

Sydney Adventist Hospital - Social and Economic Benefits Assessment

July 2010

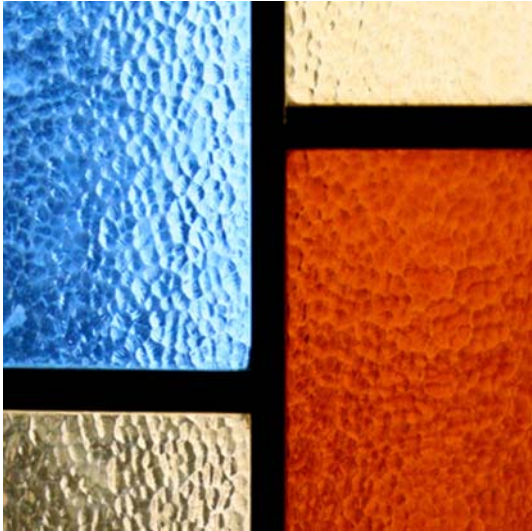
THANK

FOR

YOUR

CONTRIBUTION

urbis



Sydney Adventist Hospital - Social and Economic Benefits Assessment

Prepared for Sydney Adventist
Hospital Ltd

July 2009

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Jackie Ohlin
Associate Director	Allison Heller
Support Staff	Jill Yeomans
Job Code	SA4065

© URBIS 2009

This publication is subject to copyright. Except as permitted under the Copyright Act 1968, no part of it may in any form or by any means (electronic, mechanical, photocopying, recording or otherwise) be reproduced, stored in a retrieval system or transmitted without prior written permission. Enquiries should be addressed to the publishers.

URBIS
Australia Asia Middle East
www.urbis.com.au

Executive Summary	i
1 Introduction.....	1
1.1 Purpose of this report	1
1.2 Background to the proposal	1
1.3 Summary of the proposal	2
1.4 Methodology	3
2 Site description and context	4
2.1 Site description and locality	4
2.2 Local context and surrounding development	4
2.3 Overview of existing facilities and services	5
2.4 History of the hospital's development.....	5
3 Characteristics of the local community	7
3.1 Age distribution and projected population growth	7
3.1.1 Current age distribution	7
3.1.2 Household composition	7
3.1.3 Projected population growth – over 65s	7
3.1.4 Projected population growth – 0-4 years.....	9
3.2 Employment.....	9
3.3 Socio-economic characteristics	10
3.4 Summary of demographic and employment profile.....	10
4 Audit of existing health, medical and allied services I.....	11
4.1 Introduction.....	11
4.2 Hospital services and facilities	11
4.3 Complementary non-hospital services and facilities	12
4.3.1 Allied health services.....	12
4.3.2 Aged care facilities and services	15
4.3.3 Child care facilities.....	15
4.4 Transport	16
4.5 Conclusions	17
5 The development proposal – context and plans.....	18
5.1 Introduction.....	18
5.2 Proposed development of new facilities and services.....	18
5.2.1 Clinical Services Building expansion, new Shannon Wing and new Education Centre.....	18
5.2.2 Concourse and arrival podium	19
5.2.3 Multi-level car park	19
5.3 Improved amenity and access.....	19
6 Economic benefits assessment.....	22
6.1 Introduction.....	22
6.2 Current and future employment.....	22
6.2.1 Regional employment policies and targets.....	22
6.2.2 Types of employment on site	23
6.3 Local economic development.....	25
6.3.1 Industry 'clustering'	25
6.3.2 Attracting and retaining staff.....	26

6.4	Provision of local retail facilities.....	26
6.5	Local education and training	26
6.6	Conclusions	27
7	Health and social benefits assessment	28
7.1	Introduction.....	28
7.2	Provision of health care services – policy context	28
7.2.1	NSW Government – <i>Future Directions – Towards 2025</i>	28
7.3	Local Community Plans – Ku-ring-gai and Hornsby	30
7.4	Local and regional demand for health services.....	31
7.4.1	Analysis of existing patient data	31
7.4.2	Meeting the needs of an ageing population	31
7.4.3	Meeting demand for private health services.....	32
7.5	Improving the experience of those using the health system	34
7.6	Conclusions	34
8	Impact assessment and mitigation measures.....	36
8.1	Consultation with hospital administration	36
8.1.1	Current capacity and demand for expanded facilities and services.....	36
8.1.2	Benefits of the expansion for hospital staff, patients and visitors	37
8.1.3	Service improvements associated with the proposed development	38
8.1.4	Provision of education and training opportunities	38
8.1.5	Provision of health and social services within the community.....	38
8.2	Consideration of community attitudes	39
8.3	Social impact of the design	39
8.4	Assessment of impact and mitigation measures.....	40
9	Conclusion	42
10	References	44
Appendix A	Site Aerial Photography	
Appendix B	Hospital Facilities in the Northern Subregion and Northern Sydney	
Appendix C	ABS Travel Zones	

FIGURES:

Figure 1 – Allied health services in Northern Sydney (number of types)	14
Figure 2 – Map of childcare facilities in proximity to the SAH (red dots indicate the location of child care)	16
Figure 3 – Population and hospital use: people aged 65 and over as per cent of total, 2004–05.....	32

TABLES:

Table 1 – Population change - persons aged 65 years+ (cumulative number)	8
Table 2 – Population change persons aged 65 years+ (cumulative percentage as percentage of population)	8
Table 3 – Northern Subregion: population change ages 0-4years.....	9
Table 4 – SAH employees: occupation x location of residence (number).....	23
Table 5 – SAH employees: occupation x location of residence (% of occupation)	24
Table 6 – Statistical Subdivision (SSD) of residence of workers in TZ 2558	25
Table 7 – Statistical Local Area (SLA) of residence of workers in TZ 2558	25
Table 8 – Private health insurance by NSW health area (persons aged 16 years and over) 2007.....	34

Executive Summary

Purpose of the report

Urbis has been commissioned by the Sydney Adventist Hospital Ltd to prepare a social and economic benefits statement in relation to the proposed development of a new Clinical Services Building (CSB), an Education Centre and Shannon Wing, along with a new central concourse and multi-storey car park in the grounds of the Sydney Adventist Hospital ('the SAH'), which is located in Wahroonga in Sydney's north. These works will be additional to the refurbishment of existing buildings on the site.

The proposal is the subject of a project application to be considered by the Minister for Planning under Part 3A of the Environmental Planning and Assessment Act and Clause 6 of the State Environmental Planning Policy – Major Projects SEPP. A concept plan seeking expansion of the hospital and the surrounding land has already been approved by the Minister for Planning.

The site is one of the primary health care employment hubs in Sydney, as is set out in the Draft Sydney North Subregional Strategy.

Description of the proposal

The project application proposes the extension of the existing CSB (including surgical and cancer precincts), a new Education Centre, a replacement Shannon Wing (including car parking and maternity facilities), along with a new central concourse, entry podium and multi-storey car park. In addition, existing hospital buildings and car parking facilities on the site will be refurbished.

The \$283 million development will provide a range of medical and surgical facilities, including general and maternity wards and suites for visiting medical officers, along with retail facilities and cafés to service patients, visitors and staff. Specifically, the new facilities and services include the following:

- A CSB expansion, incorporating the following:
 - a new surgical precinct comprising medical consulting rooms for surgeons and a pre-admissions clinic (PAC) on level two; a 12-bed ICU on level three; a day surgery centre on level four; operating theatre expansion on level five; plant room on level six and four x 28-bed surgical wards (112 beds in total) along with a central nurses station and visitor, patient and staff waiting/ sitting rooms
 - a new cancer precinct, incorporating a radiation oncology cancer centre and day infusion centre on level two; medical imaging and medical suites for cancer doctors and a 16-bed ICU on level three; a day surgery centre including one operating theatre and endoscopy suites on level four; an operating theatre expansion on level five and plant room on level six
- A two-stage refurbishment of the existing staff ground-level car park to provide for an additional 86 cars
- Refurbishment of the existing hospital (stage one) to provide for a refurbished day surgery first stage recovery facility and expanded second stage recovery facility (level four); a new transfer lounge; a new doctors' and nurses' lounge; a new concierge station, new public toilets and a waiting area; rationalisation of a new central sterilising services department (CSSD) to separate dirty and clean equipment flows; refurbishment of the existing level five pre op and first stage recovery area; potential expansion of the existing ICU/ CCU by up to 15 beds (enabled by relocated of the existing pathology department)
- A new three to four storey Education Centre, accommodating the Australian Research Institute and other complementary education facilities
- A second stage hospital refurbishment, following the relocation of the Faculty of Nursing to the new Education Centre, to locate the pathology department and central pharmacy to level two

- A new concourse thoroughfare, connecting the existing CSB and San Clinic 1 building, connecting the new level two to the main hospital entry and patient admissions area in the existing building on level four (this will be a roofed verandah-like structure)
- A new arrival podium on level two providing direct access to the concourse
- A new Shannon Wing providing staff car parking and maternity facilities, including eight birthing rooms, doctors' and nurses' lounge, plant room and 32-bed typical wards and maternity wards on levels seven to 11 (five floors of 32 beds = 160 beds in total)
- A third stage hospital refurbishment to provide for centrally located patient services, waiting and support facilities, including a café, quiet areas and a new chapel
- A new multi-level car park providing for both hospital visitors and staff and providing net additional on-site parking for 561 cars (after replacing existing 361-car surface car parking with the new structure).

Site context

The hospital site is located in the suburb of Wahroonga in the Ku-ring-gai local government area, to the south of where the Pacific Highway and Pennant Hills Road intersect with the F3 Motorway. The Wahroonga Estate in which the hospital is located is approximately 66 hectares in total, a small section of which is located in the Hornsby Shire local government area. The hospital is located on the south eastern portion of the estate, with the main entrance located on Fox Valley Road. Of the total site area, 40% is urban bushland located to the west and south east of the hospital buildings.

The Hornsby and Ku-ring-gai local government areas are broadly characterised by low density suburban residential development and bushland, including the Lane Cove National Park. The North Subregion, which comprises the two LGAs, is described in the NSW Department of Planning's Draft North Subregional Strategy as 'a well connected urban area surrounded by natural assets'.¹ Higher density development – predominantly medium and higher rise apartment buildings – have been constructed along the Pacific Highway and other major arterial roads in the locality in recent years.

Existing facilities and services

Established in 1903 as the 70-bed Sydney Sanitarium ('the SAH'), the Sydney Adventist Hospital is a not-for-profit acute care private hospital licensed by the New South Wales Department of Health for 342 beds, making it the largest single campus private hospital in the state. It was the first private hospital in New South Wales to be accredited by the Australian Council on Healthcare Standards.

The hospital has undergone a series of upgrades and expansions over the past century and wards were significantly updated during the early part of this decade through an \$11 million refurbishment. The SAH is now in need of further expansion and refurbishment to meet current and projected demand.

An overview of the facilities and services currently located at the hospital is provided in this report, including medical and allied health, education and training and other associated facilities, including rehabilitation facilities, a child care centre, chapel and cafeteria.

Population characteristics

The primary issue within the Sydney North Subregion within which the hospital is located, which is highlighted by an analysis of 2006 Census data for the Ku-ring-gai and Hornsby LGAs, is the ageing profile of the population. This is an issue within NSW generally, and indicated growing demand for health and medical facilities and services, since older people account for significant demand for such services.

¹ www.metrostrategy.nsw.gov.au/dev/digitalAssets/2178_1193631588941_draft_metro_srp_north_1_introduction.pdf

Ku-ring-gai is largely an affluent area, with significantly higher than average weekly household incomes. Hornsby is on par with the wider Sydney Statistical Division in terms of household incomes. The profile of these LGAs suggests likely demand for services provided at the SAH, which is a private hospital, thereby suggesting demand primarily from a higher income client group.

Audit of local medical and allied facilities and services

An audit of local hospitals and allied medical and health facilities and services located in the Northern Subregion indicates that there are a range of direct medical services included in the proposal which will provide an expanded capacity for key services (eg general wards, coronary/cardiac care), improved spatial accessibility of key services (day infusion, maternity). These will also provide significant enhancements to the integration and sophistication of specialised care which is able to be provided (operating theatres with linked pre and post-operative facilities) within the subregion.

A range of non-hospital allied health and medical services which are located in the North Subregion are also likely to benefit from the proposal, which suggests the SAH is a suitable location for the provision of expanded services and facilities.

Economic and employment benefits

The proposed expansion of both medical and non-medical facilities and services on the site, along with the proposed upgrade of existing facilities, is considered to offer significant employment opportunities. The expansion of the hospital is aligned with state government policy priorities for the clustering of knowledge industries to provide local and regional employment benefits. The SAH is specifically identified in the Sydney North Subregional Strategy as cluster suitable for further growth.

Economic and employment benefits which will result from the expansion of the hospital relate to medical and nursing professionals, as well as allied health professional and trades which support the provision of hospital services, including administration and cleaning, catering and retail.

The economic benefits which relate to the enhanced education and training facilities which will be offered on the site, as well as within education institutions in the surrounding community, will also provide economic benefits to the local population into the future.

Social and health benefits

The proposed development of new improved and expanded facilities and services to the community on the site will meet a demonstrated and growing demand in the locality and wider region. Information on the socio-economic characteristics of the population in the locality of the hospital indicates significant and growing demand for private health care services. Meeting this demand will provide direct benefits to this community, as well as taking pressure of the wider public health system.

The development is also aligned with a broad range of state and local government policies related to the provision of health and medical services, and the provision of services to an ageing population. It will also meet government objectives for improving the experiences of those using the health system.

Linkages with existing buildings and services

One of the primary objectives of the provision of the new central concourse is the improved amenity and access this will offer within the hospital. The concourse is intended as a linking artery, providing a new main entrance to the hospital and access to adjoining buildings – the CSB and San Clinic and through these to 90% of the hospital facilities on the site. The concourse will also be linked directly to the proposed new multi-storey car park, providing direct accessibility from this to the hospital.

One of the core design principles of new hospital facilities is the distinction between 'back-of-house' and 'front-of-house' operations. At present, patients and visitors share accessways, so patients are currently transferred through visitor corridors. The redevelopment will separate patients and visitors, to improve privacy and amenity for both parties, improving the overall environment.

In addition, the new concourse will improve amenity for people who have not before visited the site and do not know their way around. The provision of access to 90% of the existing hospital buildings on the site through a single, central concourse, which will provide clear directions to all hospital facilities and services, is considered to offer a more convenient contemporary model, which is less confusing.

Social impacts of the development

Consultation with hospital administration has indicated the urgent need for new facilities and services to be provided at the hospital, which is currently operating at 98-100% capacity, which is having detrimental impacts on staff morale and health care provision and restricting the health care and employment opportunities the hospital is looking to provide. The local community has also expressed support for the services offered at the hospital, which is a highly regarded and long established institution in the region.

The development of the new and expanded facilities on the site will enable the hospital to improve on service provision and service quality. The expansion is considered urgently necessary to meet current and future projected levels of demand from the community for the range of facilities and services provided.

Retention of some existing hospital buildings and the staged construction of new buildings on the site is planned in such a way as to minimise disruption to hospital operations during construction.

1 Introduction

1.1 Purpose of this report

Urbis has been commissioned by Origin Properties Ltd on behalf of the Sydney Adventist Hospital Ltd to prepare a social and economic benefits statement in relation to the proposed development of a new facilities and services, along with the refurbishment of existing facilities in the grounds of the Sydney Adventist Hospital ('the SAH'), which is located in Wahroonga in Sydney's north.

The proposal is the subject of a project application to be considered by the Minister for Planning under Part 3A of the Environmental Planning and Assessment Act and Clause 6 of the State Environmental Planning Policy – Major Projects SEPP. The site is one of the primary health care employment hubs in Sydney, as is set out in the Draft Sydney North Subregional Strategy.

The project application proposes the construction of a CSB expansion (including surgical and cancer precincts), an Education Centre, a Shannon Wing (including car parking and maternity facilities), along with a new central concourse and multi-storey car park. In addition, existing hospital buildings and car parking facilities on the site will be refurbished.

This report provides a summary assessment of the social and economic impacts of the proposed development.

1.2 Background to the proposal

Established in 1903 as the 70-bed Sydney Sanitarium ('the SAH'), the Sydney Adventist Hospital is a not-for-profit acute care private hospital licensed by the New South Wales Department of Health for 342 beds, making it the largest single campus private hospital in the state. It was the first private hospital in New South Wales to be accredited by the Australian Council on Healthcare Standards.

The range of facilities and services currently provided at the SAH include acute surgical, medical and obstetric care, maternity care and a range of allied health services, including cardiac rehabilitation and cancer support.

Today Sydney Adventist Hospital Ltd, through Origin Properties, is proposing an upgrade and expansion of existing hospital facilities and services over the next 10 years to meet current and projected demand for healthcare services within the local community and wider Sydney North Subregion.

This report relates to the first phase of the proposed upgrade, which is the subject of a project application under Part 3A of the Environmental Planning and Assessment Act and Clause 6 of the State Environmental Planning Policy – Major Projects SEPP. Along with the refurbishment of existing hospital buildings on the site, the project application proposes the construction of a new CSB (including surgical and cancer precincts), an Education Centre, a Shannon Wing (including car parking and maternity facilities), along with a new central concourse and multi-storey car park.

The hospital is located within the broader Wahroonga Estate precinct, which is owned by the Australasian Conference Association (ACA), and comprises a range of accommodation, including for hospital staff, community facilities and other facilities and services allied to the hospital.

The Wahroonga Estate land is the subject of a concept plan lodged by the ACA and Johnson Property Group, which was approved by the Minister for Planning on 31 March 2010. This includes an additional 28,000sq m of hospital floorspace and an expanded facility for the Faculty of Nursing and Health along with residential and other uses.

The hospital is the largest single employer within the Hornsby and Ku-ring-gai local government areas and the third largest health-based employer in the northern region. It employs 2,260 staff, including 2,000 nursing staff, and is also the base for 500 medical practitioners, who are between them estimated to provide care to nearly 50,000 inpatients and 150,000 outpatients annually.

A large number of hospital employees live within the Sydney North Subregion, which broadly comprises the local government areas of Hornsby and Ku-ring-gai.²

1.3 Summary of the proposal

The hospital is currently at capacity and in need of expansion and refurbishment to meet current and projected demand. According to the hospital administration,³ the 354-bed facility regularly experiences an occupancy rate of 98-100%, and during peak periods – in the lead-up to Christmas and during winter – it may operate in excess of 100% capacity. Operating theatres are regularly booked out. This is leading to significant constraints in relation to the hospital's provision of acute medical and surgical care.

The \$283 million development will provide a range of medical and surgical facilities, including general and maternity wards and suites for visiting medical officers, along with retail facilities and cafes to service patients, visitors and staff. Specifically, the new facilities and services include the following:

- A CSB expansion, incorporating the following:
 - a new surgical precinct comprising medical consulting rooms for surgeons and a pre-admissions clinic (PAC) on level two; a 12-bed ICU on level three; a day surgery centre on level four; operating theatre expansion on level five; plant room on level six and four x 28-bed surgical wards (112 beds in total) along with a central nurses station and visitor, patient and staff waiting/ sitting rooms
 - a new cancer precinct, incorporating a radiation oncology cancer centre and day infusion centre on level two; medical imaging and medical suites for cancer doctors and a 16-bed ICU on level three; a day surgery centre including one operating theatre and endoscopy suites on level four; an operating theatre expansion on level five and plant room on level six
- A two-stage refurbishment of the existing staff ground-level car park to provide for an additional 86 cars
- Refurbishment of the existing hospital (stage one) to provide for a refurbished day surgery first stage recovery facility and expanded second stage recovery facility (level four); a new transfer lounge; a new doctors' and nurses' lounge; a new concierge station, new public toilets and a waiting area; rationalisation of a new central sterilising services department (CSSD) to separate dirty and clean equipment flows; refurbishment of the existing level five pre op and first stage recovery area; potential expansion of the existing ICU/ CCU by up to 15 beds (enabled by relocated of the existing pathology department)
- A new three to four storey Education Centre, accommodating the Australian Research Institute and other complementary education facilities
- A second stage hospital refurbishment, following the relocation of the Faculty of Nursing to the new Education Centre, to locate the pathology department and central pharmacy to level two
- A new concourse thoroughfare, connecting the existing CSB and San Clinic 1 building, connecting the new level two to the main hospital entry and patient admissions area in the existing building on level four (this will be a roofed verandah-like structure)
- A new arrival podium on level two providing direct access to the concourse

² SAH data and ABS and NSW Department of Transport Journey to Work data for Travel Zone (TZ): 2558 in which the SAH is located

³ Interviews conducted by Urbis with hospital administration, May 2009

- A new Shannon Wing providing staff car parking and maternity facilities, including eight birthing rooms, doctors' and nurses' lounge, plant room and 32-bed typical wards and maternity wards on levels seven to 11 (five floors of 32 beds = 160 beds in total)
- A third stage hospital refurbishment to provide for centrally located patient services, waiting and support facilities, including a café, quiet areas and a new chapel
- A new multi-level car park providing for both hospital visitors and staff and providing net additional on-site parking for 561 cars (after replacing existing 361-car surface car parking with the new structure).

The redevelopment of the hospital precinct will see the existing Faculty of Nursing and Health relocated outside the precinct into a new and expanded facility.

1.4 Methodology

The following tasks have been undertaken as part of this social and economic benefits analysis of this proposed development.

- A review of key literature on health care services provision and relevant local government policy documents, including the Draft Sydney North Subregional Strategy.
- An analysis of the current population, socio-demographic profile of the Hornsby and Ku-ring-gai local government areas and forecasts of the estimated resident population and demand analysis for hospital facilities and services.
- An audit of the existing and planned supply of community facilities and services relevant to the development in the surrounding locality. The types of facilities included in the assessment are as follows:
 - hospitals, medical centres and allied health services;
 - services related to older people – including aged care facilities and home care services, and
 - public transport.
- Analysis of the labour market capacity and training facilities to support the development.
- Consultations with senior members of the hospital administration.
- Analysis of the local community in terms of accepting/rejecting characteristics in relation to the proposed development.
- Assessment of current and planned provision against identified need in order to derive outline recommendations or proposed mitigation measures for the development.

2 Site description and context

2.1 Site description and locality

The hospital site is located in the suburb of Wahroonga in the Ku-ring-gai local government area, to the south of where the Pacific Highway and Pennant Hills Road intersect with the F3 Motorway. Fox alley Road links the site with the Pacific Highway and the nearest railway station of Turramurra, which is located 3km to the east.

The Estate in which the hospital is located is approximately 66 hectares in total, a small section of which is located in the Hornsby Shire local government area. The hospital is located on the south east portion of the estate, with the main entrance located on Fox Valley Road. Of the total site area, 40% is urban bushland located to the west and south east of the hospital buildings. The hospital is also surrounded by a number of other uses contained within the Wahroonga Estate, including a primary school, churches, open space, administration buildings and housing for staff.

Aerial photography of the site is provided at Appendix A.

2.2 Local context and surrounding development

The Hornsby and Ku-ring-gai local government areas are broadly characterised by low density suburban residential development and bushland, including the Lane Cove National Park. The North Subregion, which comprises the two LGAs, is described in the NSW Department of Planning's Draft North Subregional Strategy as 'a well connected urban area surrounded by natural assets.'⁴

The Wahroonga Estate directly adjoins surrounding development site in three locations: along Fox Valley Road to the north east; north of Mount Pleasant Avenue in the north west, and on the opposite side of Comenarra Parkway to the south. There is a small village retail centre of approximately nine retail premises located on the corner of the Comenarra Parkway and Fox Valley Road.

Higher density development – predominantly medium and higher rise apartment buildings – have been constructed along the Pacific Highway and other major arterial roads in the locality in recent years. This is in line with State government policy set out in the Sydney Metropolitan Strategy, which encourages urban consolidation through densification along transport corridors and in proximity to existing facilities and services. However the LGAs still have a lower proportion of high density housing compared to the SSD, with just 14.4% of Ku-ring-gai residents and 24.5% of Hornsby residents living in medium to high density housing (townhouses and flats/apartments) compared to 36% of residents in the SSD, at the time of the 2006 Census.

Schools account for a significant proportion of business activity within the Ku-ring-gai LGA: there are 16 public primary schools, four public high schools, 18 private schools and four schools devoted to educating children with special needs in the area. There is no industrial activity in the area and the primary form of business is small to medium sized enterprises.⁵

Ku-ring-gai Council is currently in the process of revising its Local Environment Plan (LEP) and Development Control Plans (DCP), the latter of which was on public exhibition during 2008. These propose a revitalisation of each of the town centres as business, social and cultural precincts. The town centre strategy is predicted to create an additional 10,000 new dwellings in Ku-ring-gai during the next 25 years, with a projected population increase of 17% on the 2001 estimated resident population (ABS, 2001) from 107,819 to 126,181 in 2026.⁶

⁴ www.metrostrategy.nsw.gov.au/dev/digitalAssets/2178_1193631588941_draft_metro_srp_north_1_introduction.pdf

⁵ www.kmc.nsw.gov.au/resources/documents/Sustainability_Vision_Report_-_Ku-ring-gai_Snapshot.pdf

⁶ Ibid.

2.3 Overview of existing facilities and services

The hospital, which is the largest single campus private hospital in NSW, is currently licensed to provide 354 beds. It offers a wide range of specialties including cardiac care, maternity, women's health, urology, orthopaedics, cancer services, colorectal and general surgery and general medicine.

It has a 24-hour emergency care unit, 10 operating theatres and a 29-bed recovery ward. The hospital also has a 53-bed maternity and women's health unit, which offers a range of medical support professionals including of doctors, midwives, mothercraft nurses and physiotherapists. Around 2,000 babies are delivered at the unit each year.

The hospital currently provides the following facilities:

- Inpatient beds – 342 beds
- Intensive care unit – 12 beds
- Coronary care unit – 11 beds
- Day beds – 96 beds
- Renal dialysis chairs – 14
- Birthing – eight suites
- Cardiac catheter laboratory – three
- Endoscopy theatres – two
- Operating theatres – 12
- Clinical activities including dental care.

Along with the hospital's direct provision of medical and allied health facilities, a range of education, training and other facilities associated with the hospital are located on the Wahroonga Estate.

The hospital has been providing training for nurses since its establishment in 1903 and today its training facilities include the San College of Education and the Faculty of Nursing and Health, known as Avondale College. These provide both undergraduate and post-graduate training for nurses.

The San College, which was established in 2003 as a registered training organisation, provides training courses for hospital staff along with the wider community, both on and off-site. In addition, the Australasian Research Institute (ARI), which has also operated from offices on the faculty campus since 2004, conducts and supports research in areas such as public health, biomedical and allied health. These education and training facilities are discussed in greater detail in Section 6.5 of this report.

The hospital is continuing to expand its level of service provision: it has grown its activities by 5-6% a year over the last three years, a trend which is expected to continue. As a result of its operation by Sydney Adventist Hospital Ltd as a not-for-profit institution, all profits are reinvested in the continuous improvement of the hospital's provision of facilities and services.

2.4 History of the hospital's development

The Sydney Adventist Hospital and its associated uses have a long and established history at the Wahroonga Estate site. Originally known as the Sydney Sanitarium, the facility was first opened on January 1 1903: *'The elegant building was of wood, deemed less expensive, drier and thus healthier than brick.'* During the first three years, the hospital treated an average of 49 patients monthly, and there were 40 workers in nine departments.

The hospital has gradually expanded over time. In 1915 a labour and delivery maternity cottage was opened and in 1920 a new wing was provided on the north side of the main building. A further wing was opened on the south side in 1933.

In 1927 the Sydney Sanitarium was registered as a training school, and in 1933 the maternity cottage was extended to house 11 maternity beds.

Between 1959 and 1961 a new entrance to the hospital was built and older facilities on the site were demolished and replaced by a three storey brick building. In addition, new dormitories for male and female nurses were also provided.

During the 1960s redevelopment plans were prepared for the main hospital building, which was ageing and outdated and considered unfit for purpose. Plans were approved by Ku-ring-gai Council for a new 10-storey main hospital block along with improvements and extensions to other facilities on the site, including a complex including nurse training facilities and a hall. The new building was completed in June 1973, increasing the capacity of what became known as the Sydney Adventist Hospital from 185 to 304 beds.

In 1977, the Radiotherapy and Oncology Centre opened, and in 1978 the hospital became the first private institution in NSW to be accredited by the Australian Council on Hospital Standards. By this time it had 841 employees, including 426 nurses.

Further improvements to hospital facilities and services were later made during the 1990s. An \$8.7 million maternity wing upgrade was opened in 1990 and new physiotherapy and cardiac rehabilitation facilities were opened in 1992. In 1995 the hospital was further expanded through a five-level \$43 million development.

During the early part of this decade, wards were significantly updated through an \$11 million refurbishment, and the San Clinic was constructed in 2002. The SAH is now the largest single campus private hospital in NSW, and again in need of further expansion and refurbishment to meet current and projected future demand.

3 Characteristics of the local community

3.1 Age distribution and projected population growth

3.1.1 Current age distribution

At the time of 2006 Census,⁷ the Sydney North Subregion, comprising the Ku-ring-gai and Hornsby local government areas, had a total population of 252,408 (101,083 and 151,325 in each LGA respectively). Ku-ring-gai's population has increased by 1% since 2001, Hornsby's by 4% – the latter on par with the Sydney Statistical Division (SSD)

An ageing population

New South Wales is currently experiencing general trends towards an ageing population. This is particularly relevant to the provision of medical and allied facilities and services, particularly hospitals, since persons over the age of 65+ account for a significant proportion of a typical hospital's admissions relative to this age group's proportion of the population total population. This trend is discussed further in Section 7 of this report.

A higher proportion of older people reside in the two LGAs than is found within the SSD and, more broadly, within Australia. The total proportion of the population aged 65 years and over – 15%, is above the national average, which is 13.3%. The median age of the population in the two LGAs is also higher than the national average – 40 years compared to 37 years.

When considering the likely increasing need for hospital facilities and services over the coming 10 years, it is also pertinent to consider the total population aged over 55 within the subregion. The total population aged over 55 in 2006 in Ku-ring-gai was 29.1%, and in Hornsby this was 24.5%. This compares to the national average of 24.3%, and the average of the SSD – 22.5%.

The largest population increase during 2001-06 within the Ku-ring-gai LGA was within the 45-59 age bracket – 23%. Ku-ring-gai also experienced 1% growth in the proportion of people aged 75+ during 2001-06 to a total of 9.2% of the population. This is significantly higher than the 6.1% of the population aged 75+ found within the SSD.

3.1.2 Household composition

Census data for 2006 indicates that the majority of households within the subregion are family households – 80.5% within the Ku-ring-gai LGA and 77.1% within the Hornsby LGA, compared to the national average of 67.4%. Of these family households, couple families with children predominate. Within the Ku-ring-gai LGA, these account for 57.9% of family households; within Hornsby they account for 55.6% of family households. This is higher than the national average for family households of 45.3%

3.1.3 Projected population growth – over 65s

Aligned with broader trends currently seen in New South Wales, Sydney's North Subregion (Ku-ring-gai and Hornsby LGAs) is projected to experience significantly higher rates of population growth in the older person age groups (65+ years) in the coming years. In addition, the wider catchment of the hospital, including the LGAs of Warringah, Ryde, Baulkham Hills and Parramatta, are also expected to experience significant growth within this demographic group.

Tables 1 and 2 over page illustrate the Department of Planning's population growth forecasts for the 65+ age group to 2031. These tables show that by 2011, 9,420 people aged over 65 are expected to reside in the Ku-ring-gai and Hornsby LGAs. This population is expected to more than double to 20,330 people during the two decades to 2031.

⁷ Based on ABS Census data 2006

During the five years to 2011, 1.5% of the total cumulative population growth occurring within the Ku-ring-gai and Hornsby LGAs is expected to be accounted for by the over 65s population. The proportion of total population growth occurring within this group is expected to continue to increase during the 20 years to 2031 while the proportional growth of this population sector within the SSD remains relatively stable.

By 2031, growth within this age group will account for 6.8% of total population growth during the preceding five years, significantly higher than the 2.6% of total population growth forecast to occur within this age group in the SSD.

Table 1 – Population change - persons aged 65 years+ (cumulative number)

LGA	2001-06	2006-11	2011-16	2016-21	2021-26	2026-31
North Subregion						
Ku-ring-gai	-920	1,470	3,030	3,870	4,690	5,360
Hornsby	4,040	7,950	10,800	12,330	13,800	14,970
Total subregion	3,120	9,420	13,830	16,200	18,490	20,330
Broader catchment						
Warringah	3,280	3,650	3,150	4,190	5,140	5,910
Ryde	1,060	3,530	5,320	7,820	10,300	12,630
Baulkham Hills	21,790	33,660	50,320	68,150	81,260	96,770
Parramatta	5,980	13,460	19,560	26,390	33,150	39,600
Total (catchment + subregion)	32,110	54,300	78,350	106,550	129,850	154,910

Source: NSW Department of Planning (2005)

Table 2 – Population change persons aged 65 years+ (cumulative percentage as percentage of population)

LGA	2001-06	2006-11	2011-16	2016-21	2021-26	2026-31
North Subregion						
Ku-ring-gai	0.6%	1.4%	2.9%	3.9%	5.1%	6.3%
Hornsby	0.5%	1.5%	3.1%	4.4%	5.8%	7.2%
Total subregion	0.5%	1.5%	3.0%	4.2%	5.5%	6.8%
Broader catchment						
Warringah	0.3%	1.2%	2.7%	3.7%	5.2%	6.6%
Ryde	-0.1%	0.1%	1.4%	2.6%	4.0%	5.3%
Baulkham Hills	-2.5%	-2.8%	-2.7%	-2.8%	-2.2%	-1.9%
Parramatta	0.4%	1.0%	2.1%	3.3%	4.6%	5.9%
Total (catchment + subregion)	-0.4%	-0.2%	0.4%	0.9%	1.7%	2.4%
Sydney SD	0.4%	1.2%	2.1%	2.6%	2.6%	2.6%

Source: NSW Department of Planning (2005)

According to the hospital administration,⁸ a portion of the increase in the population of older people within the locality of the hospital is attributable to the hospital. One senior member of the operational staff commented: 'We regularly have people telling us that they moved or retired to this area in order to be closer to the hospital because they know it provides a great service. We want to continue to provide the customers in our catchment with this high level of service.'

⁸ Interview with hospital administration, May 2009

The hospital administration estimates that it will have to increase its service capacity to meet projected demand attributed to the ageing population in the area in the next 10 years.

3.1.4 Projected population growth – 0-4 years

Despite the large and increasing population in the 65+ year age group in the subregion, there is also projected to be a significant increase in the 0-4 years population⁹. There is projected to be a yearly increase of 1% in this age group, or 147-157 persons per year, between 2011 and 2021. This is projected to be over three times the existing rate of increase in this age group. It may be expected that a significant proportion of the increases in this age group can be attributed to births rather than in-migration.

The SAH is currently an important maternity hospital for the subregion and beyond. The proposal will expand the capacity of the maternity facilities at the hospital to cope with this significant increase in birth rates.

Table 3 – Northern Subregion: population change ages 0-4years

	Period					
	2006-11	2011-16	2016-21	2021-26	2026-31	2031-36
Total population (0-4 years)	15,009	15,742	16,510	16,961	17,534	17,781
5 year increase	+224	+733	+768	+451	+572	+247
5 year % increase	+1.5%	+4.9%	+4.9%	+2.7%	+3.4%	+1.4%
Yearly increase	+45	+147	+154	+90	+114	+49
Yearly % increase	+0.3%	+1.0%	+1.0%	+0.5%	+0.7%	+0.3%

Source: NSW Health (2009)

3.2 Employment

Around 60% of the labour force in the Ku-ring-gai LGA works in professional and management positions (38.3% and 20.9%) and in clerical and administration (15.1%). Within Hornsby LGA similar rankings apply – 31.6% and 15.3% respectively as professionals and managers and 16.6% in clerical and administration. Community and personal services workers comprised 5.7% and 7.3% of the workforce in Ku-ring-gai and Hornsby respectively, slightly lower than the SSD (8%).

At the time of the 2006 Census, Ku-ring-gai had a total labour force of 48,618 and an unemployment rate of 3.2%. Hornsby's labour force was 78,969, and its unemployment rate was slightly higher at 3.7%. This compares to an unemployment rate of 5.3% within the SSD.

A total of 4% of Hornsby's labour force is employed in the hospital sector – 3,158 people. This is the second most common industry of employment after the school education sector (5.6%). Within Ku-ring-gai, 3.4% of the labour force is employed in the hospital sector – 1,653 people. This compares with 3.2% in the SSD.

Information on the labour force characteristics of the staff at the SAH is provided at Section 6.2.3. This indicates that a high proportion of staff working at the hospital and within associated facilities on the Wahroonga Estate live within the local area.

⁹ This is likely to be a function in part of housing churn, where older persons moving out of freestanding dwellings into care (or other arrangements) and housing being taken up by younger families.

3.3 Socio-economic characteristics

The average median rent in Ku-ring-gai in 2006 was \$420 per week and in Hornsby this \$300 per week, reflecting higher than average rental prices in the central northern region of Sydney, where average regional rents are \$320 per week. These compare unfavourably from a housing affordability perspective with Sydney area (\$250 per week) and Australian averages (\$190 per week).

The median household income in 2006 in Ku-ring-gai was \$2,147 per week – around 86% higher than the median weekly household income in the SSD, reflecting the affluence of the area. Within Hornsby, the median weekly household income in 2006 was \$1,514, on par with the SSD at \$1,154 per week.

A comparison between incomes and median weekly rental prices indicates that the local population may experience lower levels of housing stress than in other areas in Sydney, despite the higher cost of housing in the area. However affordability is likely to be a significant issue for those employed in essential service areas related to the hospital such as aged care, community services and health, including nursing.

3.4 Summary of demographic and employment profile

The primary issue within the Sydney North Subregion within which the hospital is located, which is highlighted by an analysis of 2006 Census data for the Ku-ring-gai and Hornsby LGAs, is the ageing profile of the population. This is an issue within NSW generally, and indicated growing demand for health and medical facilities and services, since older people account for significant demand for such services.

Around 15% of the total population residing within the two LGAs at the time of the 2006 census was aged over 65, including around 17% of persons residing in the Ku-ring-gai LGA, which is higher than the national average of 13%.

Population projections provided by the Department of Planning suggests that the proportion of the older population will continue to increase over the next 20 years. By 2031, growth within this age group will account for 6.8% of total population growth during the preceding five years, significantly higher than the 2.6% of total population growth forecast to occur within this age group within the Sydney Statistical Division.

The analysis of Census data also provides a picture of the socio-economic profile and structure of households within the North Subregion. There are a large number of family household with children with the subregion, again indicating potential demand for hospital facilities and services, such as maternity facilities, from growing families.

Ku-ring-gai is largely an affluent area, with significantly higher than average weekly household incomes. Hornsby is on par with the wider Sydney Statistical Division in terms of household incomes. The profile of these LGAs suggests likely demand for services provided at the SAH, which is a private hospital, thereby suggesting demand primarily from a higher income client group.

4 Audit of existing health, medical and allied services I

4.1 Introduction

This section examines the expected benefits of the proposal in the context of the existing availability and accessibility of relevant services and facilities, including hospitals and allied health and medical services. It summarises the results of an audit which has been undertaken to identify the potential need and demand for services included in the proposal, and also identifies the likely benefits of the proposal integrating with and complementing other related services and facilities which currently exist in the area.

Benefits are expected according to the following categories:

- *The proposal meets community and user needs:* The proposed hospital services and facilities are likely to meet an unmet or emerging demand in the area. This will occur by providing new services; increasing capacity for existing services in the area, and/or increasing the spatial accessibility of services.
- *The proposal complements non-hospital services and facilities:* The proposal is suitable for the site as it integrates with and complements existing services and facilities which are located on site, in the locality and in the subregion more broadly.

4.2 Hospital services and facilities

The development proposal includes both facilities which are unique to the area as well as those which are provided to some level at other hospitals and locations. An audit has been undertaken of services available at all public hospitals in northern Sydney and selected private hospitals in reasonable proximity to the SAH and North Subregion residents (Appendix B). This has enabled an identification of key service and facility gaps and a subsequent assessment of the potential benefits of the proposal.

There is likely to be an unmet demand for a range of the services offered on site. The following provides a discussion of the benefits of the proposed hospital services and facilities in the context of existing facilities in the region:

- *Maternity facilities:* In addition to the maternity facilities provided at the SAH, there are also maternity facilities available at the Hornsby Ku-ring-gai Hospital, which are currently being expanded.¹⁰ There are maternity facilities at Royal North Shore Hospital and at Ryde Hospital. Only two of the seven private hospitals in the area offer these services. The expanded and upgraded maternity facilities associated with the development of the new facilities at the SAH will enable high levels of demand to met at what is a well known and respected maternity hospital in the subregion. The ability to provide choice in maternity services is particularly important in a subregion where there is a projected increase in birth rates over the next 10-12 years (refer to Section 3.1.4). The increased spatial accessibility of maternity services is likely to benefit the local population through improved access during birth events.
- *Coronary care unit (CCU):* Coronary and cardiac care is a core function of all of the public hospitals in the northern Sydney region and is provided at all but Ryde hospital. Only two of the private in or close to the North Subregion have coronary/cardiac support services. The Hornsby Ku-ring-gai Health Service¹¹ noted that the size of the increase in the late working, early retirement age population is expected to put pressure on services for people with early onset heart problems. The high demand for these services means that additional places provided at the SAH will provide

¹⁰ Hornsby Ku-ring-gai Health Service (2009) *Maternity Services* [online] Available at: <http://www.nscchealth.nsw.gov.au/services/hornsby/HKHS/maternitymain.htm> (last accessed 22/06/09)

¹¹ Hornsby Ku-ring-gai Health Service, *Operational Plan 2008/09*, p4

significant benefits to both users of SAH facilities and those using other facilities where waiting lists are reduced due to expanded capacity of treatment facilities at the SAH.

- *Day infusion:* Infusion is a technique of providing nutrition intravenously and often needs to be undertaken on a regular basis. One of the critical patient needs is the ability to easily access this service (as opposed to scheduled one-off procedures), and as such the most direct beneficiaries will be those located closest to the facilities, ie those residing in the North Subregion. There is currently an infusion service¹² at Hornsby Ku-ring-gai Hospital, however the service is not listed at private hospitals in the area. The provision of this service at the SAH will reduce demand and waiting lists on publically provided care through this hospital.
- *General wards:* All hospitals provide general wards, and increasing demand through age-related health problems within the subregion will mean that expanded availability of hospital beds (public or private) in the subregion will benefit both SAH users and users of other hospitals in the region. Those who will use the SAH facilities (the majority of whom are North Subregion residents) will benefit having increased choice over the level and timing of care provided. In addition users of other hospitals will benefit through reduced waiting times for surgery and other services through these services being provided at the SAH.
- *Operating theatres linked to existing theatres, pre-op and recovery and VMO/AMO suites:* Large hospitals such as Royal North Shore and Hornsby Ku-ring-gai have a very large range of sophisticated integrated services. Other private hospitals in the area are more specialised in the types of care that they provide. For example, rehabilitation (Lady Davidson Private Hospital, Mt Wilga Private Hospital), palliative care (Neringah Hospital), neurosurgery, spinal surgery, vascular surgery (Dalcross Private Hospital).

The Hills Private Hospital and Hawkesbury District Health Service Ltd do have a range of similar services, however as the SAH's current low level of capacity demonstrates, there is existing demand for these services despite the availability of these other options. The availability of integrated pre and post operative theatres and VMO/AMO suites will provide an improved range and combinations of complementary services to those admitted to general wards at the hospital. The collocation of these facilities will provide for significantly more specialised medical needs to be treated at the SAH. Providing expanded facilities for operating theatres and medical officers will bring the SAH toward the range services provided at larger public hospitals such as Hornsby Ku-ring-gai and Royal North Shore and will provide an additional highly specialised medical facility in Sydney's north.

4.3 Complementary non-hospital services and facilities

There are a number of services and facilities which are important to specific patient, worker and resident needs, which the proposal is likely to benefit.

4.3.1 Allied health services

The SAH will benefit existing local networks of allied and associated health services through expanded numbers of patients in the area requiring hospital-related support services. Urbis undertook an audit of allied health services in northern Sydney in order to seek to identify areas with particular combinations of such services, which would be indicative of an existing or emerging cluster of allied and associated medical support services. The services included in the audit are as follows:

- | | | |
|----------------|--------------------------|-------------------|
| ▪ Audiologist | ▪ Dietician | ▪ Physiotherapist |
| ▪ Chiropractor | ▪ Occupational Therapist | ▪ Podiatrist |
| ▪ Dentist | ▪ Pharmacy | |

¹² Percutaneous Endoscopic Gastrostomy (PEG) Clinic

Figure 1 over page indicates that the suburbs surrounding the SAH have a high number of different types of, but related services.

Each of the suburbs has a minimum of four types of allied health services. This potentially indicates that there are strong medical referral and service access networks and patterns localised in areas surrounding and including the SAH.

Hornsby has six different service types, Turramurra has five and Wahroonga and Pennant Hills both have four. The large range of types of services in this area suggests that clustering of services is occurring. The proposal is likely to further strengthen the demand for allied health services and contribute to the ongoing development of a cluster of medical services in the area.

Figure 1 – Allied health services in Northern Sydney (number of types)



NUMBER OF TYPES OF SERVICES

4.3.2 Aged care facilities and services

Sydney's North Subregion has a very high proportion of aged care places in comparison to NSW as a whole. According to the Commonwealth Department of Health and Ageing *Aged Care Services List* (2007-08)¹³, the North Subregion has 55 services and facilities providing aged care in the region. This includes residential high care places; residential low care; community care, and transition care places.

This equals 2.18 services per 10,000 persons, which is comparable to NSW (2.21 per 10,000). However, the number of places provided for by these services is significantly higher than NSW relative to the population. There are 3,772 places provided in the North Subregion, or 149 places per 10,000 persons compared to 116 for NSW. Thus the provision rate is 29% higher in the North Subregion than in NSW as a whole.

The majority of this provision is in residential facilities: 86% in the North Subregion compared to 79% in NSW. This is significantly higher than the surrounding LGAs of Willoughby (88 per 10,000), Baulkham Hills (53) and Pittwater (97), and slightly higher than Warringah (142).

Community care

Community care services are currently provided through Community Aged Care Packages (CACP) and Extended Aged Care Packages at Home (EACH), as well as through Home and Community Care programs for frail aged people, people with a disability and their carers. The Department of Health and Ageing identifies a regional distribution of CACP places at 155 and EACH places at 70 for the Northern Sydney Region in 2007-08.

Home and community care services are currently provided in a coordinated approach across five LGAs. The demand for community care services is generally understood to be high. Ku-ring-gai Council notes the need for better collaboration and partnership between services to reduce fragmentation; better flexibility in service provision to respond to changing needs; opportunities for co-location of services from a central point; the need for more case management services to assist individuals through the system; increasing needs for people with complex needs who wish to remain at home; and increased demand for community transport, respite care and dementia planning.

Ku-ring-gai Council notes that there is currently a six to eight month waiting list across the LGA for people wishing to access aged care packages in the home, suggesting a strong demand for such services.

The clustering of aged care facilities and services in the North Subregion places higher than usual demand on hospital services due to hospitalisation for age-related illness. The importance of the ability to age-in-place applies to the provision of medical services as well as aged care. Thus the capacity to easily move from home or from a residential aged care facility to a hospital and back is important to providing efficient and compassionate care to residents needing treatment locally.

In this regard, the proposal is able to meet the emerging needs of the ageing population residing in aged care facilities in the North Subregion.

4.3.3 Child care facilities

Child care facilities located close to the place of work are critical to support the working population in a employment node such as the SAH. This is likely to be additionally important at the SAH where:

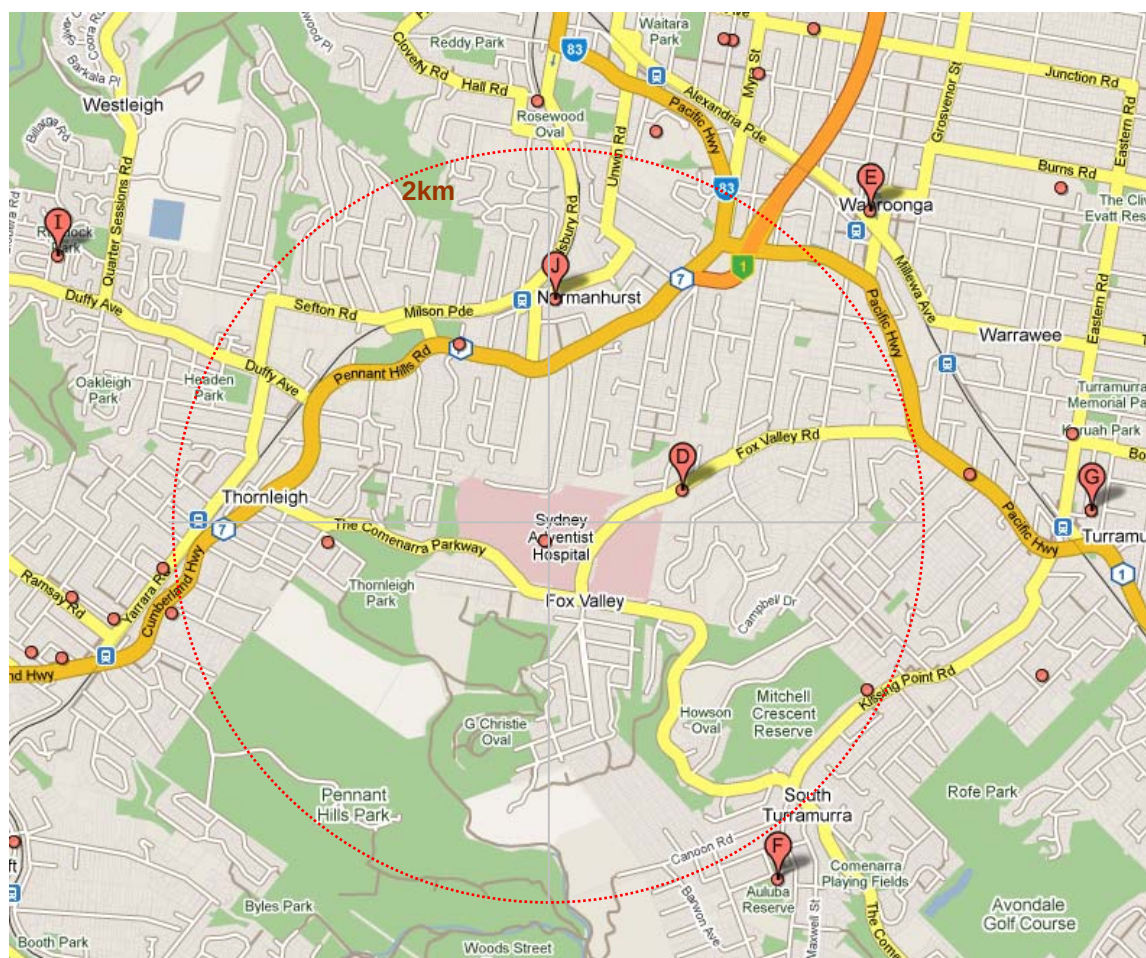
- There is a large nursing and administration staff, occupations which commonly have a higher representation of women. Women often carry a greater burden of child care responsibilities, including drop off and pick up from formal child care services and thus need special consideration in planning for the location of child care facilities.

¹³ Commonwealth Department of Health and Ageing (2009) *Aged Care Services List* 2007-08 [Microsoft Excel file], Available at: <http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-rescare-servlist-download.htm>

- Many hospital staff travel to work by car, increasing the likelihood of placing children in care close to work.¹⁴

There are already a number of child care facilities located in close proximity to the SAH, including on estate in which the hospital is located. Figure 2 indicates that there are five existing child care facilities within an approximate 2km radius and another 11 a short distance beyond this. This is likely to indicate that there is existing capacity for child care to accommodate demand from the increased workforce resulting from the proposal, supporting to the continuing operation of the SAH as an employment hub in the subregion.

Figure 2 – Map of childcare facilities in proximity to the SAH (red dots indicate the location of child care)



Source Google Maps, 2009

4.4 Transport

Public transport routes are based around bus services, both provided by ShoreLink. These include the 589 *Sydney Adventist Hospital to Thornleigh Station* link (also known as the 'San Link'), with an average frequency of nine services per weekday, and the 573 *Turramurra to Fox Valley, via Sydney Adventist Hospital* service, with an average frequency of 20 services per day.

¹⁴ This is based on the assumption that parents will often maximise time spent with children both during travel and for the opportunity to spend break times with the child, and to minimise the time child is placed in paid child care.

The study area is located within the rail catchment area for Northern Line (Thornleigh Station) services, and North Shore Line (Wahroonga and Turramurra Station) services.

It is important to note that the majority of nurses employed at the hospital work under a rotating shift system, with three shifts operating during a 24 period. These shifts are:

- morning shift 7:00am – 3:00pm
- afternoon shift 3:00pm – 11:00pm
- evening shift 11:00pm – 7:00am.

Consequently the need to travel by car varies markedly for each nurse and each time of the day. Also, because they work in shifts, most hospital workers travel outside the normal road network peak periods. A number of hospital employees are known to utilise car pooling schemes to travel to work, particularly those travelling from the wider employment catchment of the hospital, including the Central Coast.

4.5 Conclusions

The services and facilities audit has identified a number of key benefits potentially resulting from the provision of expanded and upgraded facilities and services at the SAH.

The audit indicates that there are a range of direct medical services included in the proposal which will provide an expanded capacity for key services (eg general wards, coronary/cardiac care), improved spatial accessibility of key services (day infusion, maternity), as well as a significant enhancements to the integration and sophistication of specialised care which is able to be provided (operating theatres with linked pre and post-operative facilities) within the Subregion.

There is also a range of non-hospital allied health and medical services which are located in the North Subregion which are likely to benefit from the proposal and which suggest the SAH is a suitable location for the provision of expanded services and facilities.

There is an existing cluster of allied health services in suburbs surrounding the SAH, in which the increased demand for associated medical services will stimulate additional activity. There are also a significant number of aged care places in the North Subregion whose residents will benefit from enhanced level and options of care as their medical needs increase with age.

There are also a number of child care facilities in the locality of the SAH and existing public transport facilities and road networks, both of which are likely to support the expanded workforce which will result from the proposed development and which make it a suitable location for employment growth.

5 The development proposal – context and plans

5.1 Introduction

This section describes the elements of the proposed development, including the specific facilities and services which will be located in new and refurbished buildings along with the capacity of the proposed multi-storey car park, and other associated development plans, including the relocation of the existing Faculty of Nursing and Health.

It discusses the likely benefits of the proposed development, including improvements to the architectural quality of the hospital and improved access and amenity for staff, patients and visitors which will result.

5.2 Proposed development of new facilities and services

The proposed hospital redevelopment will provide additional facilities and services through the construction of a new CSB expansion (incorporating a new surgical precinct and cancer precinct); a new Shannon Wing; a multi-storey car park and new central concourse and arrival podium. These works will be additional to the refurbishment of existing hospital facilities. In addition, the Faculty of Nursing and Health will be relocated from the main hospital buildings into a new expanded facility as part of the wider Wairoonga Estate concept plan proposal.

5.2.1 Clinical Services Building expansion, new Shannon Wing and new Education Centre

CSB expansion – surgical precinct

The new surgical precinct will comprise medical:

- consulting rooms for surgeons and a pre-admissions clinic (PAC) on level two
- a 12-bed ICU on level three
- a day surgery centre on level four
- operating theatre expansion on level five
- plant room on level six
- four x 28-bed surgical wards (112 beds in total) along with a central nurses station and visitor, patient and staff waiting/ sitting rooms.

CSB expansion – cancer precinct

The new CSB cancer precinct will incorporate:

- a radiation oncology cancer centre and day infusion centre on level two
- medical imaging and medical suites for cancer doctors and a 16-bed ICU on level three
- a day surgery centre including one operating theatre and endoscopy suites on level four
- an operating theatre expansion on level five
- plant room on level six.

Shannon Wing

The new Shannon Wing will provide staff car parking (capacity for 206 cars over four levels) and maternity facilities, including:

- eight birthing rooms

- doctors' and nurses' lounge
- plant room
- 32-bed typical wards and maternity wards on levels seven to 11 (five floors of 32 beds, ie 160 beds in total)

The provision of new buildings – along with the refurbishment of existing hospital buildings – will significantly increase the hospital's capacity. The hospital is currently operating at 98-100% capacity, resulting in demand for additional beds to meet the health needs of the community.

One of the core design principles of the new buildings is the distinction between 'back-of-house' and 'front-of-house' operations. At present, patients and visitors share accessways, so patients are currently transferred through visitor corridors. The redevelopment will separate patients and visitors, to improve privacy and amenity for both parties, improving the overall environment.

Education Centre

A new three to four storey Education Centre will be developed on the site, accommodating the Australian Research Institute and other complementary education facilities

5.2.2 Concourse and arrival podium

The new concourse and associated arrival podium is intended to create a new main entrance to the hospital and function as a central hub, which will provide access to adjoining buildings – the San Clinic and CSB, along with the multi-storey car park – and through these to 90% of the hospital buildings on the site.

The walkway will directly link the existing CSB and San Clinic 1 building connecting the new level two to the main hospital entry and patient admissions area in the existing building on level four.

The open, roofed, walkway will be a verandah-like structure, providing covered access to and from facilities and services on the site.

The development will also introduce a new level two arrival podium providing direct access to the concourse and minimising travel distances for patients, staff and visitors entering the hospital.

5.2.3 Multi-level car park

A new multi-level car park for both hospital visitors and staff will provide net additional on-site parking for 561 cars (after replacing existing 361-car surface car parking with the new structure).

The car park will provide fully covered access to the hospital, improving amenity for staff, patients and visitors alike, who are currently required to walk approximately 100m in the open air to reach the hospital buildings. This will be particularly beneficial for the staff who drive to the hospital, particularly those whose work shifts (eg nurses' night shifts), which do not lend themselves to travel to work by public transport.

While the existing hospital also has two large off-street car parks, hospital-related parking does occur along Fox Valley Way at times, even when there is spare capacity in the off-street areas. Off-street parking is subject to a fee for stays in excess of 15 minutes.

5.3 Improved amenity and access

One of the primary objectives of the provision of the central concourse and arrival podium is the improved amenity and access this will offer within the hospital. The concourse is intended as a linking artery, providing a new main entrance to the hospital and access to adjoining buildings – the CSB and San Clinic and through these to 90% of the hospital facilities on the site.

The building will also be linked directly to the proposed new multi-storey car park, providing direct, coveted access to the hospital, as is discussed in Section 5.2.2 above.

The concourse has been designed to maximise accessibility and improve the clarity of pedestrian flows, which will be of particular benefit to new visitors to the hospital. The provision of access to 90% of the existing hospital buildings on the site through a single, central concourse, which will provide clear directions to all hospital facilities and services, is considered to represent a convenient up-to-date model.¹⁵

Architectural design of new buildings

New buildings on the site, including the new CSB and Shannon Wing, will be of high architectural quality, designed on the basis of principles aimed at providing health and wellbeing benefits to patients as well as improved amenity for staff and visitors. They will also facilitate the separation of 'back-of-house' and 'front-of-house' operations at the hospital, with associated privacy and amenity improvements.

A number of buildings within the hospital grounds were built during and prior to the 1960s and 1970s, architectural styles are mixed and in need of updating. While the main hospital wards were refurbished during the early part of this decade, during which time the San Clinic was constructed, the provision of new and updated facilities of a high architectural quality will bring benefits to the hospital staff, patients and visitors.

New hospital facilities will be state-of-the-art and designed to improve service delivery and patient experiences. The architecture of new and refurbished buildings is based on the principle of providing 'healing and healthy environments,' as was specified in the hospital's brief to Morris Bray Architects. This principle comprises the following components.

Creating an environment that fosters relationships

The architectural brief was focused on the design of a building which encompasses principles of wellness and healing. It sets out principles for creating high quality architectural spaces designed to foster relationships between people, which is considered to lead to benefits in relation to patients' recovery and healing.

These principles will be enacted through the provision of ample space in patient rooms to provide comfortably for family members and visitors who may spend large amounts of time at the hospital, for example. They will also be enacted through the design of general spaces both within and around the hospital. This involves the provision of high quality landscaped areas both inside and outside the hospital buildings, and the provision of a variety of casual meeting places, including cafes and high quality waiting areas, in which patients and visitors may relax.

Biophilic architecture

The principle of biophilic architecture is based on harnessing the properties of the natural world to improve the feeling of wellness and healing. The term 'biophilia' literally means 'love of life or living systems.'

This will involve taking advantage of the natural beauty of the bushland at the rear of the concourse building through the design of the building and placement of windows and other openings. It will also involve designing the building to maximise the flow of light and fresh air within the building, where appropriate. Providing landscaped areas within the building interior is another key aspect of biophilic design.

The use of natural, rather than synthetic materials in the construction, and the use of artworks that depict the natural world, are also proposed within the development of new buildings. This will provide a sense of continuity from the early development of the hospital, which was initially constructed of timber, since this was considered to have more health-giving properties.

¹⁵ Information based on interviews with hospital administration, May 2009

Transcending materiality

Elements of the architecture of new buildings are also related to the principle of 'transcending materiality,' or suggesting a spiritual dimension through the design, which again is considered to provide potential benefits in terms of patient recovery and wellbeing. This involves the incorporation of design elements which will *'take people beyond the physical space around them into another plane, a means of assisting with the healing process.'*

Overall, new buildings will be light and airy in quality, with high levels of attention to amenity and access, to improve the experience of those who access the building, whether for short or long periods of time.

6 Economic benefits assessment

6.1 Introduction

This section of the report provides an assessment of the likely economic and employment benefits which will result from the proposed \$283 million development. This is considered in the context of employment growth targets for the Sydney North Subregion, in which the hospital is located, and within New South Wales more broadly.

It assesses the direct employment benefits which are likely to result from the hospital expansion, particularly for nurses and other medical professionals, along with allied health service providers and in other service sectors, including administration and retail, cleaning and catering trades – all of which will see expanded capacity on-site as a result of the construction of the concourse building.

Improvements to the working environment which will result from the development are also considered in the context the hospital's future potential to attract and retain the highest calibre staff and medical professionals.

In addition, this section considers the proposal's provision of improved opportunities for clinical experience to be gained by those who receive education and training through the hospital, through its on-site nursing and professional training and research institutes. It also considers people who may be receiving education and training in allied health professions through local TAFE colleges and other training institutes in the region and in the wider hospital catchment area, who may also benefit from the development.

State government policies which encourage the 'clustering' of knowledge industries, such as healthcare, are also considered in the context of the proposed development, which will provide expanded opportunities for the co-location of medical and allied health services, along with related education and training facilities.

6.2 Current and future employment

6.2.1 Regional employment policies and targets

The NSW Department of Planning's Draft Subregional Strategy for the North Subregion, which comprises the Ku-ring-gai and Hornsby LGAs, sets out an employment growth target of 13,500 jobs for the three decades to 2031 – an increase of 17%, with the aim of providing 92,500 jobs in the region by this date.¹⁶

One of the Draft Strategy's overarching aims is as follows: *'To maintain the subregion's environment and lifestyle attributes while diversifying and deepening the economic base over the next 25 years. This will include ensuring that adequate supplies of employment lands within the North are maintained to support economic activities.'* Section A2 of the Draft Strategy describes the objective of supporting economic growth on land located throughout the subregion.

The Strategy points out that that 'employment within the North Subregion is concentrated in health, community services and education with employment very much driven by local needs.' The Sydney Adventist Hospital is specifically identified as a key employment hub within this context, along with other hospitals in the subregion, namely Hornsby Hospital, Mt Wilga Private Hospital, Neringah Hospital and Lady Davidson Hospital.

Of particular relevance to the proposed hospital redevelopment is the Strategy's identification of 'industry knowledge clusters,' defined in section A2.2 as *'existing clusters of business activity*

¹⁶ www.metrostrategy.nsw.gov.au/dev/digitalAssets/2178_1193631588941_draft_metro_srp_north_1_introduction.pdf

associated with knowledge infrastructure and the skill base of its resident workforce, which can be leveraged for ongoing success. These include education and medical infrastructure at Hornsby TAFE, Hornsby Hospital and the Sydney Adventist Hospital.' The Strategy supports 'opportunities to focus on innovation around knowledge activities where the subregion has particular strengths,' including activities around key medical and education facilities, and 'to consolidate on the relatively high number of people working in education and health in the subregion.'

6.2.2 Types of employment on site

In order to assess the economic benefits of the proposal for the surrounding area it is important to consider extent of employment generation and the key areas which are likely to benefit from the proposal. The following illustrates the employment profile of the hospital and the place of residence of staff within the associated Department of Transport-designated travel zone.

Hospital employment profile

The SAH has a diverse employee profile which includes a range of occupations, skill levels and locations of residence. A recent snapshot of the hospital's employment profile indicates that it currently employs 2,340 staff, including 891 nursing staff, and a further 707 doctors, allied health professionals and enrolled nurses. Table 4 indicates that nursing staff make up the largest share of SAH workforce with 891 employees (38%), followed by administrative staff 423 (18%) and allied health professionals 370 (16%). Executive staff and directors account for the lowest proportion of the workforce 17 (1%).

Table 4 – SAH employees: occupation x location of residence (number)

Occupation	Within 5km	Within 5-10km	More than 10km	Total number	% of workforce
Nursing staff	399	200	292	891	38%
Administrative	146	17	260	423	18%
Allied health professionals	137	31	202	370	16%
Support services	114	16	154	284	12%
Enrolled nurses	99	4	89	192	8%
Doctors	29	13	103	145	6%
Engineering (including grounds)	8	0	10	18	1%
Executive and Directors	7	2	8	17	1%
Total	939	283	1118	2340	100%

Source: SAH (2009)

Table 5 indicates that the majority (52%) of the SAH employees live within the 10km radius of the site, an area which includes the majority of the North Subregion (refer to Appendix C). Nursing staff and enrolled nurses are the occupational groups with the largest share living within a 10km radius of the site (67% and 54% respectively). Doctors are the least likely to live within a 10km radius of the site.

Table 5 – SAH employees: occupation x location of residence (% of occupation)

Occupation	Resides within 5km	Resides within 5-10km	Total residing within 0-10km	More than 10km
Nursing staff	45%	22%	67%	33%
Enrolled nurses	52%	2%	54%	46%
Executive and Directors	41%	12%	53%	47%
Support services	40%	6%	46%	54%
Allied health professionals	37%	8%	45%	55%
Engineering (including grounds)	44%	0%	44%	56%
Administrative	35%	4%	39%	61%
Doctors	20%	9%	29%	71%
Total	40%	12%	52%	48%

Source: SAH (2009)

Local employment profile

An analysis has also been undertaken of ABS and NSW Department of Transport Journey to Work (JTW) data for the travel zone in which the SAH is located – Travel Zone (TZ): 2558 (refer to Appendix C). This TZ is not large and does not include other large employers, thus the employment located in this TZ assumed to be primarily attributed to the SAH. There are a number of important differences¹⁷ between the data which provide alternative pictures of the workforce in the locality and the location of residence of these workers.

Table 6 over page shows that the significant proportion of the employment at the hospital and at the facilities and services located in the surrounding estate current comes from the Central Northern Subregion (69.7%) – a geography which corresponds in part to the DoP's North Subregion. At a finer grain Table 7 shows that 60.2% (1,230 people) of the workforce within the estate comes from the North Subregion. This is likely to make the SAH one of the most significant private employers in the region.

¹⁷ JTW data provides origin (location of residence) of all workers in the locality to a high degree of correspondence with ABS statistical geographies, including LGAs. This includes employees of the hospital and those employed in ancillary services and facilities which are related to and support the hospital, including child care, education and training and other uses. It is important to note that JTW data is self-reported (via the ABS Census) and is therefore subject to a number of potential validity errors, e.g. non-reporting, respondents identifying another location as their main place of work even if they work at TZ 2558 (ie SAH and associated facilities) on a less regular basis (eg doctors, specialists, part-time nurses). However, conversely it does include all workers in the TZ and hence captures contract workers (not directly on the SAH payroll) and those employed at associated facilities and services as well as neighbourhood retail located on Fox Valley Road (which is likely to be quite reliant on trade from workers at the SAH).

According to JTW data, approximately 2,044-2,055 persons worked in the locality on census night (August 2006), whereas current SAH data indicates that there are 2,350 employed by the hospital alone, and not including other uses. There has been an increase in the number of persons employed by the hospital in the last three years. The place of employment for these newer workers appears to be somewhat different, ie including employees from a broader catchment (from 10km+).

Table 6 – Statistical Subdivision (SSD) of residence of workers in TZ 2558

SSD	Number	%of workforce	Cumulative %
Central Northern Sydney	1,425	69.7%	69.7%
Gosford-Wyong	173	8.5%	78.2%
Lower Northern Sydney	115	5.6%	83.8%
Northern Beaches	74	3.6%	87.4%
Blacktown	57	2.8%	90.2%
Newcastle	55	2.7%	92.9%
Central Western Sydney	50	2.4%	95.4%

Source: NSW Department of Transport, 2008

Table 7 – Statistical Local Area (SLA) of residence of workers in TZ 2558

SLA	Number	%	Cumulative %
Ku-ring-gai	532	26.0%	26.0%
Hornsby - South	399	19.5%	45.5%
Hornsby - North	299	14.6%	60.2%
Gosford - West	89	4.4%	64.5%
Baulkham Hills - North	71	3.5%	68.0%
Baulkham Hills - Central	65	3.2%	71.2%
Baulkham Hills - South	59	2.9%	74.1%
Ryde	51	2.5%	76.6%
Lake Macquarie - West	46	2.3%	78.8%
Blacktown - North	43	2.1%	80.9%
Warringah	43	2.1%	83.0%
Gosford - East	38	1.9%	84.9%
Pittwater	28	1.4%	86.3%
Wyong - South and West	27	1.3%	87.6%
Willoughby	23	1.1%	88.7%
Parramatta - North-East	22	1.1%	89.8%

Source: NSW Department of Transport, 2008

6.3 Local economic development

6.3.1 Industry 'clustering'

The hospital site is recognised as an 'industry cluster' under the Draft North Subregional Strategy, the strengthening of which is clearly set out as a key economic development objective of the Strategy, as is described in Section 6.2.1 above.

As an identified health cluster, the redevelopment of the hospital to provide expanded medical and allied health services, along with limited retail and other facilities and services, is aligned with objectives for the continuing economic development of the Sydney North Subregion.

ABS Census data for 2006, discussed in Section 3.2 of this report, indicates that a total of 4% of Hornsby's labour force is employed in the hospital sector – 3,158 people. This is the second most common industry of employment after the school education sector (5.6%). Within Ku-ring-gai, 3.4% of the population is employed in the hospital sector – 1,653 people.

While Hornsby Hospital can be expected to account for a proportion of this employment, the Sydney Adventist Hospital is a recognised significant employer within the subregion. Since the hospital is currently at full capacity, as is indicated by the hospital administration, there is clearly capacity for expanded services – and consequently additional employment opportunities – on the hospital site. The proposed expansion will enable growing demand for hospital services to be catered for, while providing economic and employment benefits to the community within the subregion and within the wider hospital employment catchment, which is indicated in Tables 6 and 7 above.

6.3.2 Attracting and retaining staff

The proposed development of the concourse building, and the associated improvements to the amenity of hospital facilities and services, is considered to be a key issue in relation to attracting and retaining high quality staff – particularly medical and allied health professionals. This is in light of the number of hospitals – both public and private – located within the subregion.

The concourse redevelopment will lead to improvements to specific facilities, particularly maternity facilities, along with new larger operating theatres which will be equipped with the latest technology, along with acute care and general wards. Suites are provided for visiting medical officers and other medical professionals. A number of external professionals also regularly visit the San Clinic, which will benefit from improved access through the development of the concourse building.

Demographic data, particularly relating to the ageing population in the subregion, indicates growing demand for the services provided at the hospital, and consequently for medical and allied health professionals who can provide them. Through the provision of higher quality facilities and services, including improved technology and a more pleasant environment, it is likely that patients of the SAH will benefit both directly and indirectly, through the quality of staff who will be attracted to working there.

Hospital administration has advised of the detrimental impact on morale of the capacity constraints currently existing at the hospital, which is considered to be at full capacity. Improved and expanded facilities will help to address these issues for existing and future staff, leading to improved working conditions in a social, as well as physical sense.

6.4 Provision of local retail facilities

A limited number of retail facilities will be provided as part of the proposed development. Retailers likely to locate within the hospital site include general grocery stores, specialty food stores, bookshops and florists.

The provision of these facilities within the site is considered to offer the potential for improved amenity for hospital staff, along with visitors and patients, and increased comfort and convenience by reducing the need for people to travel outside the hospital grounds. This has the potential to reduce traffic flows along Fox Valley Road and Comenarra Parkway, which hospital staff and visitors would utilise to access existing shops within the locality.

New retail facilities will also provide employment opportunities for the local community. Cafés, restaurants and food services are one of the most common industries for employment within Hornsby LGA, accounting for 3.2% of total employment within the area.

6.5 Local education and training

The hospital provides a range of education and training facilities, both for nurses and other medical and allied health professionals. Training facilities include the San College of Education and the Faculty of Nursing and Health, known as Avondale College – one of Australia's last remaining on-site nursing training institutes.

The Faculty of Nursing and Health provides nursing training through an Undergraduate Bachelor of Nursing Studies, which leads to formal registration as a nurse. The Faculty also offers Graduate studies, which are available to Registered Nurses – a Graduate Certificate in Nursing; Graduate

Diploma of Nursing; Master of Nursing, and a Master of Nursing (Research). Although there has been a shift to university training for nurses in recent years, the intake through the nursing college is continuing to increase.¹⁸ Between 2000 and 2009 there has been an 10% increase in enrolments at the Faculty and 55 nurses graduated in 2008.

The San College was established in 2003 as a Registered Training Organisation. It is a lifelong learning and professional development institution which supports the development of the 2,260 staff across 70 departments within the hospital, as well as providing tailored accredited courses for the wider community, which are provided both in-house and externally.

The Australasian Research Institute (ARI) has operated from offices on the faculty campus since 2004. The ARI is a multidisciplinary research centre established on the basis of the provision of 'Adventist Christian service to the community.' Through its member organisations – Sydney Adventist Hospital Ltd, Avondale College and the Australian Health and Nutrition Association Ltd – it conducts and supports research both nationally and internationally in areas such as public health; nutrition; clinical and medical; biomedical; psychosocial; medical-anthropological and allied health.

Along with providing education and training opportunities for the local community on-site, the hospital may also be considered of significance to education institutions located within the North Subregion and in the hospital's wider employment catchment area. A proportion of graduates from these institutions may be expected to seek employment at the hospital.

The University of Technology, Ku-ring-gai Campus at Lindfield provides health and medical-related Undergraduate courses including a Bachelor of Nursing. Postgraduate courses include Master of Nursing, Graduate Diploma in Nursing, Graduate Certificate in Critical Care Nursing, Graduate Certificate in Acute Care Nursing, Graduate Certificate in Mental Health Care Nursing and Graduate Certificate in Diabetes Education and Management. Macquarie University provides courses in chiropractics, psychology, social health and community health.

The Northern Beaches TAFE campus runs an Aged Care Work Certificate III and Certificate IV, which are for people who want to work in the aged care sector, and involves interviewing and communicating with older people and providing care and support to older people in aged care facilities. Aged Care – Community Services Certificate III is conducted at North Sydney campus, Wyong and Gosford.

6.6 Conclusions

The proposed CSB expansion, new Shannon wing and range of other new and refurbished facilities and services, both medical and non-medical, is considered to offer significant employment opportunities.

The expansion of the hospital is strongly aligned with state government policy for the clustering of knowledge industries to provide local and regional employment benefits. The SAH is specifically identified in the Sydney North Subregional Strategy as a cluster suitable for further growth.

Medical and nursing professionals, as well as allied health professional and trades which support the provision of hospital services, including administration and cleaning, catering and retail, may benefit in economic and employment terms from the expansion of the hospital.

Along with the expansion of medical facilities, the proposed development will provide enhanced localised retail facilities on the site, offering opportunities for local employment.

The enhanced education and training facilities which will be offered on the site, as well as potentially within education institutions in the surrounding community, will also provide economic benefits to the local population into the future.

¹⁸ Interviews with hospital administration, May 2009

7 Health and social benefits assessment

7.1 Introduction

This section of the report examines the anticipated future benefits of the proposal from the perspective of health and social benefits and in relation to government policies for health care provision. The areas identified as potentially providing the greatest benefit to the region include:

- Provision of health services for the needs and demands of an ageing population.
- Provision of health services for families.
- Meeting demand for private health facilities

The 2,260 staff, including 2,000 nursing staff who currently work at the hospital and the 500 medical practitioners who operate from the SAH provide care to nearly 50,000 inpatients and 150,000 outpatients annually. The hospital is currently considered to be at capacity and the ageing population within the subregion and wider hospital catchment is projected to continue to increase demand for services provided by the hospital within the community.

7.2 Provision of health care services – policy context

7.2.1 NSW Government – *Future Directions – Towards 2025*

The NSW Department of Health's Future Directions Strategy (2007) sets out policy priorities for the provision of health care to the population to 2025.¹⁹ Underpinned by the fundamental principle of equity in health, the Strategy seeks to guide the changes that must be made in NSW over the next 20 years to ensure healthier communities and continuing access to high quality, affordable health services for current and future generations.

The goals of this strategy are as follows.

a) *To keep people healthy*

- *Helping people stay healthy and achieve a better quality of life*
- *Preventing disease and injury, intervening early to reduce their impact, and improving the environments people live in*

b) *To provide the health care that people need*

- *Providing the right services at the right time and place*
- *Ensuring that people have a fair share of available services according to their needs and circumstances*
- *Supporting those who are disadvantaged or who have special health needs*

c) *To deliver high quality services*

- *Offering high quality, safe treatment and care at all levels of the health system and in all settings*
- *Enhancing quality through ongoing innovation, teaching and research, and support for continuous learning*

d) *To manage health services well*

¹⁹ NSW Department of Health, *Future Directions for Health in NSW – Towards 2025*, 2007

- *Using finite resources wisely and delivering services efficiently and effectively, avoiding waste and duplication*
- *Using transparent decision making processes which involve health professionals and consumers*
- *Creating a sustainable system for the long term.*

The Strategy identifies a number of key pressures on the health system which are relevant to the options review. These include:

An ageing population

'The increasing proportion of older people in our society will significantly change the demand profile for health and other human services.'

Advances in technology driving changes in clinical practice and service delivery

'Challenging ethical dilemmas will undoubtedly arise in relation to ongoing efforts to create, save, support and prolong life, and to ensure that the benefits of technology are shared equitably. In the longer term, the capacity offered by sophisticated information and communications technology links for remote diagnosis, treatment and secure information sharing will see a growing proportion of provider-consumer interactions taking place as web-based or e-facilitated 'virtual' consultations.'

Rising levels of chronic illness

'Lifestyle changes, together with population ageing and significant improvements in survival rates from heart attacks, strokes and cancers, are contributing to a rising demand for services to treat the growing number of people with chronic physical and mental health conditions. These conditions are accounting for a growing proportion of the total burden of disease, and the services required are different from those needed by people with acute or episodic, self-limiting illness.'

Private health sector

'Improved cooperation and coordination between the public and private health sectors will be pivotal to achieving a more efficient and sustainable health system with the necessary capacity and flexibility to respond to the changing health needs of the population.'

The proposed hospital redevelopment is strongly aligned with a number of these objectives, including catering for the demand levels associated with the ageing population in the North Subregion and the wider hospital catchment. In addition, the provision of new technology within the operating theatres, acute care and general medical facilities which will be provided as part of the redevelopment is aligned with the objective of providing better quality healthcare for the population.

The extensive education and training facilities provided through Avondale College and other training institutes – the former of which will be relocated into a new expanded premises as part of the redevelopment proposal – supports the objective of *'enhancing quality through ongoing innovation, teaching and research, and support for continuous learning.'*

In addition, the proposal is aligned with the future directions for health care in NSW set out in the Strategy, including the following:

Prevention

Private health sector

- *Enter into partnerships with other stakeholder groups on key preventive strategies with an emphasis on collaboration, cooperation and integration of effort.*
- *Develop incentives for consumers adopting and adhering to healthy living measures.*

Better experiences of people using the health system

Local communities and non-government organisations

- *Identify local needs and work with relevant providers to design and plan appropriate services.*
- *Build links between health providers and relevant community organisations.*
- *Develop support networks for carers and volunteers in the community.*

Strengthen primary health and continuing care in the community

Private health sector

- *In developing new or expanded initiatives relating to health care in the community, private health provider agencies and health insurance funds should seek to complement the services provided in the public sector and enhance the community's access to required care.*

Build regional and other partnerships for health

- *Assist in promoting, maintaining and supporting the health and wellbeing of individuals and communities through the provision of services as part of local community networks.*

Through its education and training facilities, the hospital makes a significant contribution to the ongoing health and wellbeing-related education of the local community. The Australasian Research Institute (ARI), for example, was established on the basis of the provision of 'Adventist Christian service to the community,' and it conducts and supports research both nationally and internationally in areas such as public health; nutrition; psychosocial; medical-anthropological and allied health.

The expansion of the hospital, and the provision of the central concourse building, which will provide covered access for hospital users to adjoining buildings and greatly improved amenity for staff and patients alike is also important for the achievement of the strategy's goal of improving the experiences of people using the health system.

7.3 Local Community Plans – Ku-ring-gai and Hornsby

Policies related to the provision of health care services within the North Subregion are also contained with the Community or Social Plans prepared by Ku-ring-gai and Hornsby Councils – Ku-ring-gai Council Community Plan 2005-09²⁰ and Hornsby Shire Council Strategic Plan for Older People, 2005-10,²¹ which is a discrete chapter of Hornsby Shire Council's Social Plan.

Both of these plans specifically address the facilities and services needs of an ageing population, based on Census population projections. They highlight the importance of catering for this demographic in providing for the continuing health and wellbeing of the population overall.

The objective of Hornsby's *Strategic Plan for Older People* is to create an environment that:

- *Promotes and encourages a positive public image of older people and their contribution to the community.*
- *Ensures equitable and appropriate distribution of resources to service the needs of older people.*
- *Builds the capacities and opportunities of older people in the Shire.*
- *Ensures that older people are given the opportunity to participate in the decision-making processes of Council.*
- *Promotes healthy lifestyle programs and services aimed at maintaining the independence of older people in the Shire.'*
- *Provides a range of opportunities for older people to participate in aged related leisure, learning and social activities.*

Community consultation undertaken among older people in relation to the preparation of the Plan indicated a perception that there was an under-provision of services and facilities for this group.

It is considered that the range of facilities and services which will be provided through the hospital redevelopment will improve the range of services available to older people within the community. These

²⁰ Ku-ring-gai Shire Council, *Community Plan 2005-09*, May 2006

²¹ Hornsby Shire Council, *Strategic Plan for Older People, 2005-10*

include general medical facilities along with intensive care and acute care services. The education and training facilities offered at the hospital to internal staff and external organisations will also improve the knowledge and capabilities of people providing medical and allied health care services within the subregion, again leading to improved provision of services to older people along with the wider population.

The improved access and amenity which will result from the proposed development, including improved access throughout the hospital through the main concourse building, and improved access from the car park to the main hospital building, will be of particular benefit to older people in the community who access the hospital as patients, and also as visitors of friends and family members.

7.4 Local and regional demand for health services

The proposal will provide a range of services to meet the needs and demands of the North Subregion as well as a broader population in and around northern Sydney. Key benefits the proposal is likely to provide are:

- Meeting overall demand from patients.
- Meeting the needs of an ageing population.
- Satisfying demand for private health services.
- Improving the experience of those using the health system.

7.4.1 Analysis of existing patient data

An analysis of the location of residence of recent San patients indicates that the majority reside in the North Subregion. Based on hospital separation²² data provided by the SAH, there were 44,312 separations in 2008, of these there were 28,159 (64%) from suburbs in the North Subregion and 16,153 (36%) from suburbs outside the North Subregion.

These figures indicate that almost two thirds of the patients were residents in the Subregion and directly benefited from the SAH's services. The proposal is likely to increase the capacity to cater for the needs of the Subregion.

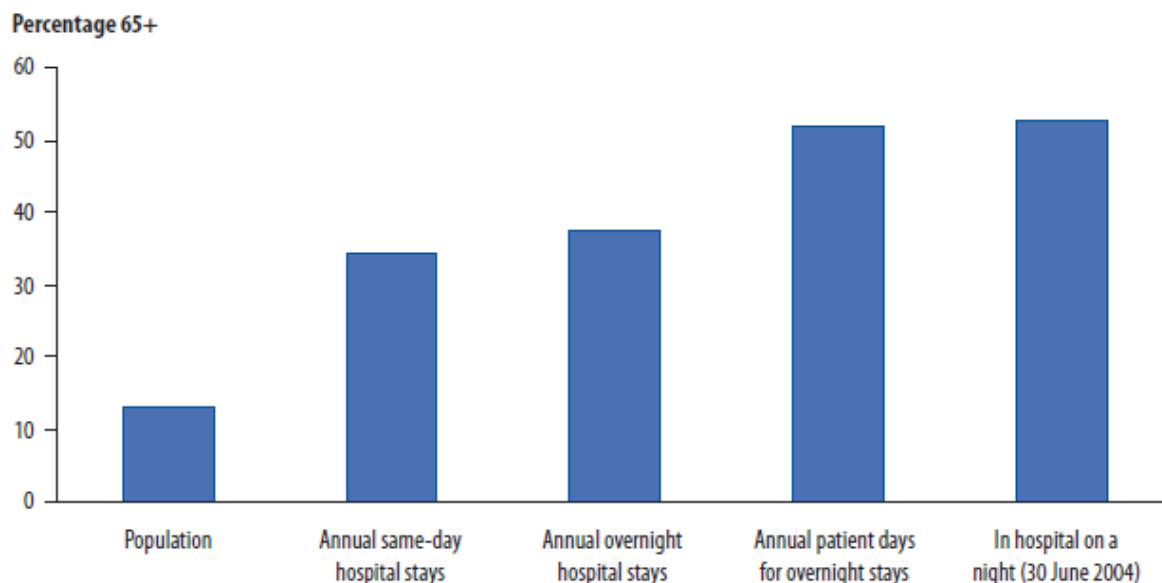
7.4.2 Meeting the needs of an ageing population

Alongside general trends toward an ageing population in NSW, the North Subregion (Ku-ring-gai and Hornsby LGAs) is projected to experience significantly higher rates of population growth in the older person age groups (65+ years). This is illustrated in Tables 1 and 2 in Section 3.1.

Age is a critical factor in a range hospitalisation scenarios. Figure 1 shows that persons over the age of 65+ account for a significant proportion of a typical hospital's admissions relative to this age group's proportion of the population total population, eg for overnight hospital stays there are over four times the percentage of persons in the 65+ age group than are in the general population. This suggests a particular need overnight care in populations experiencing large increases in older persons.

²² Separation from a healthcare facility occurs anytime a patient (or resident) leaves because of death, discharge, sign-out against medical advice or transfer. This corresponds to patients treated/treatment episodes.

Figure 3 – Population and hospital use: people aged 65 and over as per cent of total, 2004–05



Source: Australian Institute of Health and Welfare (AIHW), 2007

7.4.3 Meeting demand for private health services

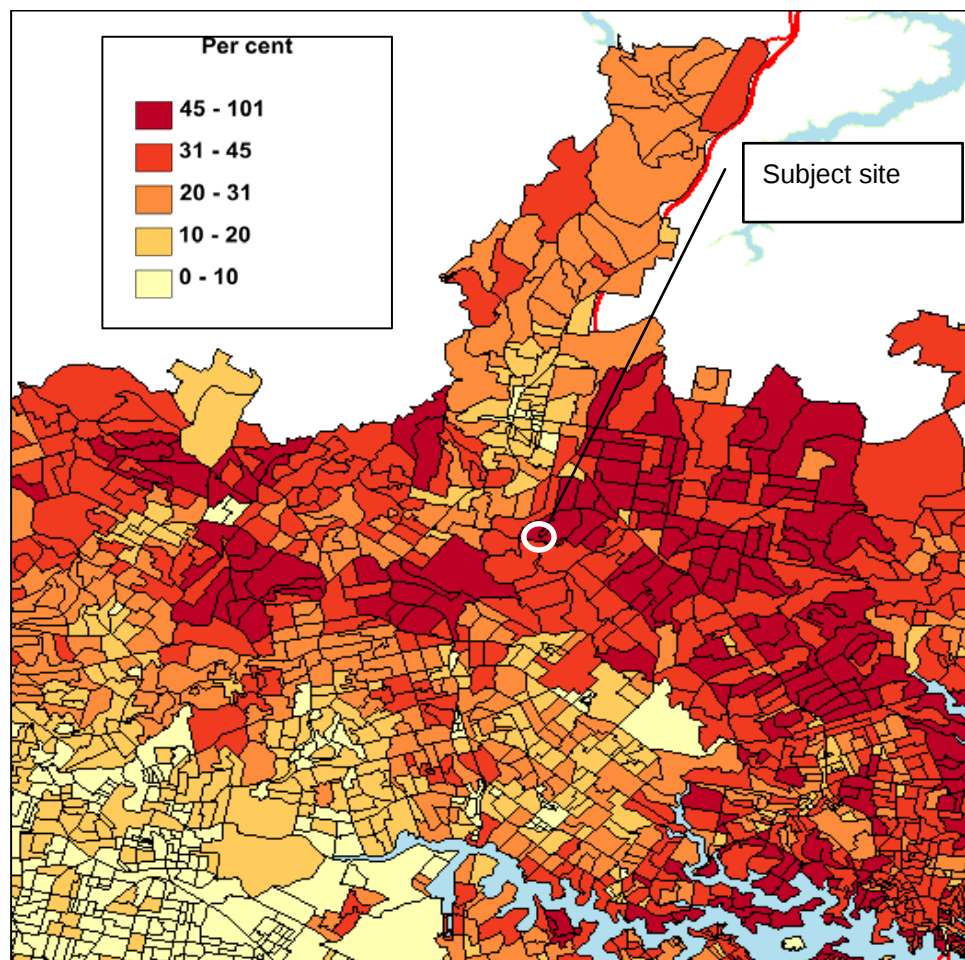
The SAH is a private hospital and as such financial capacity and propensity to pay for specialised levels of care and high levels of patient amenity are critical to determining the benefits of the proposal.

Income profile of surrounding areas

Typically the proposal will meet the needs of higher income households who are able to afford the higher levels of amenity and care provided at the SAH. Demographic data provided in Section 3.3 shows that the median household income in 2006 in Ku-ring-gai was \$2,147 per week – around 86% higher than the median weekly household income in the SSD, reflecting the affluence of the area.

Figure 4 over page shows that one of the highest concentrations of higher income households in Sydney are found in close proximity to the proposal. Providing easily accessible health services for the ageing population in these areas is likely to have significant benefits for users of the services and family members at times of potential stress.

Figure 4 – Percentage high income households (households with gross weekly income of \$2,500 dollars or more as a percentage of all households)



Satisfying demand in this area will enable a reduction in demand on facilities located in other surrounding areas, where the population may have a lower income profile. This will also have some transport benefits, since it will reduce the necessity for the local community to travel outside the subregion for such services.

Private health insurance

In addition to the base income level (and substantially linked to it), the rate of private health insurance amongst the potential user population will be predictive of the demand for its services. Table 8 indicates that persons residing in the Northern Sydney and Central Coast Area Health Service²³ (NSCCAHS) have the highest rate of private health insurance in NSW.

This indicates that there is both the capacity and propensity to pay for private health insurance within the hospital catchment area.

²³ 72.4% of the population of the NSCCAHS resides in Northern Sydney

Table 8 – Private health insurance by NSW health area (persons aged 16 years and over) 2007

NSW Health Area Health Service	% of population age 16+yrs
Northern Sydney & Central Coast	69.6%
South Eastern Sydney & Illawarra	60.4%
Hunter & New England	54.5%
Sydney West	52.4%
Greater Southern	50.7%
Sydney South West	49.3%
Greater Western	47.0%
North Coast	39.1%
NSW	54.6%

Source: NSW Health 2008

Again, this indicates existing and growing demand for the private health and medical facilities which are located at the hospital, which will be expanded through the proposed redevelopment.

7.5 Improving the experience of those using the health system

One of the key state government priorities for health care service provision to 2025 is the improved provision of facilities and services to the population, leading to better experiences for those using the health system.

The development will provide expanded and improved facilities, including general and specialist wards and operating theatres, which will enable the hospital to comfortably meet demand, thereby reducing stress levels on staff and patients resulting from its current at-capacity operation. This will have the dual benefit of reducing waiting times for procedures and services; reducing the need for beds to be 'turned over' quickly and the pressurised situation which results, and also reducing the need for people with in the community to travel further as a result of the hospital's current inability to meet demand.

Secondly, the provision of a new central concourse will improve amenity and access for those attending the hospital, as patients or visitors. This will result from the aspects of the design, including:

- Provision of a single main entrance, providing clear and easy access to 90% of the other hospital buildings on the site.
- Provision of covered access between the hospital and the proposed new multi-storey car park.
- Separation of back-of-house and front-of-house operations, eg separating patient and visitor access routes, to improve privacy and amenity.

In addition, all new facilities will be designed on the basis of architectural principles aimed at promoting health and wellbeing, which will be enabled through the provision of elements such as light, airy spaces and high quality internal and external landscaping. These principles are discussed in Section 5.3.

7.6 Conclusions

The proposed development of a range of new state-of-the-art facilities, which will provide for an improved and expanded range of services to the community, will meet a demonstrated and growing demand.

Information on the socio-economic characteristics of the population in the locality of the hospital indicates significant and growing demand for private health care services. Meeting this demand will provide direct benefits to this community, as well as taking pressure off the wider public health system. This is strongly aligned with specific state government health policy objectives of *'providing the right*

services at the right time and place' and 'ensuring that people have a fair share of available services according to their needs and circumstances.'

The development is strongly aligned with a broad range of state and local government policies related to the provision of health and medical services, and the provision of services to an ageing population. One of the objectives of Hornsby's *Strategic Plan for Older People*, for example, is to *'create an environment that ensures equitable and appropriate distribution of resources to service the needs of older people.'* Consultation undertaken in the preparation of the Plan indicated a strong demand from older people within the community for improved service levels.

In relation the New South Wales state government priorities for health care, the utilisation of improved technology to improve service provision is a key objective which will be realised through the development. New buildings will feature new communications and service delivery technologies, which are being harnessed by the hospital administration to provide wider service delivery improvements through increasing efficiencies.

Overall, the proposed development will lead to improved service delivery and improved levels of amenity and comfort for those utilising the hospital. This is aligned with the state government's priority for facilitating *'better experiences for people using the health system,'* specifically through the provision of appropriate and high quality services and facilities.

8 Impact assessment and mitigation measures

8.1 Consultation with hospital administration

Consultation was undertaken with key members of the hospital administration and service providers during May 2009. These were:

- Chief Operations Officer, Phil Currie
- Director of Theatres, Alex Demidov
- then Chief Nursing Officer, Annette Baldwin
- Corporate Services Executive Officer, Margaret Duffy

The consultations raised the following issues, which are discussed below.

8.1.1 Current capacity and demand for expanded facilities and services

Demand for hospital facilities and services is projected to continue to increase, in part due to the ageing population in the subregion as well as the increasing level of development in the area.

'The local community is growing with unit blocks and higher density development which will bring a larger population demanding high quality health care.'

The hospital is currently operating at full capacity, which is resulting in stresses on staff and services and also limiting the hospital's ability to meet patient demand for facilities and services. The hospital is currently licensed to provide 354 beds, and it is regularly operating at 98-100% capacity.

'This is a staggeringly high occupancy rate. It is leading to significant constraints in terms of getting patients in the door in relation to medical and surgical. This is especially the case during peak times – in the lead-up to Christmas and during winter. The winter period used to start in July – now it starts as of three weeks ago. So the winter period has extended and we can run in excess of 100% capacity.'

Particular difficulties are currently arising due to the requirement for the hospital to provide for a certain number of patients per hour through the NSW Ambulance Service. As a result of the hospital's current capacity issues, the administration is *'constantly ringing the Department of Health to notify them we are over occupancy.'* According to the administration, the number of people coming through emergency care may vary from seven to 30 people a day.

The current situation is resulting in difficult decisions needing to be regularly made by hospital administration in relation to service provision. *'We do not have enough surgical beds for the patients we currently have, particularly during busy times. We are always tossing up between the need for surgical beds and for emergency medical beds. It is a real balancing act providing adequately for both involving negotiations on a daily basis. The hospital has a commitment to the NSW Ambulance Service to provide for a particular number of patients per hour, and we are held to account for this. So it is difficult to strike a balance.'*

The situation is placing particular stress on hospital staff who are under pressure to turn beds around more quickly to meet demand. The situation has knock-on impacts: *'It affects the through-put of patients, because they have to stay longer waiting for a bed in a ward. It is the same situation for surgery patients who may have to wait to transfer to recovery rooms because we are waiting for someone else to leave so we can turn the room around. This is especially the case if we are waiting on the Ambulance Service to transfer a patient to a nursing home or rehabilitation facility – it has a real flow-on impact onto bed availability.'*

In relation to surgical and acute care services offered at the hospital, this is another area of particular concern, which is impacting on the provision of services within the community.

'The theatres are booked out with session allocations, and the utilisation of the booked time is also running at a high level – at around 85-90% – which is high for an operating theatre. It is very unusual for a private hospital to cap or cancel surgery of an elective nature, and this is the situation we are currently looking at. Private patients pay a premium for the service, so this situation is unacceptable. It is very disruptive to the surgical service: this is the biggest concern at present.'

Plans for stage one of the redevelopment provide for six additional operating theatres, which hospital administration estimates will last just two years, before it is again at capacity.

The situation, described by one consultee as constant *'negotiating and bargaining over beds, and worry and frustration'*, is impacting both on service provision and also potentially on the recruitment and retention of skilled medical and health care professionals at the hospital.

'I know the surgeons are frustrated with the situation. Part of their accreditation is to be on call for the emergency department, but many also have large private practices, which they are finding it hard to keep running as they would like because of the capacity issues.'

As another member of the administration commented: *'The demand is out there for our services and we could certainly employ more staff. If the redevelopment does not take place, some areas will not get the additional staff we need. People are currently working in restricted and confined spaces and this exists across the board.'*

8.1.2 Benefits of the expansion for hospital staff, patients and visitors

In light of the current situation, whereby the hospital is straining at capacity, the development of the new concourse building will provide benefits for patients and visitors, both directly through the provision of improved facilities, and indirectly through the attraction and retention of high quality staff.

'As the site grows it will continue to attract more expertise to the hospital. The hospital aims to be a national centre of excellence and we are always looking at innovative solutions to improve service provision. This provides patients and the community with continually improving facilities.'

Members of the hospital administration particularly commented on the provision of new facilities and services in a building of high architectural quality. This is considered timely since many of the existing hospital buildings were developed in the 1960s and 70s and are now considered outdated and constraining. The main hospital wards were refurbished a few years ago, and this was considered to have significant benefits.

'Back in 2000, we embarked on the refurbishment of the wards, which were looking tired. During 2001-2005 we redeveloped and refurbished most of the wards. We provided more private accommodation and built the San Clinic, which enabled 100 doctors to come onto the site to see patients. This redevelopment really revitalised the hospital and provided a significant boost to the morale of doctors, patients and staff.'

The development of the concourse building will provide significant benefits in terms of improving the working environment for staff and the environment in which patients may receive treatment, potentially leading to health and wellbeing benefits. *'The environment created is light and welcoming and includes internal and external recreational areas.'*

New operating theatres will be larger than the existing theatres in the hospital, and will contain new and improved technology. *'We want to look at providing more endovascular imaging specifically, which will enable us to undertake higher risk procedures in the theatres and improve patient safety, as well as improving the images we can provide. Also, all of the new theatres will have equipment booms, which will avoid the need for staff to manually push around heavy equipment – so this will have health and safety benefits.'*

Maternity facilities, which will be provided on the upper floors of the new buildings, are considered to be a particular benefit of the new concourse building.

'We are planning to put the maternity services into the new concourse building: it will be lovely for the maternity patients – as these are well patients, and they will be able to enjoy a new and modern facility.'

Also, all the maternity rooms in the new building will be the same size and equipped the same. Currently, the maternity patients are in variable accommodation. Some of the rooms were built in the 1930s and last renovated 70 to 80 years ago, whereas others were added in the 1990s, so there is quite a marked comparison between the two kinds of rooms.

'It will be really great to be able to offer something new and spacious. We are also trying to focus on providing a family friendly environment. We are very conscious that family is very important in the patient's life and providing facilities for them is an important part of the new design. Some families spend large amounts of time here, especially if the patient is on an extended stay – it can be quite considerable.'

8.1.3 Service improvements associated with the proposed development

The hospital administration is currently using the opportunity of the proposed development of the concourse building to evaluate its existing processes and workflow issues, in order to improve the efficiency of service provision. A total of 18 departments within the hospital are currently involved in this process, *'looking at our processes and systems, and how we might interface with the concourse building in relation to these systems to improve productivity.'*

'This has raised issues, for example in relation to the provision of food services. We are looking at the existing cafeteria (we have three food outlets on the site), which provides services to inpatients and staff. We are looking at using technology to allow us to remain in a similar space but provide 50% more meals.

'It is the same for sterilisation processes – we have 12 general theatres and we are looking to utilise technology to maintain the same space but provide a higher level of service. It's about improving efficiencies.'

The hospital administration is also considering the application of new information systems and technology, which may be provided in association with the proposed development, which will provide improved processes for hospital staff and improved outcomes for patients.

8.1.4 Provision of education and training opportunities

Along with service level improvements, the proposed development will facilitate the provision of improved education and training facilities on the site, through the expanded provision of opportunities for trainees to gain clinical experience, as well as through the proposed relocation of the Faculty of Nursing and Health into new and expanded facilities within the hospital precinct.

'We have been training nurses on the campus continuously since 1903. Although there has been a shift to university training for nurses, the intake through our nursing college is still increasing in number. As a result of this, we need to be able to provide more clinical opportunities for trainees to gain clinical experience, and the new facilities will help with this. We will be training enrolled nurses here (ie those gaining a Certificate IV – Diploma level) as well as general nurses (ie those gaining a Bachelor level equivalent).'

8.1.5 Provision of health and social services within the community

Representatives from the four sectors of the hospital administration discussed the urgent need for expanded and improved facilities and services that will be provided within the concourse building, in order to meet current demand and to enable the hospital to continue to provide social and economic benefits within the community.

'It is going to be a great service to the community. Our vision for the business is to remain the community's favourite hospital, and the redevelopment will enable us to improve the community's access to our facilities and services. If we have more beds we will be able to accommodate more patients, and we know people want to come here because it is a good environment and they know they will receive good care.'

'We regularly have people telling us that they moved or retired to this area in order to be closer to the hospital, because they know it provides a great service. We want to continue to provide the customers in our catchment with this high level of service.'

8.2 Consideration of community attitudes

Community consultation recently undertaken in relation to the proposed redevelopment of the Wahroonga Estate has indicated community support for the hospital and recognition of its local social and economic benefits, particularly in relation to local employment and health outcomes.

Following the exhibition of the concept plan for the redevelopment, Ku-ring-gai Council identified the hospital's contribution as a significant employer in the area as a key issue for consideration. This was alongside other concerns relating to the protection of the character of the surrounding residential area and the density and scale of any proposed development.

These issues were discussed in detail in a submission prepared by council in relation to the proposed development proposal, which will be determined by the State government under the terms of Part 3A of the Environmental Planning and Assessment Act and the State Environmental Planning Policy – Major Projects SEPP.

Support for the economic benefits the redevelopment of the hospital and the wider estate is expected to provide has been expressed in local media, including the front page feature contained in the *Hornsby and Upper North Shore Advocate* on May 7. This was broadly supportive of the estate redevelopment scheme, and ran with the headline: *'Medical marvel: Hospital defies sick cash climate by planning \$780 million facelift.'* The paper expressed support for the expansion of the hospital facilities and services proposed as part of the concept plan.²⁴

The hospital expansion will contribute to the achievement of the principles contained in the draft Local Environmental Plan which has been prepared for Ku-ring-gai, which identifies *'fostering environmental, economic and social wellbeing'* as a primary objective for the area's future growth and development. It will enable the hospital to continue to provide high quality healthcare services along with associated education and employment opportunities within the community in the Sydney North subregion and the wider hospital catchment.

8.3 Social impact of the design

The design of the proposed 15-storey concourse building facilitates the provision of enhanced access to existing hospital facilities and the provision of a significantly expanded level of health and medical services.

The provision of a new central main entrance to the hospital, from which 90% of the other buildings on the site may be accessed, is considered to have significant social benefits. It will enable the hospital to be accessed under cover from the new multi-storey car park, and will enable most other buildings to be accessed through multi-level concourses designed specifically to improve access and amenity for patients, staff and visitors. This issue is particularly important when considered in the context of the large number of older people within the community who are expected to access the SAH's facilities and services in the future.

The design of the building will be based on architectural principles aimed at providing health and wellbeing benefits. This will be achieved through the provision of high quality spaces and features such as internal landscaping and internal areas designed to promote social interaction.

The development of the concourse building at the scale and height currently proposed will enable the hospital to maximise the expansion of facilities and services provided in phase one of the proposed staged expansion of the hospital facilities. It is considered necessary to maximise the expansion of

²⁴ Findlay, T, 'Medical marvel,' *Hornsby and Upper North Shore Advocate*, May 2007, pp.1-2

facilities at the hospital through phase one, due to the current and projected levels of demand from the community for the facilities and services provided. The hospital is currently operating at full capacity, which is resulting in detrimental impacts on health care provision and restricting the health care and employment opportunities the hospital is looking to provide.

Retention of the existing buildings and construction of the new building in its current position and format will also minimise disruption to the hospital operations during construction, whereas demolition of existing building(s) and construction of a new building could have a major impact on hospital services during the construction phase.

8.4 Assessment of impact and mitigation measures

The following provides a summary analysis of the likely positive and negative social and attitudinal impacts of the proposed development and proposed mitigation measures. These relates to the social, economic and physical aspects of the hospital expansion.

Social/attitudinal

The key social aspects of the proposed expansion are:

- Provision of improved health care facilities and services for the community, particularly older people and affluent households who wish to access private health care.
- Expansion of a cluster of medical and allied health facilities and services, accessible to the local community through existing transport networks and road links.
- Continuing operation of a facility run by a recognised and respected charity which provides community outreach services.
- Upgrade of a recognised facility which is long established on the site and highly respected within the community.

Consultation undertaken with the local community as part of the preparation of the concept plan for the wider Wairoonga Estate indicates strong support for the hospital and its provision of social and health-related services within the community. The fact that the hospital is owned and operated by a registered charity, which reinvests profits in continuing improvements to the hospital, is another aspect of the development which has recognised positive social impacts.

Economic

The hospital expansion will result in the following economic benefits.

- Provision of expanded employment opportunities on the site, which will result from the proposed upgrade, both for medical and non-medical professionals and service providers.
- Expansion of education and training opportunities within an existing cluster of medical and allied health facilities.
- Increased support for local business and industry resulting from the expanded employment on the site.

The positive employment and training benefits offered by the hospital expansion are recognised. However the proposal may lead to concerns within the community in relation to the increased number of people travelling to the site. These issues will need to be addressed through traffic management planning.

Physical design

The proposal, which involves the construction of a new CSB expansion, Shannon Wing, Education Centre, central concourse and arrival podium, along with a new multi-storey car park, is designed to

improve access and amenity for all hospital users. The refurbishment of existing hospital buildings will also contribute to this objective.

The physical design of new facilities is designed on the basis of core principles of promoting health and wellbeing, including through ensuring facilities are more easily navigable and through the application of principles of biophilic architecture.

In addition, the external physical design is intended to achieve the necessary increase in capacity at the hospital, which is currently operating at an unsustainable 98-100% capacity rate, whilst minimising adverse visual impacts on the surrounding locality.

A specialist visual impact assessment has been undertaken as part of the proposal; this is addressed in a separate report.

9 Conclusion

The assessment of the social and economic impacts likely to result from the proposed development suggests there is a strong need for expanded facilities and services at the hospital. These facilities may be most efficiently provided through the development of the concourse building and car park, in the form currently proposed.

Demand for health facilities and services

Our analysis confirms that an expansion of health services will be required in the region to service the needs of the community, particularly for an ageing population (those aged 65 and over currently comprise more than 15% of the population and this is expected to increase). Further, with increasing population growth, largely resulting from the increased development occurring in the subregion, particularly apartment-style developments, the proposal for expansion of the hospital and allied health services will result in positive social benefits.

Although a private hospital, we note that 'health hubs,' with co-located primary and ancillary services are a preferred government policy approach. This approach acknowledges the sustainability benefits of (generally) reduced building costs and footprints through planned co-location; reduced vehicle movements for staff, patients and family members; reduced time spent in travel (and therefore improved social outcomes for individuals); and, general economies of scale. These benefits also apply directly to this proposal.

Meeting subregional policies for health and employment generation

The objectives of the proposed hospital redevelopment are aligned with those underpinning the wider redevelopment of the Wahroonga Estate as a residential and employment hub. The upgrade of the hospital will leverage its position as a major healthcare and employment node within the North Sydney Subregion, in compliance with the sustainable employment and economic development principle described in the draft Sydney Metropolitan Strategy of '*capitalising on existing specialist infrastructure or developing magnet infrastructure in existing centres*'.²⁵

An expansion of health services will have a beneficial impact in terms of boosting both the quantum and skill level of the local labour force. The proposal to increase the number of nursing trainees provides a society-wide benefit through increasing the skill pool in a profession where there are currently significant shortages. It further provides particular training opportunities at the local scale that would otherwise not be available for young people.

Expanded health services will also generate significant employment multipliers in terms of administrative and other service support roles, including cleaning and catering, which will have a beneficial effect on the local economy.

Meeting government policies for health care service provision

The proposed development of the concourse building will provide improved and expanded facilities and services to the community to meet a demonstrated and growing demand. Analysis of the socio-economic characteristics of the population in proximity to the hospital indicates significant and growing demand for private health care services. Meeting this demand will provide direct benefits to this community, as well as taking pressure off the wider public health system. This is strongly aligned with specific state government health policy objectives of '*providing the right services at the right time and place*' and '*ensuring that people have a fair share of available services according to their needs and circumstances*.'

The proposal is also aligned with policies set out in the Ku-ring-gai and Hornsby local community plans, which indicate increased need for the provision of facilities and services for older people within the locality.

²⁵ www.metrostrategy.nsw.gov.au/dev/uploads/paper/employment/index.html

Improved architectural design, access and amenity

The design of the proposed new facilities enables a significantly expanded level of service provision on the site to ensure the hospital is well placed to meet current and projected future demand.

The provision of a new central main entrance to the hospital, from which 90% of the other buildings on the site may be accessed, is considered to have significant social benefits. It will enable most other buildings to be conveniently accessed with the aim of improving amenity for patients, staff and visitors.

The design of new and refurbished buildings will be based on architectural principles aimed at providing health and wellbeing benefits. This will be achieved through the provision of high quality architectural spaces and features such as internal landscaping and the provision of internal areas designed to promote social interaction and separate 'front-of-house' and 'back-of house' operations.

Meeting current and projected demand for medical and allied health facilities and services

The hospital is currently operating at full capacity, to the detriment of staff morale and service provision. The need for expanded facilities and services to be urgently provided is stressed by hospital administration and supported by data provided on occupancy rates.

The ageing population within the subregion in which the hospital is located also indicates increasing demand for services provided at the hospital. Around 15% of the total population residing within the subregion at the time of the 2006 census was aged over 65, including around 17% of persons residing in the Ku-ring-gai LGA, which is higher than the national average of 13%.

Population projections provided by the Department of Planning suggests that the proportion of the older population will continue to increase over the next 20 years. By 2031, growth within this age group will account for 6.8% of total population growth during the preceding five years, significantly higher than the 2.6% of total population growth forecast to occur within this age group within the Sydney Statistical Division. The hospital expansion will enable demand for medical and allied health facilities in the subregion to be met.

The proposal will improve the facilities available on the site to provide more appropriate, efficient and effective operational capacity and increased amenity for patients and staff. Building on the underlying architecture of existing facilities enables economies of scale to be achieved, and increases the net efficiency of provision these services across the northern Sydney health services system.

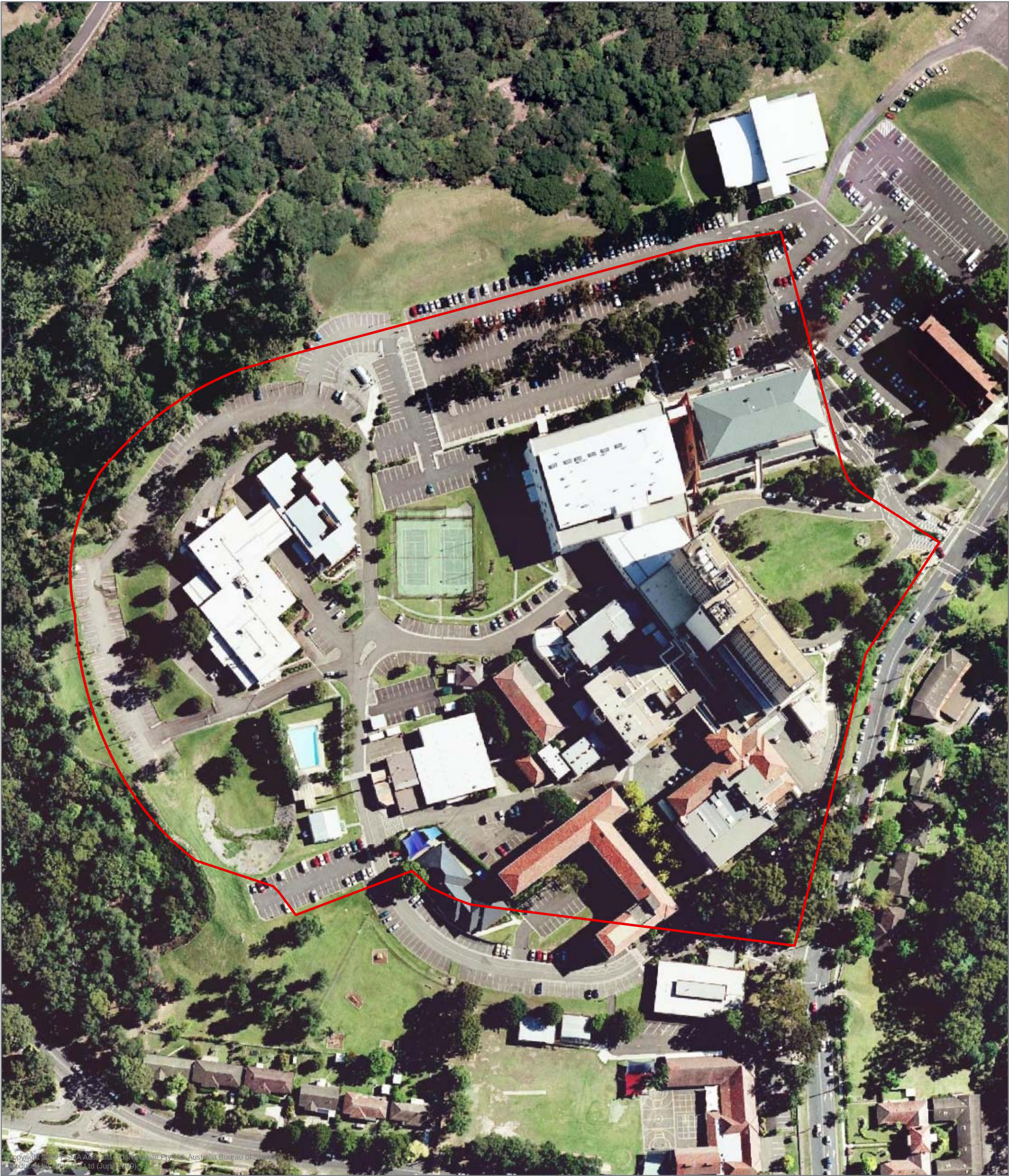
10 References

- Adamski, K, 'Three jeers for the bulldozers of Ku-ring-gai,' *North Shore Times*, June 3 2009, pp.1-5
- Australian Institute of Health and Welfare (AIHW): Karmel R. & J Lloyd et al, 2007, *Older Australians in Hospital*, Bulletin no. 53, Cat. no. AUS 92, Canberra: AIHW
- Commonwealth Department of Health and Ageing (2009) *Aged Care Services List 2007-08* [Microsoft Excel file], Available at: <http://www.health.gov.au/internet/main/publishing.nsf/Content/ageing-rescare-servlist-download.htm>
- Findlay, T., 'Medical marvel,' *Hornsby and Upper North Shore Advocate*, May 2007, pp.1-2
- Hornsby Shire Council, *Strategic Plan for Older People, 2005-10*
- Hornsby Ku-ring-gai Health Service (2009) *Maternity Services* [online] Available at: www.nscchealth.nsw.gov.au/services/hornsby/HKHS/maternitymain.htm (last accessed 22/06/09)
- Hornsby Ku-ring-gai Health Service, *Operational Plan 2008/09*, p4
- Ku-ring-gai Shire Council, *Community Plan 2005-09*, May 2006
- NSW Department of Health, Centre for Epidemiology and Research, 2008, *New South Wales Population Health Survey 2007*, HOIST
- NSW Department of Health, *Future Directions for Health in NSW – Towards 2025*, 2007
- NSW Department of Health, 2008, *Quarterly Hospital Performance Report* October to December, available at www.health.nsw.gov.au/resources/hospitals/performance/pdf/qhpr_0812_q2.pdf
- NSW Department of Transport, 2008, *2006 Journey to Work Tables* [database file], available at: <http://www.transport.nsw.gov.au/tdc/employment.html>
- Patrick, AN, *The San: 100 Years of Christian Caring 1903-2003*, Wahroonga: Sydney Adventist Hospital/Signs Publishing, 2003, p16

Internet references

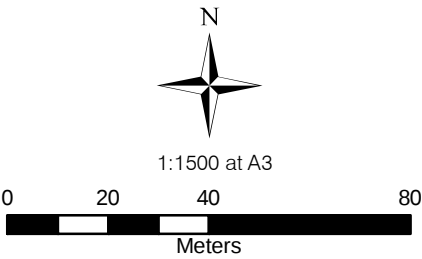
- www.kmc.nsw.gov.au/resources/documents/Sustainability_Vision_Report_-_Ku-ring-gai_Snapshot.pdf
- www.metrostrategy.nsw.gov.au/dev/uploads/paper/employment/index.html
- www.metrostrategy.nsw.gov.au/dev/digitalAssets/2178_1193631588941_draft_metro_srp_north_1_introduction.pdf

Appendix A Site Aerial Photography



Copyright 2009 Esri/Australia and InVestare Pty Ltd. Australia Bureau of Statistics.
Produced by Urbis Pty Ltd (June 2009)

 Study Area



Appendix B Hospital Facilities in the Northern Subregion and Northern Sydney

B.1 Audit of services in public hospitals in northern Sydney

Services	Hospital				
	Royal North Shore	Mona Vale	Manly	Hornsby Ku-ring-gai Health Service	Ryde
Orthopaedic		✓	✓	✓	✓
Obstetrics		✓	✓	✓	
surgical	✓	✓	✓	✓	✓
Paediatric		✓		✓	
Emergency Care		✓	✓	✓	✓
Day Surgery		✓			
Maternity / Gynaecology	✓				✓
Cardiac, Cardiology, cardiothoracic surgery	✓		✓	✓	✓
Intensive care/ critical care	✓		✓	✓	✓
Aged care & Rehabilitation	✓	✓	✓	✓	✓
Inpatients		✓			
Immunology	✓				
Dermatology	✓				
Microbiology	✓				
Palliative	✓				
Allergy	✓				
Endocrine medicine and surgery	✓				
Haematology	✓				
Head and Neck	✓				
Ear, nose and throat	✓				✓
Gastrointestinal	✓				
Medical Imaging	✓				
Mental Health	✓	✓	✓	✓	✓
Neurology	✓				
Stroke management			✓	✓	
Plastics					✓
Oncology	✓		✓		
Ophthalmology	✓				
pathology	✓				
podiatry	✓		✓	✓	✓
respiratory renal urology	✓				✓
vascular	✓				
Trauma	✓				
Community Services					
Psychiatric			✓		

Services (Cntd.)	Royal North Shore	Mona Vale	Manly	Hornsby Ku-ring-gai Health Service	Ryde
Child, Adolescent , family	✓		✓	✓	✓
Aged Care Assessment	✓	✓			
Occupational Therapy		✓		✓	
Child Protection	✓				
Sexual health/ HIV Prevention	✓		✓		
Carer support	✓				
Breast Screen	✓				
Speech Pathology		✓		✓	
Physiotherapy				✓	
Dental	✓	✓	✓	✓	✓
Health promotion	✓		✓	✓	✓
Drug and Alcohol	✓	✓	✓	✓	✓

B.2 Audit of services in private hospitals in close proximity to the SAH

THE HILLS PRIVATE HOSPITAL	DALCROSS PRIVATE HOSPITAL	LADY DAVIDSON PRIVATE HOSPITAL	MT WILGA PRIVATE HOSPITAL	POPLARS PRIVATE HOSPITAL	NERINGAH HOSPITAL	HAWKESBURY DISTRICT HEALTH SERVICE LTD
Accident and Emergency Services	The Eye Centre	Orthopaedic Rehabilitation (e.g. hip/knee replacements, fractures, arthritic and spinal conditions)	Amputee Program	General Surgery	Palliative care	24 Hour Emergency Services
Maternity Services	Neurosurgery	Cardiac Rehabilitation	Back and Pain Rehabilitation Program	General Medicine		Maternity and Neonatal Services
Coronary Care Unit	Spinal Surgery	Neurological Rehabilitation (e.g. stroke, spinal, post-surgical, Parkinson's Disease, Multiple Sclerosis etc.)	Cardiac Rehabilitation Program	Dental		Children's Ward
Intensive Care Unit	Vascular Surgery	Lymphoedema	Driver Education and Evaluation Program	Plastic and Reconstructive Surgery		Medical Services
	Radiology	Pain management	Falls Prevention Program	Ophthalmology		Surgical Services
	Other Specialities	Wound Care Management	Lymphoedema Program	Gastroenterology		Palliative Care Services
	Plastic & Reconstructive Surgery	Reconditioning Program (general rehabilitation or restorative care)	Neurological Rehabilitation Program	Gynaecology		Intensive Care & Coronary Care
	Dental Surgery	Amputee	Orthopaedic and Musculoskeletal Program	Paediatrics		
	Orthopaedic Surgery	Rehabilitation for oncology patients	Reconditioning Rehabilitation Program			
	Endocrine and Breast Surgery.	Palliative Care (Veterans Affairs patients)				

Appendix C ABS Travel Zones

C.1 ABS Travel Zones: Ku-ring-gai LGA.

