsby, Manly, Royal North Shore and Greenwich hospitals. Greenwich Hospital conducts almost all of the ECT required for its own Riverglen inpatient unit (17.2% of activity), for Macquarie (33.6%) and Hornsby hospitals inpatients, and residents of the Lower North Shore. While the majority of these patients are over 65 years and are patients of the Specialist Mental Health Services for Older People approximately 49.2% of treatments were for outpatients.

In a review of the operations of the Riverglen Unit at Greenwich Hospital in 2014 by A/Professor Andrew McFarlane it was noted that there were 425 individual ECT treatments, averaging 16.35/week or 5.45/session (but with wide variation). The physical space allows a maximum of 6 patients per session and a times of high service demand this can present some clinical risks. All anaesthetic and nursing costs are provided by the Riverglen Unit totalling $140,000/annum. The review proposed that a cap be placed on the number of treatments on any given day, giving priority to Riverglen patients to maintain patient safety and contain costs.

The volume and complexity of ECT procedures at a non-acute hospital with modest medical and anaesthetic resources on site is of concern. Transfer of ECT provision to Ryde Hospital has been considered, but the costs of providing the current volume of ECT were substantially greater at Ryde than the current charges at Greenwich. There is currently no additional budget to relocate the service. Hornsby and Manly Hospitals have the required equipment and at Hornsby Hospital there will be improved access to theatres from late 2015. It will be important to resolve strategies to improve the ECT provision for this group and identify opportunities to expand the budget for ECT provision if necessary once the activity based funding model for mental health is finalised.

7. Develop strategies to improve the provision of ECT for Macquarie Hospital and residents of the North Shore Ryde Health Service.

21.4 Acute Inpatient Services for Older People

The location and quantum of Specialist Mental Health Services for Older People (SMHSOP) acute inpatient beds within NSLHD have been reviewed as part of the proposal for acute SMHSOP inpatient beds at Hornsby Hospital. This process was informed by the Mental Health Clinical Care and Prevention Model (MH-CCP) which identified the need for 35 acute SMHSOP beds for NSLHD at 80% of MH-CCP by 2021. The current acute SMHSOP beds are located at Manly and Greenwich Hospitals. There are no plans to establish SMHSOP beds at the RNS site. From 2018 the new Northern Beaches Hospital will provide an expanded acute SMHSOP inpatient service relocated from Manly Hospital.
A service development plan for a 15 bed Specialist Mental Health Service for Older People (SMHSOP) inpatient unit at Hornsby Ku-ring-gai Hospital has been submitted to the LHD for progression to the Ministry of Health Capital Planning Committee. This plan recognised the need for each health service to have locally available acute SMHSOP beds. This would also provide the opportunity for another site to perform ECT, lessening the load on the Riverglen Unit as well as improving discharge planning, in home assessment of living requirements or placement in appropriate supported accommodation. While these beds were not included in the priority listing for the Stage 2 business case for Hornsby Hospital, the final decision will be dependent on available capital funding.

8. **Develop strategies to manage the Specialist Mental Health Service for Older Persons (SMHSOP) cohort of patients in the absence of any additional acute SMHSOP beds becoming available in NSLHD.**

### 21.5 Non Acute Inpatient Services

Macquarie Hospital currently provides 181 non acute beds for people with enduring mental illness who are receiving recovery focused rehabilitation. Many of these people have lived at Macquarie Hospital for extended periods of time and, prior to residence at Macquarie Hospital, in a number of other hospital long term units as they have been unable to recover sufficiently to live independently. A number of the Macquarie Hospital consumers are admitted under the [NSW Mental Health Act 2007](https://www.nsw.gov.au/health/mental-health/laws/nsw-mental-health-act-2007) or the [NSW Mental Health (Forensic Provisions) Act 1990](https://www.nsw.gov.au/health/mental-health/laws/nsw-mental-health-forensic-provisions-act-1990) and require longer term rehabilitation in a non-acute setting. This has resulted in many of the beds being used as very long stay beds rather than short term non acute services which provide a step down function for patients transferring from the acute to community setting.

The NSW Mental Health Commission report recommends that NSW Health, in partnership with Family and Community Services, should complete the work of finding appropriate community accommodation and support for individuals still in long stay psychiatric institutions by 2018.

Initial planning for new capital works at Hornsby and the new Northern Beaches Hospital at Frenchs Forest included 20 non acute mental health beds. However these beds have not been included in the proposed capital works for either site. The issue of a lack of short-term non-acute mental health beds has been entered in the LHD Risk Register. It is expected that the NSW Mental Health Commission Strategic Plan and the NSW Health master plan for stand-alone mental health hospitals will provide further policy advice on the provision of these services.

9. **Develop strategies to respond to the recommendations in regard to non-acute services from the Strategic Plan for Mental Health in NSW 2014-2024 for stand-alone mental health hospitals.**

### 21.6 Community and Housing and Accommodation Support Initiative

In addition to the CYMHS community based services NSLHD provides a range of community based mental health services for adults and older people in each of the three health services under the clinical leadership of consultant psychiatrists. A range of subspecialist mental health services are available including family and carer, perinatal and infant mental health, mental health clinical rehabilitation and services for older people including the Behavioural Assessment Management Service (BAMS). A Dementia Behaviour Management Advisory Service (DBMAS) is also provided in the community by a non-government organisation (NGO). There are a range of other NGOs which operate within NSLHD providing partnering and support services. Housing and Accommodation Support Initiative (HASI) services provide secure accommodation and support services (accommodation support, clinical care and recovery focused rehabilitation) for people with an enduring mental illness and varying levels of disability. These services are provided as a partnership between NSLHD, Housing NSW and the NGO sector. The service’s aim is that their consumers will develop new skills which enable them to participate in community and family life and ultimately to manage independently. NSLHD currently has 156 HASI packages providing support for consumers for 4 to 10 hours per day depending on their level of need.

NSLHD MHDA is also working in partnership with a consortium of NGOs (New Horizons and Mission Australia) providing Housing and Accommodation Support Initiative (HASI) Plus services. HASI Plus provides accommodation (21 packages) to people with severe and enduring mental illness with support packages for 16 to 24 hours per day.
Only 3 LHDs across the state were chosen to host this service and provide supported care for suitable candidates from across the state.

In addition to the HASI and HASI Plus beds, two 24-hour community residential services operate within NSLHD. These are located at Digby House on the Gladesville Hospital site and at Warrina in Wahroonga. There are also a considerable number of residual supported accommodation facilities formerly referred to as Group Homes that will also have the property management services divested to an appropriately skilled NGO.

10. **Divest MHDA supported accommodation property management services to an appropriately skilled NGO.**

Many people with enduring mental illness have a number of physical health problems and find it hard to access general practice (GP) services in their local community.

11. **Develop and pilot a GP clinic for mental health consumers on the grounds of Hornsby Ku-ring-gai Hospital.**

### 21.7 Special Needs Groups

#### 21.7.1 People with Borderline Personality Disorders

MHDA has identified that borderline personality disorder is the third most frequently treated condition in our community mental health settings. It is understood that services provided across the LHD probably vary considerably although consensus is emerging on how to best manage this condition. The National Health and Medical Research Council developed [clinical practice guidelines for the management of borderline personality disorders](#) in 2012. The Guideline defines borderline personality disorder (BPD) as a “mental illness that can make it difficult for people to feel safe in their relationships with other people, to have healthy thoughts and beliefs about themselves, and to control their emotions and impulses. People with BPD may experience distress in their work, family and social life, and may harm themselves. Having BPD is not the person’s own fault – it is a condition of the brain and mind.”

The Guidelines outline the diagnosis process and treatments for people with BPD. It recognises that people with BPD require a tailored management plan to be developed in collaboration with them and their family, partner or carer. In addition, the NSW Ministry of Health funded [Project Air](#), based at Wollongong University, is expected to assist LHDs in NSW with specific training packages and assistance to better provide services to this patient group. There is a great deal of interest and activity in this clinical area but to date NSLHD has yet to develop a strategy regarding how best to meet the needs of this disorder.

12. **Develop a service framework for the management of people diagnosed with borderline personality disorder within the context of the NSLHD service setting to identify and address barriers experienced by consumers accessing specialist treatments and clinicians in providing specialist treatments for this disorder.**

#### 21.7.2 People with Bipolar Disorder

Many people with bipolar disorder do not access best practice, evidence-based care for their condition, which includes treatment with lithium as the preferred medication for this condition. However this medication requires very strict monitoring of patients to ensure that the dosage is sufficiently high to be effective, but not high enough to cause toxicity. Internationally lithium clinics have been established to provide this monitoring based on robust protocols, clinical practices and standards of care. A number of clinics provide individual or group therapy including psychotherapy or some form of information or education about the condition and strategies for functional recovery.

13. **Identify the opportunities to establish a lithium clinic within NSLHD within the longer term aim of providing best practice, evidence based care to those individuals with bipolar disorder from the NSLHD.**
21.7.3 People with Eating Disorders

Following an increased number of admissions for young people with eating disorders to RNSH, a clinical redesign program was implemented to review the circumstances of these admissions and the options for improving care. A number of patients with eating disorders require refeeding in a medical environment and were cared for in the medical assessment unit or the children’s ward. The care of these patients, particularly those in the medical assessment unit posed difficulties for staff when balancing the needs of this group with the needs of the majority of their patients who are frail older people. Both groups require complex management but young people with eating disorders often required special programs for their eating and behaviour and to be monitored by individual patient specials or continuous one-to-one observation to prevent risk of imminent harm.

The redesign project found that many residents of NSLHD are treated for eating disorders in statewide specialist services at Westmead Children’s Hospital and Royal Prince Alfred Hospital and in private specialist services such as the Northside Clinic located at Greenwich. However in the last few years there had been a reduction in the number of specialist inpatient beds available as a result of one private service closing and the RPAH service reducing its bed numbers while the facility is being redeveloped. While many people access care through their general practitioner and community based private providers it is not possible to estimate the number of people who receive care in this manner. Some private ambulatory services exist within NSLHD and some community mental health staff are trained to provide community based care.

The NSW Service Plan for People with Eating Disorders 2013-18 identifies the need for training of staff and coordination of services within LHDs. A new publically funded ambulatory service for young people will operate from the Butterfly Foundation, an NGO supporting services for people with eating disorders based in Crows Nest. A business case has been developed outlining the requirements for a discrete service to provide care for young people and adults suffering an eating disorder in NSLHD. This proposed the establishment of a coordinator for the LHD and a pop up team to respond to the needs of patients with eating disorders. This has been submitted to the Clinical Council and NSLHD Board for consideration.

The NSW Service Plan also requires LHDs to appoint a senior person as the lead officer for service advice and planning on eating disorders and to develop a local plan to maximise current capacity and identify gaps, in consultation with stakeholders, along with a number of other recommendation.

14. **Develop innovative collaborative strategies with acute medical services, private providers, primary health care providers and organisations and NGOs to improve service provision for people with an eating disorder who present to NSLHD facilities in keeping with the implementation of the NSW Service Plan for People with Eating Disorders.**

21.7.4 Parents and Infants (Mothers and Babies)

While a community based perinatal and infant mental health service operates within NSLHD, there is no parent-infant psychiatric admission facility across the NSW public health sector for parents who are severely unwell with a mental health condition. Acute mental health services are not set up to accommodate very unwell parents (most often mothers) and their infants nor sufficiently skilled in observing and promoting parent infant interaction and attachment during and after treating the mother’s mental illness. Similarly, while midwifery care is increasingly focusing on the individual woman’s needs and promoting the parent infant relationship, they are not trained to deal with the severe mental health problems these mothers experience. There is a need for a collaborative approach to the needs of these parents and their infants (as supported by NSW Health’s Supporting Families Early package including the SAFE START Strategic Policy 2010) and a supportive environment post-delivery to address the mental health issues, parent / infant interaction and the developing attachment relationship.

In 2012 NSLHD forwarded a project brief to NSW Health for the provision of specialist inpatient beds. Support for this proposal has not been received and as yet NSW Health and the NSW Mental Health Commission have not indicated their preferred approach to meeting the needs of this patient cohort. The development of such a service would have implications for other LHDs and the state and may take some time to resolve.
In the interim, NSLHD will need to develop strategies to improve the care offered to pregnant women with severe mental health conditions (such as schizophrenia, bipolar disorder, affective disorders, borderline personality disorder and eating disorders) along with strategies to improve collaboration between mental health and the other major service providers such as maternity services, child and family health services, and medicine. Services focus on promoting good mental health and reducing the impact of parental mental illness on the developing infant including support and intervention in early parent-infant relationships.

15. **Be ready, if opportunity arises, to establish a parent infant mental health inpatient unit at RNSH for NSLHD or NSW to augment NSLHDs existing community-based specialist perinatal and infant mental health services for families where a parent experiences severe mental illness.**

### 21.8 Service Partnerships

The new Northern Beaches Hospital development at Frenchs Forest will include a range of mental health beds including an acute adult inpatient unit, an acute SMHSOP Unit and a PECC. These services will be provided as part of a public private partnership between NSLHD and Healthscope the preferred tenderer to design, build, operate and maintain the new hospital.

16. **Define the requirements for Mental Health Services within the new Northern Beaches Hospital as part of the public private partnership with Healthscope from 2018.**

17. **Develop and implement strong partnering services with Healthscope to ensure optimal interface between community based and hospital based services within the new Northern Beaches Hospital and neighbouring sectors of NSLHD.**

A range of mental health services are being provided by NGOs across NSLHD and NSW, funded through various programs including the [NSW NGO grant program](#) and HASI programs. In recent years residential aged care facilities across the state have taken on a greater role in caring for older people with enduring mental illness and experiencing severe and challenging behaviours as a result of dementia. There may be opportunities to develop further partnerships to improve the care and life opportunities of people with enduring mental illness and dementia and for their carers and families. MHDA is committed to the provision of clinical services and where opportunities present to divest support services to the non-government sector, MHDA will embrace these.

18. **Identify opportunities to partner with non-government organisations to augment and improve MHDA service delivery.**

### 21.9 Drug and Alcohol

Drug and Alcohol Services are located at Hornsby, Manly, Mona Vale, RNS and Ryde hospitals and in a number of community locations. Each hospital has an inpatient consultation and liaison provision. Community-based counselling teams (including gambling treatment services) for adults are located across the LHD in community health centres and on hospital sites. Opioid treatment programs are located at Manly and RNSH and the [Magistrates Early Referral into Treatment Program (MERIT)](#) operates from Hornsby, Manly and RNS hospitals. Residential rehabilitation services are available in the NGO sector, including the Kedesh (Phoenix Treatment Unit) located at Manly Hospital.

Inpatient services are located in the Herbert St Clinic detoxification unit on the RNSH campus. Recently an [involuntary drug and alcohol treatment (IDAT)](#) inpatient unit was incorporated in the Herbert St Clinic. This unit is one of only two in the state. The identification of more contemporary accommodation to relocate the Herbert Street Clinic has been a long term issue and is currently in a planning phase.

NSLHD MHDA has been awaiting the development of the Drug and Alcohol Clinical Care and Prevention (DA-CCP) tool. This is a national population planning model for alcohol and drug services in Australia which can be used by LHDs to provide consistent and evidence based health planning.
NSLHD Drug and Alcohol Services underwent an external review in 2014. The finalised report was received in late 2014. An action plan will be developed to address the recommendations and closely monitored for implementation.

19. **Undertake a Drug and Alcohol Service planning process to provide strategic direction for service development from 2015 to 2022, based on the DA-CCP model estimator tool.**

20. **Implement recommendations from the 2014 review of Drug and Alcohol services across the NSLHD.**
Allied Health

Recommendations:

1. Optimise clinical workforce development and retention ensuring all allied health staff have access to clinical supervision and clearly defined professional reporting lines of responsibility.
2. Work with clinical networks to identify opportunities to improve allied health input to services and service development.
3. Evaluate the demand for and provision and utilisation of allied health services across acute, sub-acute and community health services and provide advice on the most appropriate distribution, allocation and organisation of allied health resources to improve patient outcomes, reduce clinical variation and improve service efficiency.
4. Improve the capture and useability of management and activity reports, and the utilisation of allied health activity data in inpatient, non-admitted and community health services as the basis for ongoing evidence based service development, evaluation of clinical variation, and strategic service and workforce planning.
5. Develop strategic partnerships with Medicare Locals/Primary Health Networks and private allied health providers to improve service integration and expand key services across NSLHD.
6. Review allied health scope of practice and make recommendations about the opportunities for development of advanced practice allied health roles and expansion of the allied health assistant workforce.

22.1 Introduction

Allied health issues relating to specific services are identified in individual clinical network chapters of the Clinical Services Plan. This chapter outlines the scope of allied health services in Northern Sydney Local Health District (NSLHD) and brings together the specific challenges and opportunities that are common across all allied health disciplines. Recommendations focus on the directions and actions required to ensure that allied health resources are organised in the most efficient way across NSLHD to ensure equity of access, improve clinical outcomes and maximise benefits for patients.

22.2 Current service provision and workforce

Allied health services in NSLHD are provided across a range of service delivery models including in the context of inpatient admission and ambulatory/outpatient care and follow up, or hospital avoidance programs for acute illnesses, rehabilitation programs, in mental health and drug and alcohol inpatient units and community services and for patients with complex and ongoing chronic disease where allied health services can improve and maintain their health status. Allied health staff may work in profession-specific clinics and services and as integral members of multidisciplinary clinics or teams.

In 2012 NSLHD employed over 1,100 (800 full time equivalent) allied health staff within twenty allied health disciplines representing approximately 11% of the clinical workforce. The workforce has increased to over 1,300 in 2014.

- The largest allied health disciplines include physiotherapy, psychology, occupational therapy, social work, dietetics/nutrition and speech pathology. These allied health services are provided at each of the five acute hospitals and in associated sub-acute, outpatient/ambulatory, community health services, mental health drug and alcohol services and at Macquarie Hospital; most are also provided at the affiliated health organisations Royal Rehab and HammondCare at Greenwich and Neringah.
- Medical Imaging professionals (radiographers, radiation therapists, nuclear medicine technologists) and pharmacists are also included in the allied health classification and represent a significant proportion of the workforce. They are generally based in the five acute hospitals of NSLHD although radiation therapists and nuclear medicine technologists are only located at RNSH. Pharmacists also operate in Macquarie Hospital.
supporting mental health services and at Royal Rehab, Greenwich and Neringah. These services are outlined in detail in separate pharmacy and medical imaging chapters and are not discussed further in this chapter.

- A range of other allied health services are provided across NSLHD:
  - Some specialised services are only provided at RNSH including audiology, orthoptics and genetic counselling
  - Specialist podiatry is provided at RNS, Hornsby, Manly, Mona Vale and Ryde hospitals and at some community health centres
  - Prosthetic and orthotic services are provided at RNSH
  - Exercise physiology is provided at both RNS and Macquarie hospitals
  - Art and music therapy and welfare services are provided at Macquarie Hospital
  - Diversional therapists work under the supervision of occupational therapists and are involved in the care and treatment of patients with mental illness.

In addition to services provided by NSLHD, extensive allied health services are provided in private practice and through private hospitals and non-government organisations (NGOs).

- The Northern Sydney Medicare Local reports an estimated 1,140 allied health professionals across 20 disciplines providing services in the Hornsby Ku-ring-gai, Ryde and Hunters Hill local government areas. (Similar information for the Sydney North Shore and Beaches Medicare Local was not available at the time of writing.)

- Private allied health practitioners choose when and where to practice, which patients to accept and what fees to charge. Patients commonly have substantial out of pocket expenses although some allied health attendances may attract Medicare rebates if a referral is made by a general practitioner (GP) under specific mental health or chronic disease management (CDM) programs. The total number of CDM Medicare supported allied health services are capped per patient at 5 interventions per annum and can only be accessed via GP referral.

### 22.3 Professional and strategic leadership

Collectively the allied health disciplines are represented on the NSLHD Executive Leadership Team by the Director of Allied Health. Currently a 0.5 FTE position, the term, permanency and scope of this position are currently under review. The Director Allied Health provides strategic leadership for allied health across the NSLHD. This position provides advice to the NSLHD executive on matters relating to allied health, leads policy development and service evaluation to ensure quality and safety, and provides professional governance, advocacy, information, support and strategic leadership for allied health professions and services within the LHD. The Director of Allied Health provides a strategic and advisory role in the LHD, without the operational management responsibilities that determine how and where allied health services should be applied to maximise benefits for patients and NSLHD.

The NSLHD Allied Health Network, chaired by the Director of Allied Health, brings together all allied health professions, including pharmacy and the medical imaging and radiation sciences, to ensure strategic and corporate governance of allied health services, to facilitate district wide communications, and to address a range of issues relevant to allied health services including clinical efficiency, clinical governance, evidence based practice, clinical safety and risk management, models of care and workforce development.

### 22.4 Operational management

Operational management of allied health staff and services is provided through the allied health directorates and departments within Hornsby Ku-ring-gai, Northern Beaches and North Shore Ryde Health Services and through multidisciplinary services within the directorates of Mental Health Drug and Alcohol, and Primary and Community Health. In some instances the current distribution of allied health resources is based on historical operational arrangements and a great deal of flexibility and care prioritisation is required to ensure adequate service provision when demand is high in particular service areas.
Allied health professionals working in NSLHD services have a mix of operational and professional reporting lines. Most allied health positions are managed operationally and professionally by individual discipline-specific managers at facilities who determine the allocation of resources across acute and sub-acute inpatient, rehabilitation and aged care, community and outpatient/ambulatory services.

Some allied health professionals are embedded within and report to specific services or divisions. Professional support, professional lines of responsibility and clinical supervision may remain within the professional grouping or this may be undefined. There is variable access to clinical supervision and discipline-specific professional development for allied health staff.

1. **Optimise clinical workforce development and retention ensuring all allied health staff have access to clinical supervision and clearly defined professional reporting lines of responsibility.**

22.5 **Allied Health Assistants**

Allied health assistants (AHA) support the delivery of allied health services, under the direction of allied health professionals. They are important members of the healthcare team in increasing patient satisfaction and intensity of care, and releasing more time for allied health professionals to concentrate on complex tasks and improved clinical outcomes. AHAs are currently employed in NSLHD in pharmacy, speech pathology, medical imaging, dietetics and nutrition, physiotherapy, and occupational therapy. This developing workforce is supported by a Coordinator who provides professional development for AHA staff and support for their managers.

22.6 **Issues and opportunities**

**Service demand and service gaps**

Many clinical networks and services identified increased demand and gaps in the provision or quantum of admitted and outpatient allied health services, particularly where service models have changed. These are detailed in individual clinical network chapters. In addition, Allied Health has identified gaps in the provision of lymphoedema services providing education and advice on exercise and skin care, or complex treatment for more severe cases. (A breast cancer lymphoedema service is provided at RNSH and a private clinic is provided at Greenwich Hospital.)

Clinical Networks report increased demand for community and outpatient allied health services and waiting times for appointments can be long. The development of the NSLHD Health Contact Centre for some primary and community health services aims to make it easier for patients and General Practitioners to access and refer to these services. There may be further opportunities to extend and consolidate the work of allied health teams on streamlining access to care and reducing gaps in services for some age groups or service types.

The Allied Health Network has identified an opportunity to review LHD wide models of care and referral guidelines, and to develop clear clinical pathways for patients to provide equitable access for NSLHD residents, and to improve timeframes for initial treatment, rehabilitation and comprehensive management and follow up as appropriate.

The Allied Health Network has identified a need for closer links and communication with Clinical Networks leadership to improve allied health input into service provision, service redesign and development and service evaluation.

2. **Work with clinical networks to identify opportunities to increase and improve allied health input to services and service development, redesign and planning.**

**Models of care and activity based funding**

Over the last five to ten years a wide range of new models of care and hospital avoidance strategies have been introduced to improve care pathways. There are many new models which can extend the role of allied health professionals; for example,
• the introduction of physiotherapists into the emergency department team may allow selected patients with simple fractures, sporting injuries, other musculoskeletal conditions and back pain to be triaged and treated more quickly, improving patient experience and freeing up medical staff time.
• Improved community based allied health staffing and resources for in-home ambulatory care and rapid access services at Northern Beaches Rehabilitation and Aged Care services would enable timely discharge and in-home follow-up for these patients, supporting hospital avoidance strategies.
• The expansion of Acute Community Stroke teams to Hornsby Ku-ring-gai and Northern Beaches Health Services, similar to the North Shore Ryde team, would allow earlier discharge of some stroke patients with in-home rehabilitation and follow up.
• The efficiency of the stroke units at Hornsby and Manly hospitals could benefit from additional allied health staffing levels as well as improved access to physical space within the units to commence early allied health rehabilitation interventions.
• The introduction of contemporary models of conservative care for suffers of chronic osteoarthritis of the hip and knee has seen improved patient clinical outcomes, reduction in referral rates for joint replacement surgery and removal of patients from the surgical waiting list.

In the new activity based management environment, there is a need to develop a clear understanding of the range and depth of allied health staff and resources within NSLHD and identify strategies to address potential threats and opportunities to improve clinical variation, service efficiency and effectiveness.

In some instances the current distribution of allied health resources is based on historical funding allocations or specific project or program funding rather than through a planned, evidence based process that supports resource allocation in areas where there is clear patient benefit and outcomes.

An ongoing issue for allied health services has related to the need for staffing enhancements. Generally allied health positions have been allocated to hospital based and community services based on historic arrangements and occasional enhancements when specific projects have secured funding for a full or part time allied health positions. In the past new services were often commenced with specific funding for medical and nursing staff but not allied health positions or clinical resources despite the model of care requiring or benefiting from allied health input. Growth in individual allied health services has been organic as the professional groups respond to the development of new services and models of care and there have been limited opportunities to examine and evaluate services.

3. Evaluate the demand for and provision and utilisation of allied health services across acute, sub-acute and community health services and provide advice on the most appropriate distribution, allocation and organisation of allied health resources to improve patient outcomes, reduce clinical variation and improve service efficiency.

Information management

NSLHD is improving the information available on activity and service provision of:
• community allied health services through the Community Health and Outpatient Care (CHOC) program
• outpatient services through WebNAP
• admitted patient allied health costs and activity through the roll out of the electronic medical record (eMR) and the development of the Activity Based Management (ABM) portal.
• allied health services through development and improvement of the Service Contact Form and the statewide Allied Health Minimum Data Set.

Accurate documentation of allied health activity and a clearer understanding of the cost of service delivery will provide a sound basis for service review and redesign, new and innovative models of care and development of a flexible and responsive workforce. This should be supported by the establishment of an allied health data quality position.

The CHOC program was implemented in 2014. Northern Sydney, along with Central Coast LHD, was the first LHD in NSW to use CHOC electronic medical records in community and some ambulatory allied health services. This has
resulted in an increase in timely access to clinical information, the development of standardised and specialised clinical forms and provides ongoing opportunities to streamline referral processes and collaborative delivery of care. The CHOC program includes standardised activity recording across the LHD. Ongoing work is required across allied health services to resolve the outstanding issues with the accuracy of activity reporting and the usability of management reports to evaluate clinical variation and inform strategic service and workforce planning.

The introduction and implementation of new technologies and systems needs careful planning to enable flexible allied health service provision and to realise the benefits of the transition to electronic medical records across facilities. There is a requirement for accurate estimation of the requirements for hardware to be used by allied health staff, particularly functional mobile devices to accurately document both community and inpatient service delivery.

4. **Improve the capture and usability of management and activity reports, and the utilisation of allied health activity data in inpatient, non-admitted and community health services as the basis for ongoing evidence based service development, evaluation of clinical variation, and strategic service and workforce planning.**

**Collaboration with private allied health providers**

Medicare Locals have developed strategies to engage with private allied health providers and it is likely that Primary Health Networks will further develop this work. This presents opportunities for NSLHD to connect with, contribute to and benefit from a comprehensive local allied health network. Such a network could include support and educational opportunities for practitioners as well as improving the coordination and provision of multidisciplinary care and partnerships to expand services such as the [Osteoarthritis Chronic Care program (OACCP)](https://www.osteopain.com.au/) across the LHD.

The NSLHD Allied Health network has noted the need for a strategic approach to collaboration with the new Primary Health Care Organisations and private allied health providers to identify opportunities for better integration.

5. **Develop strategic partnerships with Medicare Locals/Primary Health Networks and private allied health providers to improve service integration and expand key services across NSLHD.**

**Policy changes**

The roll out of the [National Disability Insurance Scheme (NDIS)](https://www.gov.au/ndis) along with changes to the Ageing Disability and Home Care services and Home and Community Care (HACC) funded services will result in changes in access to services for Northern Sydney residents with a disability. As it is anticipated that this affect both ambulatory and community allied health services, a NSLHD review is needed to evaluate the impact on allied health service capacity and recommend strategic service responses to ensure appropriate access to care.

The Primary and Community Health Service will conduct a review of the impact of the NDIS on service users in NSLHD; The Allied Health Network and service managers will play a crucial role in that evaluation and determining service and workforce changes that will be required.

**Workforce profile**

NSW Health is in the process of reviewing its policy on credentialing and defining the scope of practice for allied health professionals within the NSW Health system. Some services have identified the need to enhance or change the scope of practice for particular allied health positions to address clinical efficiency and improve discharge processes. This may result in opportunities for advanced practice allied health or community liaison positions. As with nursing services there is also the opportunity to expand the use of allied health assistants to meet service needs and reflect developments in models of care.

6. **Review allied health scope of practice and make recommendations about the opportunities for development of advanced practice allied health roles and expansion of the allied health assistant workforce.**
23 Pharmacy

Recommendations

1. Identify, implement and evaluate strategies to deliver a standardised and equitable pharmacy services across the LHD and opportunities to improve service efficiencies, reduce purchasing costs and invest in research and quality improvement.

2. Review the transitions of care pathways for patients who are discharged from NSLHD hospitals to the community and streamline discharge processes.

3. Develop a workforce plan to support the increase in clinical pharmacy services offered within NSLHD and to make the most effective use of the skill mix within the workforce.

Each hospital in NSLHD has an on-site pharmacy providing a range of services dependent on the hospital casemix. Each hospital employs their own staff and manages their own pharmacy service. Each hospital has its own formulary (list of available medications or medication related devices and policies) approved by the individual hospital or health service Drugs and Therapeutics Committee.

Core pharmacy services provided at each hospital include:
- clinical/ward pharmacy e.g. medication reconciliation, therapeutic drug monitoring, patient education, and provision of drug information
- quality assurance and improvement activities
- drug purchasing and distribution
- education and training
- administration and drug policy management (including Drugs and Therapeutic Committee).

Other pharmacy services available at selected hospitals include:
- aseptic production including cytotoxic drugs, extemporaneous preparations and parenteral nutrition
- research (including management of clinical trial drugs).

NSLHD participated in the NSW Health Share Pharmacy Improvement Program which aimed to optimise business processes, improve systems and processes, including information systems, to provide greater efficiency so that pharmacists are able to focus on clinical work, collaborative research and improving patient outcomes.

Over the last few years a range of new services, programs and models have been implemented in NSLHD pharmacy services including:
- Online claiming for Section 100 Highly Specialised Drugs used to treat chronic conditions
- Consolidated multi-site iPharmacy database on central server (managed at RNSH for the entire LHD) using the state-wide Hospital Pharmacy Product List (HPPL) that provides standardised naming and product descriptions
- Electronic, automatic medication reconciliation, dispensing and management: Hornsby has had Pyxis MedStations in place for over ten years in the emergency department and mental health units and more recently the Acute Assessment Unit. It is anticipated that patient care areas in the new surgical building will also contain Pyxis MedStations. Mona Vale Hospital has introduced the Pyxis MedStation in the emergency department to function as an imprest cupboard for selection of medications commonly used in the emergency department or by other wards afterhours. Northern Beaches Health Service has piloted electronic medication reconciliation by incorporating an electronic medication history form into the electronic medical record. RNSH has introduced the Pyxis MedStation to most inpatient care areas of the Acute Services Building and some wards in the newly commissioned Clinical Services Building.
- Antimicrobial Stewardship (AMS) programs which provides a systematic approach to optimising the use of antimicrobial medication and reducing the risk of adverse consequences associated with inappropriate antimicrobial use. The Northern Beaches has lead with the development of a new software program eASY which provides decision support on drug dosing and multi-site levels of restrictions.
Service specific developments include:

- **Hornsby Hospital** community liaison trial involving a medication reconciliation service for higher risk patients who were visited at home following discharge to address any medication issues. Participants in the trial report that it was well received and utilised service. The trial has been completed and needs to be formally evaluated before being considered for continuation.

- **RNS Hospital** expansion of the community pharmacy partnership for provision of outpatient chemotherapy.

- Where possible the Pharmacy service participates in Structured Intervention Based Rounds (SIBR) that have been implemented in selected services across the LHD under the Clinical Excellence Commission (CEC) In Safe Hands program.

While each hospital pharmacy service operates independently, the pharmacy services across the LHD have an informal collegiate network to shares ideas on service development and innovation. This group has identified many common issues and challenges to be addressed and has identified potential benefits for patients and the NSLHD of expanding clinical pharmacy services to provide or work towards:

- Increasing participation in multi-disciplinary models of care across clinical services
- Greater engagement and involvement with relevant clinical networks
- Increasing role in the provision of outpatient clinics, particularly for renal medicine, liver and HIV, neurology and cancer services
- Extended hours emergency service on weekdays, weekends and on-call, with an aspirational goal of patient reviews within 24 hours of admission (Hornsby and RNS hospitals operate an extended hours clinical pharmacy service in selected areas)
- Roll out of electronic medication reconciliation and management system, including Pyxis MedStations, across all acute hospitals and enhancements where it is currently in place; increasing the number of medication reconciliations performed, and implementing an electronic pharmacist referral system to improve the quality and cost effectiveness of prescribing particularly for high risk patients
- Standardised implementation of the Antimicrobial Stewardship Program across all hospitals
- Improved capacity to supervise an increasing number of pharmacy students
- Increased involvement in cost effective pharmaceutical clinical trials and other research (within the national efficient price identified by the Independent Hospital Pricing Authority (IHPA))

In addition to these issues ongoing attention is required to ensure the safety and quality of drug therapies for patients as they transfer between care settings. Adverse drug events are often a reason for patient admission to hospital and a common cause of patient misadventure within the hospital setting or when transferred between care settings, particularly when patients are discharged home, to a residential aged care facility (RACF) or are transferred to another facility. The National Safety and Quality Health Service (NSQHS) Standard 4 (medication safety) identifies the requirements for governance and systems for medication safety; documentation of patient information, medication management processes, continuity of medication management and communicating with patients and their carers. These are reflected in the governance processes and quality improvement strategies for pharmacy services in NSLHD. Adverse drug related admission data is collected at Hornsby Hospital and through the Quality Use of Medicines committee the information is shared with GPs through the Medicare Local; this has resulted in some reduction of these types of admissions in recent months.

These issues and challenges reflect the major trends in pharmacy services such as the need to improve information and other business systems; automate distribution and focus on clinical pharmacy (direct patient care), quality improvement, education and research. Before embarking on strategies to address these issues the service would benefit from a comprehensive LHD-wide review.

1. **Identify, implement and evaluate strategies to deliver a standardised and equitable pharmacy services across the LHD and opportunities to improve service efficiencies, reduce purchasing costs and invest in research and quality improvement.**

2. **Review the transitions of care pathways for patients who are discharged from NSLHD hospitals to the community and streamline discharge processes.**
A range of facility related projects that have pharmacy resource implications, are also required to ensure an equitable and standardised pharmacy service including:

- **Hornsby Hospital:**
  - Expansion of service to support the increase in adult mental health beds (including intensive care) and Child and Youth Mental Health Unit
  - Support for maternity services
  - Additional resources to match anticipated activity in the new surgical building (Hornsby stage 1 redevelopment)

- **Northern Beaches hospitals:**
  - Provision of pharmacy support to the new Psychiatric Emergency Care Centre (PECC) and the recently expanded Northern Beaches Cancer Service at Manly Hospital
  - Expansion of services to support the new Emergency Department Short Stay Unit and larger rehabilitation ward at Mona Vale Hospital

- **RNS Hospital:**
  - Enhanced academic interface to provide support for clinical trials and increased research projects
  - Expansion of services to mental health and women’s and children’s health

- **Ryde Hospital:**
  - Expansion of services to support the Graythwaite Rehabilitation Centre, new operating theatre capacity, medical assessment type unit (acute planning and assessment) and mental health services
  - Review of role delineation in light of recent service developments across the whole hospital

- **Other:**
  - Macquarie Hospital: Establishment of casual pharmacist pool
  - Expansion of paediatric pharmacy service at Hornsby, Mona Vale and RNS hospitals
  - Implementation of Vendor Managed Inventory (VMI) to reduce stock holdings and establish a more efficient just-in-time model of delivery of goods across all pharmacy services.

Many of the pharmacy service development issues and challenges will require changes to, and enhancement of the pharmacy workforce and other resources. For example

- Pharmacy services in NSLHD hospitals currently have a limited capacity to extend hours of services into evenings, weekends and on-call; they have a high level of maternity leave and, like other allied health groups, no leave relief.
- There is an opportunity to redesign pharmacy services to extend the use of electronic systems and robotic technology to support routine functions, to improve decision making through information technology, and to enhance the clinical support and role provided by professional pharmacy staff. Where technologies are used to improve or enhance the pharmacy service is important that different systems are compatible and have the capacity to interface with each other.
- The role of pharmacy technicians could be expanded, for example through taking on selected clinical tasks freeing up pharmacist time for more complex activities.
- There may be benefits for the individual hospitals and health services to have a more formal networking arrangement which could build on efficiency programs and possible economies of scale in purchasing and sharing of staff through a casual pool.

Implementation of an expanded clinical pharmacy role will require access to ongoing staff education, attendance at conferences both as participants and presenters, and continuing education events to improve pharmacist skills and knowledge.

3. **Develop a workforce plan to support the increase in clinical pharmacy services offered within NSLHD and to make the most effective use of the skill mix within the workforce.**
24 Medical Imaging

Recommendations

1. Implement and evaluate the NSW Agency for Clinical Innovation Medical Imaging District Services business model across NSLHD.
2. Collaborate with clinical networks to manage imaging demand, improve appropriate selection of medical imaging required for diagnosis, and develop agreed pathways which improve the imaging response times, cost effectiveness and sustainability of services.
3. Develop, implement and evaluate a model of care for the provision of interventional radiology services across NSLHD that addresses sustainable workforce issues, agreed growth and scope of practice.

Medical imaging provides both diagnostic and interventional services within the hospital setting to admitted and non-admitted/ambulatory patients. Timely and accurate reporting of medical imaging supports early diagnosis and treatment for patients and can reduce length of stay in the emergency department and hospital.

Core medical imaging services are delivered at all Northern Sydney Local Health District (NSLHD) acute hospitals including general radiology, computed tomography (CT), ultrasound, and fluoroscopy. Specialist imaging services are primarily provided at RNSH and include magnetic resonance imaging (MRI), interventional radiology, diagnostic angiography, and nuclear medicine services, including positron emission tomography (PET) and mammography. Hornsby Hospital provides some nuclear medicine services. Admitted patients requiring specialist imaging services at Hornsby, Manly, Mona Vale and Ryde hospitals are generally referred to RNSH and non-admitted patients are often referred to local private imaging providers from specialist rooms and clinics.

Radiologist services are either insourced or outsourced depending upon the hospital and medical imaging modality:

- RNSH directly employs radiologists for all modalities; in January 2014 RNS implemented overnight, onsite non-contrast CT brain examination services but other CT and MRI scans are not yet available 24/7
- Hornsby has outsourced radiology provided on site for all modalities except MRI which is provided offsite.
- Ryde, Manly and Mona Vale hospital have outsourced radiology provided on site for most modalities except nuclear medicine and MRI are provided off site.

The demand for imaging and rapid reporting services have increased in recent years along with demand for access to medical imaging services onsite 24/7, particularly for CT studies and more recently for MRI. This demand is generally attributed to the implementation of the National Emergency Access Targets (NEAT) policy, the introduction of stroke thrombolysis programs at RNS and Hornsby hospitals, and other specialist models of care and service standards. RNS Hospital demand for medical imaging services has increased significantly post-new facility and comparatively to other sites within the NSLHD. Current RNSH Radiology year on year growth is 8%, with nuclear medicine growth at 19% as compared to an average growth of 6% across Hornsby, Manly, Mona Vale and Ryde hospitals. The continued and sustained growth presents resourcing and capacity challenges which need to be understood and resolved effectively.

A number of strategies and projects are under way across NSLHD to respond to these issues:

- A clinical redesign program is in progress to optimise turnaround times for CT and x-rays requested by the emergency department to meet the NEAT timeframes.
- Onsite and outsources medical imaging services are currently being tendered with the aim of ensuring service flexibility and cost effectiveness.
- The RNSH neurology department placed a neurology registrar in the emergency department (ED) to guide junior medical staff in appropriate selection of diagnostic tests. This initiative aims to reduce length of stay in ED and avoid duplication of CT and MRI scanning where possible.
other quality improvement and hospital avoidance programs have been piloted including the use of onsite hookwire procedures for BreastScreen services at Hornsby and a mobile x-ray services operating in the Northern Beaches providing services within residential aged care facilities and private residences.

Medical Imaging services within NSLHD are currently working with the NSW Agency for Clinical Innovation (ACI) to pilot the implementation of the Medical Imaging District Services (MIDS) model. MIDS aims to address the increased demand and increasing acuity of patients, timely reporting, resourcing (both workforce and equipment), training, education and research. The model also includes pricing mechanisms and strategies for engagement with referral stakeholders to ensure the appropriateness of examinations sought and where possible reduce multiple imaging.

The MIDS business model is anticipated to provide a range of benefits including:

- Managing demand by developing a multi-disciplinary approach to appropriate use of medical imaging, and the models of care designed to support timely service delivery
- Maximising patient care while minimising their dosing levels and reducing the number of unreported images
- Tracking and managing non-reportable activity and non-revenue generating activity to increase the cost effective delivery of medical imaging services
- Better managing contracts for outsourced onsite and offsite radiologist services
- Providing a framework and possible revenue stream to update equipment in a timely manner
- Better understanding of quality and costs including opportunity costs of all activity to maximise the service quality and revenue
- Building a sustainable service in terms of cost, equipment upgrades and staffing and reporting flexibility.

Interventional radiology (IR) and interventional neuroradiology (INR) services are provided at RNSH for NSLHD. Additional IR radiologists are being recruited to improve the provision of IR services across NSLHD.

There is no current framework for IR service development that identifies how the service should be configured, what workforce, other resources and infrastructure is required, and how the low volume high cost service might be funded in an activity based management environment.

Interventional radiology services need to be developed through a collaborative arrangement between diagnostic radiology, interventional neuroradiology, neurology, neurosurgery, cardiology and vascular surgery drawing on the resources and expertise of each service. It will be important to establish a clear understanding of what the IR service at RNSH will encompass, how it will relate to other hospitals in NSLHD, and clinical pathways and patient referral and selection criteria. (See also the neurosciences chapter.)

1. Implement and evaluate the NSW Agency for Clinical Innovation Medical Imaging District Services business model.
2. Collaborate with the clinical networks to manage demand, improve the appropriate selection of medical imaging required for diagnosis and develop agreed pathways which improve the imaging response times, cost effectiveness and sustainability for all clinical stakeholders.
3. Develop, implement and evaluate a model of care for the provision of interventional radiology services across NSLHD that addresses sustainable workforce issues, agreed growth and scope of practice.
Appendices
## 25 Glossary of terms and abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tr>
<td>AAU</td>
<td>Acute Assessment Unit - part of the short stay emergency and medical services</td>
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<td>ABF</td>
<td>Activity Based Funding</td>
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<td>ABS</td>
<td>Australian Bureau of Statistics</td>
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<tr>
<td>ACAT</td>
<td>Aged Care Assessment Team</td>
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<td>ACI</td>
<td>Agency for Clinical Innovation, a pillar agency of the NSW Health system</td>
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<td>Acute care</td>
<td>Health care services, including hospital services, which treat the sudden onset of symptoms or disease (contrast with chronic care, see below)</td>
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<td>AHSC</td>
<td>Academic Health Sciences Centre</td>
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<td>Ambulatory care</td>
<td>Any form of care other than as a hospital inpatient (for example, chemotherapy) that may be delivered on an outpatient basis</td>
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<td>Acute Post-Acute Care – multidisciplinary health care at home that follows a hospital admission or medical attention for a condition from which recovery or stabilisation is expected</td>
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<td>Asset Strategic Plan</td>
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<td>Aboriginal and Torres Strait Islander</td>
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<td>BMI</td>
<td>Body Mass Index</td>
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<tr>
<td>CACP</td>
<td>Community aged care packages</td>
</tr>
<tr>
<td>CALD</td>
<td>Culturally and Linguistically Diverse (communities)</td>
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<td>Casemix</td>
<td>A mechanism for classifying the types and mix of patients treated by a health service,</td>
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<tr>
<td>CCU</td>
<td>Critical Care Unit</td>
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<td>CDMP</td>
<td>Chronic Disease Management Program</td>
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<td>CDU</td>
<td>Clinical Decision Unit – part of the short stay emergency and medical services</td>
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<td>CEC</td>
<td>Clinical Excellence Commission</td>
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<td>CHC</td>
<td>Community Health Centre</td>
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<td>CHOCC</td>
<td>Community Health and Outpatient Care</td>
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<td>CHOP</td>
<td>Confused Hospitalised Older Persons program</td>
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<td>Chronic care</td>
<td>Care for diseases that are long-lasting or recurrent, such as diabetes or renal failure, where the purpose is to support, maintain function, and prevent further disability</td>
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<td>CSP</td>
<td>Clinical Services Plan</td>
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<td>CT</td>
<td>Computed Tomography - a type of X-ray image</td>
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<td>Child and Youth Mental Health Service</td>
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<td>DA_CCP</td>
<td>Drug and Alcohol Clinical Care and Prevention</td>
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<td>DBS</td>
<td>Deep Brain Stimulation</td>
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<td>ED</td>
<td>Emergency department (of a hospital)</td>
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<td>EEO</td>
<td>Equal Employment Opportunity</td>
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<td>Term</td>
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<td>eMR</td>
<td>Electronic Medical Record</td>
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<td>EMU</td>
<td>Emergency Medical Unit – a unit that manages patients requiring short term observation or treatment (less than 48 hours), avoiding admission to an inpatient ward</td>
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<td>EPAS</td>
<td>Early Pregnancy Assessment Service</td>
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<td>ERCP</td>
<td>Endoscopic Retrograde Colangio-Pancreatography – a form of investigation used to view the gallbladder, bile ducts, pancreas, and pancreatic duct</td>
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<td>FaCS</td>
<td>Family and Community Services</td>
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<tr>
<td>Fast Track</td>
<td>An initiative to enable timely treatment of patients in emergency departments, by referring people who require straightforward management to a designated area for assessment, treatment and discharge</td>
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<td>FTE</td>
<td>Full Time Equivalent – a measurement unit for the number of staff positions</td>
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<td>GP</td>
<td>General Practitioner</td>
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<td>GRACE</td>
<td>Geriatric Rapid Acute Care Evaluation</td>
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<tr>
<td>HACC</td>
<td>Home and Community Care</td>
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<tr>
<td>HARP</td>
<td>HIV and Related Programs</td>
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<tr>
<td>HDU</td>
<td>High Dependency Unit – the second highest level of critical care</td>
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<tr>
<td>Headcount</td>
<td>The actual number of staff members within the workforce in full and part time positions</td>
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<td>HETI</td>
<td>Health Education and Training Institute</td>
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<tr>
<td>HKHS</td>
<td>Hornsby Ku-ring-gai Health Service</td>
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<tr>
<td>ICU</td>
<td>Intensive Care Unit – the highest level of critical care</td>
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<tr>
<td>INR</td>
<td>Interventional Neuroradiology</td>
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<tr>
<td>KPI</td>
<td>Key Performance Indicator</td>
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<tr>
<td>LGA</td>
<td>Local Government Area – the division of NSW into administrative units with responsibilities set out in the Local Government Act</td>
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<tr>
<td>LHD</td>
<td>Local Health District</td>
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<tr>
<td>MACARF</td>
<td>Management of cardiac function</td>
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<tr>
<td>MAU</td>
<td>Medical Assessment Unit - a ward that provides an alternative to treatment in EDs for older people and people with chronic disease</td>
</tr>
<tr>
<td>Medicare Local</td>
<td>Previously commonwealth funded primary health organisations. These organisations will be replaced by commonwealth funded Primary Health Networks</td>
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<tr>
<td>MHDA</td>
<td>Mental Health and Drug and Alcohol</td>
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<tr>
<td>MoH</td>
<td>Ministry of Health</td>
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<tr>
<td>MRI</td>
<td>Magnetic Resonance Imaging</td>
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<tr>
<td>NBHS</td>
<td>Northern Beaches Health Service</td>
</tr>
<tr>
<td>NDIS</td>
<td>National Disability Insurance Scheme</td>
</tr>
<tr>
<td>NEAT</td>
<td>National Emergency Access Targets</td>
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<tr>
<td>NEST</td>
<td>National Emergency Surgery Targets</td>
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<tr>
<td>NGO</td>
<td>Non Government Organisation</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>NHMRC</td>
<td>National Health and Medical Research Council</td>
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<tr>
<td>NSHNS</td>
<td>Northern Sydney Home Nursing Services</td>
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<tr>
<td>NSLHD</td>
<td>Northern Sydney Local Health District encompassing the geographic area and health services of Hornsby Ku-ring-gai, Northern Beaches and North Shore Wyde</td>
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<tr>
<td>NSRHS</td>
<td>North Shore Ryde Health Service</td>
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<tr>
<td>NWAU</td>
<td>National Weighted Activity Units</td>
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<tr>
<td>OESI</td>
<td>Operational Efficiency and Service Integration</td>
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<tr>
<td>ORP</td>
<td>Osteoporosis Re-fracture Prevention Service</td>
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<tr>
<td>PaCH</td>
<td>Primary and Community Health</td>
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<tr>
<td>PCCPC</td>
<td>Peak Community and Consumer Participation Council, subcommittee of NSLHD Board</td>
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<tr>
<td>PECC</td>
<td>Psychiatric Emergency Care Centre – specialist care in or adjacent to emergency departments for patients experiencing a mental health crisis</td>
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<tr>
<td>PET</td>
<td>Positron Emission Tomography - a form of diagnostic imaging that produces a three-dimensional map of functional processes in the body</td>
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<tr>
<td>PPP</td>
<td>Public Private Partnership</td>
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<tr>
<td>Primary health</td>
<td>Includes health services delivered by GPs, private allied health practitioners and some community health services (contrast with Secondary and Tertiary services)</td>
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<td>PHN</td>
<td>Primary Health Networks (see Medicare Locals)</td>
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<tr>
<td>RACF</td>
<td>Residential aged care facilities</td>
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<tr>
<td>RNSH</td>
<td>Royal North Shore Hospital</td>
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<tr>
<td>Royal Rehab</td>
<td>formerly Royal Rehabilitation Centre Sydney</td>
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<tr>
<td>Secondary</td>
<td>Health care treatment provided at acute and sub-acute hospitals</td>
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<tr>
<td>SEIFA</td>
<td>Socio-economic Index for Areas</td>
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<tr>
<td>SIBR</td>
<td>Structured Interdisciplinary Bedside Rounds</td>
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<td>SMHSSOP</td>
<td>Specialist Mental Health Services for Older People</td>
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<tr>
<td>Subacute care</td>
<td>Care in which the goal is a change in functional status or improvement in quality of life for post-acute, chronic or terminal conditions, e.g. palliative care and rehabilitation</td>
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<tr>
<td>Tertiary</td>
<td>Specialised services at a major hospital, usually associated with teaching and research functions</td>
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<tr>
<td>Thrombolysis</td>
<td>A form of therapy used to break up or dissolve dangerous clots inside blood vessels</td>
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<tr>
<td>TIA</td>
<td>Transient Ischaemic Attack</td>
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<tr>
<td>VMO</td>
<td>Visiting Medical Officer</td>
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### Role Delineation

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<th>Hornsby Ku-ring-gai Hospital</th>
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<th>Mona Vale and District Hospital</th>
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<th>Ryde Hospital</th>
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The **NSW Health Guide to the Role Delineation of Health Services (3rd edition, 2002)** describes the complexity of clinical activity undertaken at a hospital. It determines the support services, staff profile and minimum standards and other requirements that ensure that clinical services are provided safely and are appropriately supported.

The guide is currently undergoing a major revision which is expected to be completed in late 2015. Some changes in service levels in Northern Sydney Local Health District hospitals may occur as a result of changed definitions and standards.
27 Clinical Services Planning Governance

Clinical Services Planning Steering Committee
- Dr Andrew Montague: Executive Director Operations (executive sponsor and chair)
- Sharon Lown: Manager Operations
- Professor Greg Fulcher: Clinical Council representative
- Dr Phillip Hoyle: Director Medical Services representative
- Lee Gregory: Director Finance and Corporate Services
- Richard Brown: Workforce and Culture representative
- Dr Alison Latta (from 6 November 2014): Director Medical Workforce
- David Miles: Manager Health Services Planning Unit
- Meryl Horne: PCPC/Consumer representative
- Professor Donald MacLellan: Independent clinician from the Agency for Clinical Innovation
- Brenda Scully: Senior Health Services Planner

Northern Sydney Local Health District Board
- Professor Carol Pollock (chair)
- Dr Dianne Ball
- Ms Ann Brassil
- Ms Diane Flecknoe-Brown
- Dr Michele Franks
- Mr Andrew Goodsell
- Mr Anthony Hollis
- Ms Betty Johnson AO
- Ms Beate Kuchcinska
- Mr Don Marples
- Ms Annette Schmiede
- Mr Peter Young

Executive and Leadership Team
- Adj Assoc Prof Vicki Taylor: Chief Executive (chair)
- Dr Andrew Montague: Executive Director Operations
- Lee Gregory: Director Finance and Corporate
- Jenny Dennis: Director Corporate Communications
- Anthony Dombkins: Director Nursing and Midwifery
- Paul Russell: Director Clinical Governance
- Maree Hynes: Director Planning, Performance and Innovation
- Jane Street: A/ Director Workforce and Culture
- Alison Latta: Director Medical Workforce
- David Miles: Manager Health Services Planning
- Frank Bazik: General Manager HKH & NB
- Kim Field: Director Primary and Community Health
- Andrea Taylor: Director Mental Health, Drug and Alcohol
- Ann Wignall: A/ Director Allied Health
- Louise Derley: Director Internal Audit
- Garry Wade: Director Information, Communication & Technology
- Louise Barker Allner: Manager Counter Disaster Unit
- David Atkins: Executive Director Medical Imaging
Appendix: CSP governance

Clinical Council

- Kim Field: Director Primary and Community Health, NSLHD
- Sue Hair: Director Nursing and Midwifery, Manly Hospital
- Dr Adam Rehak: Chair Medical Staff Executive
- Dr Kenneth Ho: Physician/Endocrinologist, Ryde Hospital
- Joanne Prendergast: Manager Nutrition Dept, RNSH
- Kerry Griffiths: Manager Social Work, NBHS
- Rebecca Riordan: Nurse Manager Intensive Care, RNSH
- Frank Bazik: General Manager, NBHS & HKHS
- David Miles: Manager Health Services Planning, NSLHD
- Prof Professor Sue Kurrle: Board Member
- Adj Assoc Prof Vicki Taylor: Chief Executive
- Dr Andrew Montague: Executive Director Operations

Clinical Network Directors (and members of clinical council)

- Professor Stephen Clarke: Cancer and Palliative Care
- Dr Elisabeth Murphy: Child, Youth & Family
- Dr Peter Roberts: Critical Care
- Dr Stephen Nolan: Medicine (Acute)
- Professor Greg Fulcher: Medicine (chronic and complex)
- A/Professor Martin Krause: Neurosciences
- Professor Sue Kurrle: Rehabilitation and Aged Care
- Dr David Waugh: Renal and Cardiovascular
- Dr John Vandervord: Surgery and Anaesthesia
- Dr Michael Nicholl: Women’s Health
- Dr Michael Paton: Mental Health Drug and Alcohol

Clinical Network Service Development Managers

- Lakshmi Ekambareshwar: Cancer
- Karen Gill: Palliative Care
- Vacant: Critical Care
- Vacant: Acute Medicine
- Lyn Olivetti: Chronic and Complex Medicine
- Lyn Olivetti: Aged Care and Rehabilitation
- Vacant: Neurosciences
- Jillian Moxey: Surgery and Anaesthesia
- Catherine Adams: Maternal, Neonatal and Women’s Health
- Jess Clissold: Child Youth and Family
- Vacant: Renal and Cardiovascular
- Michelle Lawson: Service Development Manager
- Carissa Louwen: Service Development Manager