



# CANBERRA HEALTH SERVICES

# NORTHSIDE HOSPITAL

FEBRUARY  
2025

Clinical Services Plan - Final  
2024 - 2041



**ACT**  
Government

## Document Control and Version History

| Version   | Date       | Author            | Summary of Changes                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1         | 11/11/2024 | Linéaire Projects | Draft CSP circulated to DCEO CHS and GM NCH for review.                                                                                                                                                                                                                                                                                                                                            |
| 2         | 20/11/2024 | Linéaire Projects | Draft CSP approved by DCEO CHS and GM NCH.<br><br>Commentary from DCEO CHS and GM NCH implemented.<br><br>Draft CSP circulated to Northside Hospital Clinical Services and Facility Planning Project for endorsement.                                                                                                                                                                              |
| 2         | 28/11/2024 | Linéaire Projects | Draft CSP endorsed by Northside Hospital Clinical Services and Facility Planning Project Steering Committee.                                                                                                                                                                                                                                                                                       |
| 3 - Final | 5/12/2024  | Linéaire Projects | Comments and feedback reviewed and endorsed by CHS for inclusion into Final CSP<br><br>Commentary implemented.<br><br>Final CSP endorsed by CHS.                                                                                                                                                                                                                                                   |
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## Executive Summary

The Northside Hospital Clinical Services Plan (CSP) articulates the vision for the North Canberra Hospital /Northside Hospital for the provision of contemporary adult and paediatric healthcare for the residents of the ACT, primarily those located in the northern regions<sup>1</sup> of the Territory. The CSP builds upon the developments made possible through the integration of North Canberra Hospital (NCH) into the Canberra Health Services (CHS) with future focuses on networking at the service level. The CSP addresses the health needs of the diverse and rapidly growing and ageing population of the northern areas of ACT.

The CSP has been developed within the context of government priorities at a Commonwealth and Territory level. The CSP is also consistent with the ACT Health Services Plan and CHS Strategic Plan 2024-2029<sup>2</sup> which references the planning and commissioning of the new Northside Hospital, and the full integration of NCH and Clare Holland House (CHH) into the CHS Network. Thus, bringing all ACT public hospitals and health services into one integrated public health system, growing health and medical research, shifting care into the community with expansion of community based and primary care models, and influencing the population health outcomes.

Service planning principles determine and guide the development of CSPs and provide a framework to achieve the vision and objectives of CHS. The following principles were endorsed:

- **Person-Centred and Inclusive Services:** Ensure all services prioritise consumer and carer consultation to promote shared decision-making, equity, and ease of access, with a focus on culturally safe and inclusive care for all populations.
- **Sustainable and Efficient Service Delivery:** Plan and deliver services informed by community need, making the best use of available resources to ensure long-term sustainability.
- **Evidence-Based, Timely, and Equitable Access:** Deliver the right service, at the right time, in the right place, by the right team guided by evidence and aimed at improving health outcomes, especially for priority populations.
- **High-Quality and Safe Care:** Provide care that meets the highest standards of safety, quality, and efficiency, ensuring a positive experience for both consumers and providers, while continually improving effectiveness.
- **Workforce Development and Innovation:** Foster a culture that attracts, develops, and retains skilled healthcare professionals through a supportive and respectful work environment, with a commitment to research, innovation, and continuous improvement in health outcomes.

Table A shows a high-level current activity summary for NCH. This is further explored and articulated in the subsequent sections of the CSP. Overall, NCH activity and length of stay has increased since 2018/19. Factors influencing this growth include overall increased demand for services across the region consistent with population growth, increasing volumes of non-acute patients staying longer and changing health needs of people with increasing comorbidities requiring tertiary services.

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<sup>1</sup> For the purpose of this CSP, reference to 'Northside' and 'ACT North' are used interchangeably and refers to the Belconnen, Gungahlin, Molonglo and North Canberra SA3 regions collectively. Refer to Section 7 for further details on the catchment profile.

<sup>2</sup> Canberra Health Services. 2024. Canberra Health Services Strategic Plan 2024-2029. Accessed from: [https://www.canberrahealthservices.act.gov.au/data/assets/file/0005/1933178/CHS\\_Strategic-Plan-2024-2029\\_DIGITAL-FA.pdf](https://www.canberrahealthservices.act.gov.au/data/assets/file/0005/1933178/CHS_Strategic-Plan-2024-2029_DIGITAL-FA.pdf)

| Hospital/Facility | Values   | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Variance | Growth 2019-2023 |
|-------------------|----------|---------|---------|---------|---------|---------|----------|------------------|
| NCH               | Seps     | 28,232  | 28,011  | 33,423  | 25,986  | 30,588  | 2,356    | 8.3%             |
|                   | Bed days | 81,002  | 84,218  | 91,575  | 84,674  | 95,969  | 14,967   | 18.5%            |
|                   | ALOS     | 2.9     | 3.0     | 2.7     | 3.3     | 3.1     | 0.3      | 9.4%             |

Table A: NCH Activity Summary. Source: ABF AP Extract, ACTHD, 2024. Excludes Chemotherapy, Renal Dialysis and Unqualified Neonates. Includes all care types and all ages, overnight and same day activity.

To support growing projected demand, Section 10 outlines the future service strategies for NCH with a focus on strengthening its role within the CHS Network, establishing service-level networks for Territory-wide service delivery, improved non-admitted patient services and digital pathways to deliver care out of hospital.

A future NCH will include:

- **Delivery of clinical services to the full scope of the RDL-4 capability.**
- **An expanded ED service** to manage current and future demand, in particular to better care for paediatric patients.
- **An integrated Cardiology and CCU service** to enable whole of patient journey management and consolidate clinical governance arrangements for this cohort.
- **Interventional cardiology capability** with on-site cardiac catheterisation lab aligned to a RDL-4 service.
- **Supporting emergency surgical cases** that present via the ED.
- **Becoming a high-volume low-complexity surgical centre** to build a critical mass for planned General Surgery, Urology, Gynaecology, Ophthalmology, and Endoscopy and be integrated with the TCH surgical workforce model.
- **An integrated and networked Breast Cancer Surgery service** with TCH Cancer Services.
- **A coordinated theatre complex approach** to enable including the CHS networked workforce resourcing and allocation.
- **An expanded Midwifery Continuity of Care model.**
- **A Birthing on Country model** to support Aboriginal and Torres Strait Islander people on their pregnancy journey.
- **Enhanced and coordinated integration of Special Care Nursery service** with TCH Neonatal Services to care for unwell babies.
- **A 23-hour paediatric inpatient service**, supported by paediatric medical and nursing expertise and networked with the TCH Paediatric Service.
- **An integrated mental health service** within CHS MHJHADS, incorporating NCH within Territory-wide service models
- **A Drug and Alcohol Consultation Liaison service** to support the care of people with drug and alcohol co-morbidities.
- **Establishing sub-acute inpatient care models** to support the care of Maintenance/non-acute patients and facilitate timely discharge to other care settings.
- **Expanding palliative care capacity** in the acute inpatient setting.
- **Expanding Care Close to Home services** to support hospital avoidance strategies.
- **Re-establish a day-chemotherapy service for selected conditions** to enable access for ACT North residents to this service close to home.
- **Expanded non-admitted and outpatient services and infrastructure** to manage future demand and contribute to ED and hospital avoidance strategies.
- **Integrated virtual care delivery models** to care for people in the home.
- **Advanced Practice service models** to manage complex patient cases across medical and surgical disciplines.
- **On-site interventional radiology capability and capacity** aligned to a RDL-4 service.
- **Enhanced imaging and pathology diagnostic services.**

- **Established clinical service networks** across the CHS for ICU, Cardiology, Neurology, Gastroenterology, Ophthalmology, Gynaecology, Maternity, Special Care Nursery, Older Persons, Mental Health, Cancer Care, Radiology and Pharmacy.

An extensive analysis of future projected demand was undertaken and is detailed in Section 11. Recognising that with the majority of ACT's projected population occurring within the northern region, the proposed solution is the redevelopment of NCH to deliver to the full extent of its RDL-4 level services within contemporary and purpose-built spaces, supporting contemporary and evidence-based models of care. It is understood that future investment in implementing the future strategic directions will be subject to further feasibility review.

Table B outlines the current and future built infrastructure proposed based on review and analysis for the current and projected activity across inpatient and non-admitted services.

|                                                           | CHS and ACTHD AGREED ADJUSTMENTS , 2025 |                                                                             |                                                                             |                |                |
|-----------------------------------------------------------|-----------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------|----------------|
|                                                           | NCH<br>2024<br>Current<br>Build         | NCH<br>2031                                                                 | NCH<br>2041                                                                 | NCH<br>2031    | NCH<br>2041    |
| Multi-Day and Same-Day Acute Beds                         | 150                                     | 235                                                                         | 294                                                                         | nil adjustment | nil adjustment |
| Adult Subacute Beds                                       | 0                                       | 37                                                                          | 50                                                                          | nil adjustment | nil adjustment |
| Paediatric Beds                                           | 0                                       | 9                                                                           | 10                                                                          | nil adjustment | nil adjustment |
| Maternity Beds                                            | 27                                      | 18                                                                          | 22                                                                          | nil adjustment | nil adjustment |
| Adult Psychiatry and Mental Health Beds                   | 42                                      | 44                                                                          | 57                                                                          | nil adjustment | nil adjustment |
| Neonatal Services POC (SCN)                               | 14                                      | 9                                                                           | 11                                                                          | nil adjustment | nil adjustment |
| ICU Beds                                                  | 10                                      | 11                                                                          | 14                                                                          | nil adjustment | nil adjustment |
| Coronary Care Unit                                        | 6                                       | captured within MD and SD beds (not modelled separately)                    | captured within MD and SD beds (not modelled separately)                    | nil adjustment | nil adjustment |
| AOD                                                       | 0                                       | captured within MD and SD beds and Outpatient POC (not modelled separately) | captured within MD and SD beds and Outpatient POC (not modelled separately) | nil adjustment | nil adjustment |
| Operating Rooms inc. caesarean theatre                    | 7                                       | 7.3 (8)                                                                     | 8.7 (9)                                                                     | 8              | 10             |
| Day Surg (inc Endoscopy) / Procedural room                | 1                                       | 1.1 (2)                                                                     | 1.4 (2)                                                                     | 2              | 3              |
| Cath Labs                                                 | 0                                       | 0.2                                                                         | 0.2                                                                         | 2              | 2              |
| Birthing Rooms                                            | 8                                       | 6                                                                           | 7                                                                           | nil adjustment | nil adjustment |
| Recovery spaces                                           | 30                                      | 38                                                                          | 45                                                                          | 45             | 59             |
| ED - Acute Treatment Spaces                               | 23                                      | 49                                                                          | 63                                                                          | nil adjustment | nil adjustment |
| ED - Resuscitation                                        | 2                                       | 5                                                                           | 6                                                                           | nil adjustment | nil adjustment |
| EDSSU                                                     | 15                                      | 14                                                                          | 18                                                                          | nil adjustment | nil adjustment |
| ED-Fast track                                             | 15                                      | captured within ED-Acute Treatment Spaces (not modelled separately)         | captured within ED-Acute Treatment Spaces (not modelled separately)         | nil adjustment | nil adjustment |
| ED Other Rooms (Isolation, MH assessment, procedure room) | 4                                       | 7                                                                           | 9                                                                           | nil adjustment | nil adjustment |
| Outpatient / HiTH / Allied Health / Community Health POC  | 35                                      | 78                                                                          | 99                                                                          | 86             | 109            |
| <b>Total excluding SSU<sup>3</sup> and MI</b>             | <b>389</b>                              | <b>569</b>                                                                  | <b>715</b>                                                                  | <b>585</b>     | <b>742</b>     |

Table B: Current and Forecasted Bed Infrastructure Table for NCH, 2024-2041. Note the items is in brackets representing redundancy required to deliver clinical services efficiently. Excludes public in private projected beds. Rounding has been applied.

<sup>3</sup> SSU denotes Sterilising Services Unit

# 1. Context of the Clinical Services Plan

The Northside Hospital Clinical Services Plan (CSP) articulates the vision for the North Canberra Hospital /Northside Hospital for the provision of contemporary adult and paediatric healthcare for the residents of the ACT, primarily those located in the northern regions<sup>4</sup> of the Territory. The CSP builds upon the developments made possible through the integration of North Canberra Hospital (NCH) into the Canberra Health Services (CHS) with future focuses on networking at the service level. The CSP addresses the health needs of the diverse and rapidly growing and ageing population of the northern areas of ACT.

The CSP has been developed within the context of government priorities at a Commonwealth and Territory level. It demonstrably supports the ACT Health policy and planning context and key trends that influence health service delivery, current service context and key planning assumptions and future scenario modelling. The focus is on accessibility, accountability and sustainability<sup>5</sup>, supporting ACT residents to have access to the right care in the right place and at the right time.

The CSP is also consistent with the ACT Health Services Plan and CHS Strategic Plan 2024-2029<sup>6</sup> which references the planning and commissioning of the new Northside Hospital, the full integration of NCH and Clare Holland House (CHH) into the CHS Network bringing all ACT public hospitals and health services into one integrated public health system, growing health and medical research, shifting care into the community with expansion of community based and primary care models, and influencing the population health outcomes.

The redevelopment of NCH provides CHS with the opportunity to develop services and a contemporary hospital for North Canberra as well as a suite of Territory-wide services operating in a two-campus model. Key directions for the new Northside Hospital that arose from the extensive stakeholder consultation, informed by the ACTHD strategic planning context and approved by the Northside Hospital Clinical Services and Facility Planning Project Steering Committee include:

- To **strengthen and develop on the role of NCH as a high-quality and safe Public Acute Group A Hospital**<sup>7</sup> that delivers emergency medicine, critical care, coronary care, medical and surgical specialities, maternity and paediatrics, mental health and older person services.
- To enable the **delivery of care aligned to the NSW Role Delineation Level (RDL) 4** for the majority of its medical and surgical services, including the required core and support services.
- To **support TCH in its role as the Principal Referral Hospital** for the ACT through strong referral systems and integrated pathways ensuring seamless patient care between TCH and NCH.

<sup>4</sup> For the purpose of this CSP, reference to 'Northside' and 'ACT North' are used interchangeably and refers to the Belconnen, Gungahlin, Molonglo and North Canberra SA3 regions collectively. Refer to Section 7 for further details on the catchment profile.

<sup>5</sup> ACT Government. 2022. ACT Health Services Plan 2022-2030. Accessed from:

[https://www.act.gov.au/\\_data/assets/pdf\\_file/0018/2250441/ACT-Health-Services-Plan\\_2022-to-2030.pdf](https://www.act.gov.au/_data/assets/pdf_file/0018/2250441/ACT-Health-Services-Plan_2022-to-2030.pdf)

<sup>6</sup> Canberra Health Services. 2024. Canberra Health Services Strategic Plan 2024-2029. Accessed from:

[https://www.canberrahealthservices.act.gov.au/\\_data/assets/file/0005/1933178/CHS\\_Strategic-Plan-2024-2029\\_DIGITAL-FA.pdf](https://www.canberrahealthservices.act.gov.au/_data/assets/file/0005/1933178/CHS_Strategic-Plan-2024-2029_DIGITAL-FA.pdf)

<sup>7</sup> AIHW, 2015. Australian Peer Groups. Accessed from <https://www.aihw.gov.au/reports/hospitals/australian-hospital-peer-groups/related-material>



## 1.1 Background

In recognition of the growing population in Canberra, the ACT Government has committed to building a new Northside Hospital to extend hospital services in the north of ACT. As outlined in the District Strategies<sup>8</sup> the northern region of the ACT is expected to accommodate most of the future growth in the areas of Gungahlin and Molonglo Valley with sites identified in indicative land release programs for future development. The Inner North and City and Belconnen districts are also expected to accommodate a significant share of new medium and higher density development. Thus, there is a rationale to ensure that the capacity, capability and access to health services to respond to projected population growth is well established.

The Northside Hospital CSP outlines the strategic intent and future service direction for Northside Hospital. As part of the development of the CSP, an analysis of current activity (North Canberra Hospital (NCH)) and projected activity, along with an assessment of existing infrastructure, models of care, and workforce, has been conducted. The CSP provides information on future infrastructure requirements in order to respond to demand and support the implementation of new models of care. It is understood that future investment in implementing future strategic directions will be subject to further feasibility review.

It is important to recognise the integration of NCH including CHH Hospice to CHS as of July 2023. This allowed for the creation of an integrated single network public hospital system across the ACT.<sup>9</sup> Over the past 18 months, planning for the expanded northside hospital services and facilities has been underway and the CSP provides an invaluable opportunity to plan and deliver a health system networked under one provider. The underlying principle for this CSP is that the Northside Hospital will be networked with The Canberra Hospital (TCH) which will remain as the tertiary facility for ACT and the surrounding regions, and the University of Canberra Hospital (UCH) which delivers sub-acute services. This will enable access to specialised care while developing the local service capability and capacity of Northside Hospital in an integrated service approach.

The Northside Hospital CSP is a key foundation document that will guide the service prioritisation and scope prioritisation based on local priorities in alignment with the strategic planning context in the ACT and policy directions. The CSP will also inform the development of the Future Service Frameworks that outline future service delivery models across the care continuum and inform facility planning for the Northside Hospital Project.

Given the long-term projected population growth expected across the ACT and with the majority of that growth occurring in the northern region of the Territory, the planning horizon for this CSP is 2041. This recognises the requirements to adequately plan for services while the Northside Hospital Project redevelopment is progressing and consider the influences of a redeveloped North Canberra/Northside Hospital and its services on the broader ACT health system till 2041.

## 1.2 Clinical Services Plan Development

The development of the CSP has been informed by:

- Review and analysis of relevant clinical services information and data pertaining to NCH, and where relevant TCH.
- Synthesis of qualitative and quantitative information to inform strategic directions and service options for NCH.
- Key ACTHD strategic and policy documents as well as a review of the literature.

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<sup>8</sup> ACT Government. 2023. District Strategies Volume One Metropolitan context and big drivers. Accessed from: [https://www.planning.act.gov.au/data/assets/pdf\\_file/0009/2324682/district-strategies-2023-volume-1-metropolitan-context-and-big-drivers.pdf](https://www.planning.act.gov.au/data/assets/pdf_file/0009/2324682/district-strategies-2023-volume-1-metropolitan-context-and-big-drivers.pdf)

<sup>9</sup> ACT Government. 2023. Services transition at North Canberra Hospital and Clare Holland House. Accessed from: [https://www.cmtedd.act.gov.au/open\\_government/inform/act\\_government\\_media\\_releases](https://www.cmtedd.act.gov.au/open_government/inform/act_government_media_releases)

- Extensive consultation with executive, clinical and operational staff from NCH, TCH and CHS and relevant service partners, to complement quantitative data analysis and inform strategic directions.

A steering committee was established to provide leadership and advice for the clinical services and facility planning components of the Northside Hospital Project including the development of the clinical services plan. The steering committee, which included representatives from NCH, CHS and ACTHD, ensured that there was alignment for each clinical services and facility planning component with overarching ACTHD and CHS strategies and procedures, including territory-wide networked service strategies.

### 1.3 ACT Health Services Delivery Model

Currently, health services and healthcare delivery are integrated across providers and settings including<sup>10</sup>:

- In-hospital care in local, tertiary and interstate hospitals for highly specialised care.
- On-campus through day-only and outpatient clinics on hospital campuses.
- Via virtual care delivered across campuses, into the home, into other providers and other settings.
- In the home through non-admitted services such as Hospital in the Home (HITH).
- In the community, via primary care providers, Community Health Centres (CHC), Walk-in Centres (WiC) and other health service providers including Non-Government Organisations (NGOs).

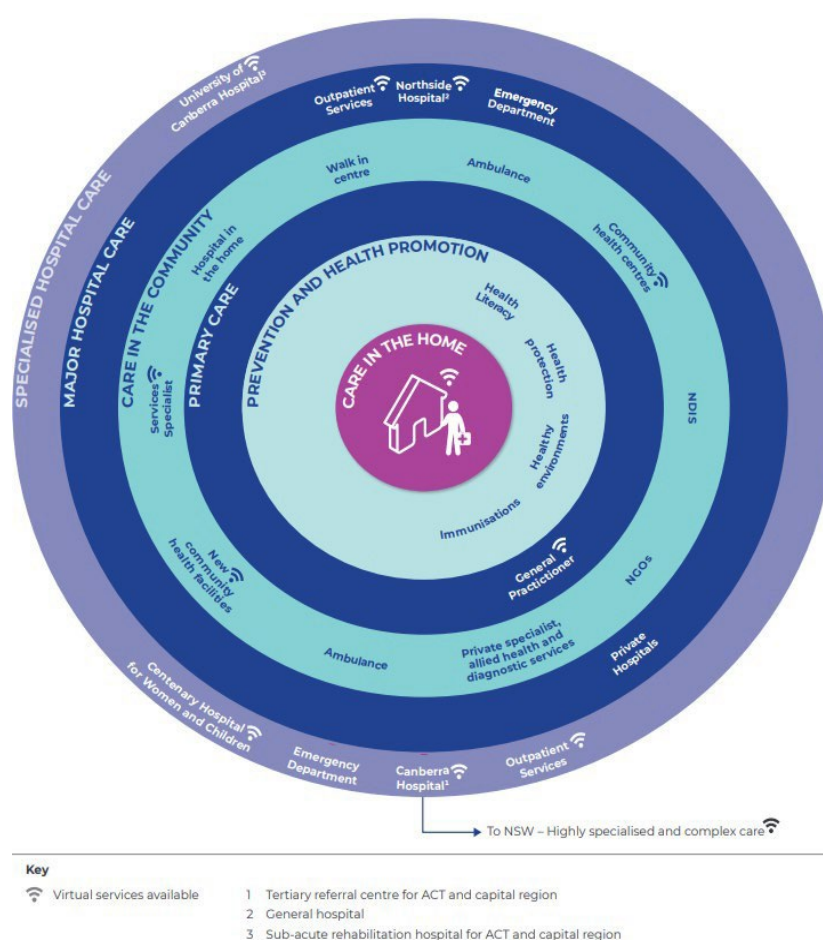


Figure 1: ACT Health Services Delivery Framework. Source: ACTHD, 2022.

<sup>10</sup> ACT Health Directorate. 2022.

## 1.4 Northside Hospital Strategic Planning Context

In order to achieve integrated and coordinated health services, the development of the Northside Hospital CSP must occur in the context of other ACT Health strategies and plans, including (but not limited to) the ACT Health Services Plan. The key objectives of the new Northside Hospital are to provide:

- Greater capacity in the health care system in the north of the ACT.
- Patient focused / community focused care that improves patient outcomes.
- A hospital that is agile and flexible, with a whole-of-life focus.
- Greater alignment of health service delivery across the Territory

The following section outlines the strategic context of Northside Hospital and the CSP.

### ACT Health Services Plan

From a state policy and planning perspective, the ACT Health Services Plan 2022-2030<sup>11</sup> (ACT HSP) provides a roadmap for the redesign, investment and redevelopment of health services funded by the ACT Government, therefore it is a foundational document to form part of the planning for Northside Hospital and the CSP. The ACT HSP is a deliverable under the '*Accessible, Accountable, Sustainable: A Framework for the ACT Public Health System 2020–2030*'<sup>12</sup>. Figure 2 illustrates how the Northside Hospital CSP is linked to the ACT HSP.

The principles used to underpin the service planning methodology for the ACT HSP are also relevant for establishing guiding principles for the Northside Hospital CSP. The principles within the ACT HSP are as follows:

- **Person-centred services:** Consultation with consumers and carers in order to ensure ease of access, equity and shared-decision making.
- **Improving health outcomes and access:** Evidence-informed policy directions with a focus on priority populations – “*planning the right service, at the right time, in the right place, by the right team—every time*”.
- **Sustainable services:** Service planning informed by need and efficient use of resourcing.
- **Inclusive and culturally appropriate services:** Consultation with underrepresented groups to ensure inclusivity and culturally appropriate services which meet the needs of vulnerable populations.
- **Safe and quality services:** Service provision leading to enhanced health outcomes, improved experience of receiving and providing care, as well as the improved effectiveness and efficiency of care.

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<sup>11</sup> ACT Government. 2022. ACT Health Services Plan 2022-2030. Accessed from:

[https://www.act.gov.au/\\_data/assets/pdf\\_file/0018/2250441/ACT-Health-Services-Plan\\_2022-to-2030.pdf](https://www.act.gov.au/_data/assets/pdf_file/0018/2250441/ACT-Health-Services-Plan_2022-to-2030.pdf)

<sup>12</sup> ACT Government 2020. Accessible, Accountable, Sustainable: A framework for the ACT Public Health System 2020-2030. Accessed from: [https://www.act.gov.au/\\_data/assets/pdf\\_file/0008/2268287/Strategic-Framework\\_Feb-2020\\_FINAL-MIN-ENDORSED.pdf](https://www.act.gov.au/_data/assets/pdf_file/0008/2268287/Strategic-Framework_Feb-2020_FINAL-MIN-ENDORSED.pdf)

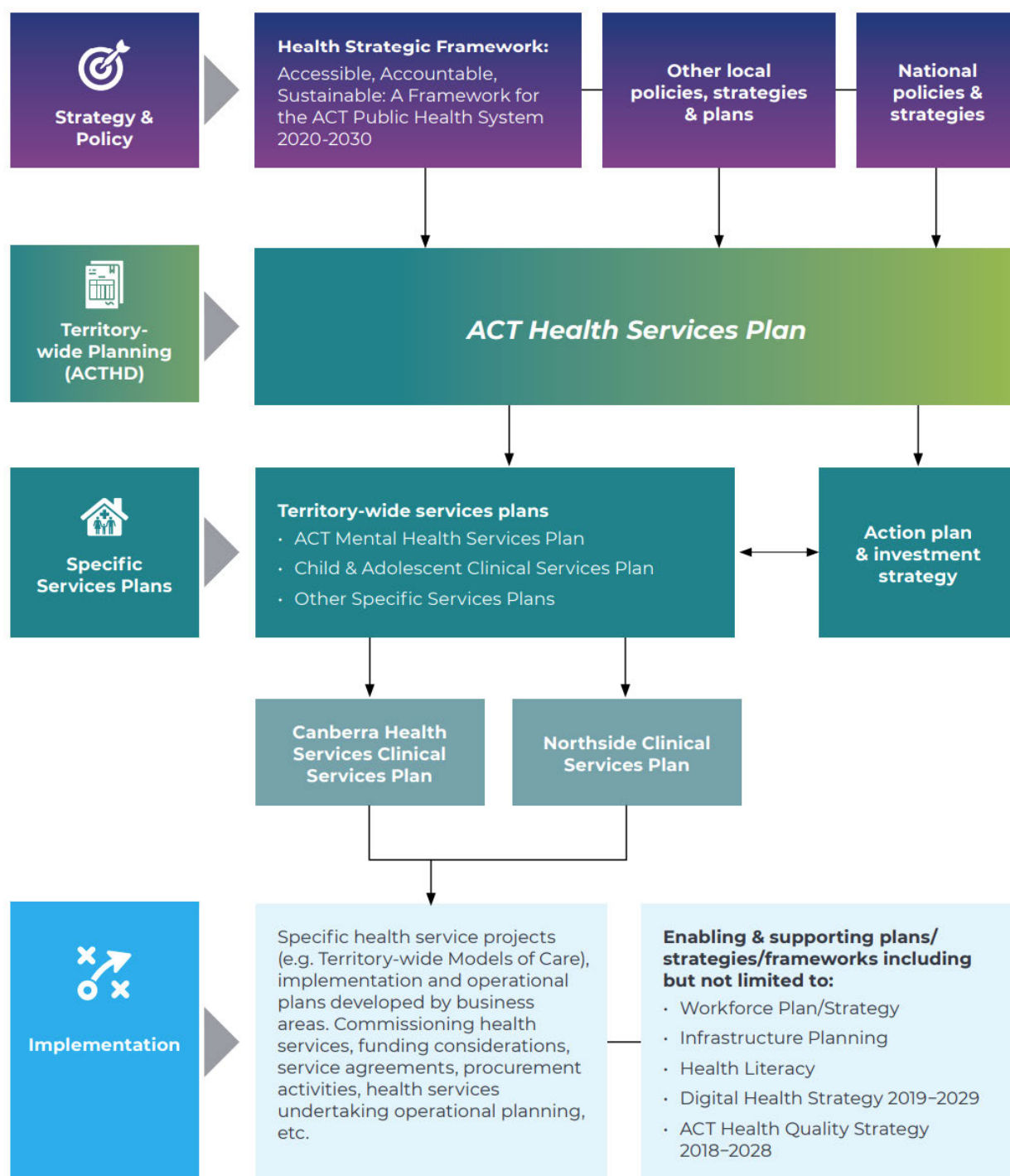


Figure 2: ACT Health Services Plan<sup>13</sup>

<sup>13</sup> ACT Government. 2022. ACT Health Services Plan 2022-2030. Accessed from: [https://www.act.gov.au/data/assets/pdf\\_file/0018/2250441/ACT-Health-Services-Plan\\_2022-to-2030.pdf](https://www.act.gov.au/data/assets/pdf_file/0018/2250441/ACT-Health-Services-Plan_2022-to-2030.pdf)



The ACT HSP identifies the importance of expanding services in the northern region of the ACT as the population continues to grow. The table below outlines the areas of focus and corresponding actions highlighted within the ACT HSP, which are related to the northern region and Northside Hospital.

| Area of focus              | Actions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Emergency Care             | <ul style="list-style-type: none"> <li>Undertake service planning for the expansion of an emergency department for Northside Hospital.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                    |
| Older Persons Care         | <ul style="list-style-type: none"> <li>Establishment of a Centre of Excellence for Care of Older Canberrans in the northern region.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                       |
| Medical Services           | <ul style="list-style-type: none"> <li>Explore the enhancement and the increased capability of endocrinology services in the northern region.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                             |
| Medical Services           | <ul style="list-style-type: none"> <li>Increased access of cardiology services in the northern region, with a key focus on: <ul style="list-style-type: none"> <li>cardiology diagnostic services with a view to prevention and long term health</li> <li>ambulatory and community-based heart failure services to reduce demand on the hospital system and provide care closer to home</li> </ul> </li> </ul>                                                                                                                       |
| Northside Service Planning | <ul style="list-style-type: none"> <li>Planning to be undertaken for the future development of services in the northern region, including: <ul style="list-style-type: none"> <li>maternity services</li> <li>mental health services</li> <li>cancer services</li> <li>surgical and procedural services</li> </ul> </li> <li>Develop and progress planning for the new northside hospital.</li> <li>Develop and progress planning for the northside hospital clinical services plan in line with infrastructure planning.</li> </ul> |

Table 1: ACT Health Services Plan – Northside Focus Areas and Actions. Source: ACT Government, 2022 ACT Health Services Plan 2022-2030. Accessed August 2024.

## Digital Health Strategy

The ACT Health Digital Health Strategy 2019-2029 (Digital Health Strategy) outlines the future direction for increasing digital capabilities across the ACT public health system, with the aim of achieving a sustainable, innovative and world-class health system for the ACT. The Digital Health Strategy vision is '*enabling exemplary person-centred care through digital innovation*'<sup>14</sup>. The Northside Hospital Project presents a significant opportunity to lead the digital transformation of health service delivery in the ACT and to future-proof services for enhanced patient care through the realisation of the Digital Health Strategy.

Strategies for consideration include:

- Service delivery that is accessible, supported by technology such as remote patient monitoring.
- Investment in a single clinical record for individuals which can be accessed by multidisciplinary and multi-institutional teams.
- Utilisation of a Purchasing and Inventory Control System (PICS) for ordering clinical and non-clinical goods/services.
- Investment in technology and digitally enabled solutions, including the automation of core administrative tasks.

The implementation of the Digital Health Record across ACT Government health services in 2022, supports every public hospital process including patient administration, medication management, pathology and imaging orders and results, as well as providing patients with access to their clinical information. Service delivery will be further strengthened and improved as the system is further optimised and its full potential realised.

<sup>14</sup> ACT Government. 2019. Digital Health Strategy 2019-2029. Accessed from: [https://www.act.gov.au/\\_data/assets/pdf\\_file/0005/2194925/Digital-Health-Strategy-2019-2029.pdf](https://www.act.gov.au/_data/assets/pdf_file/0005/2194925/Digital-Health-Strategy-2019-2029.pdf)

## ACT Health Workforce Strategy

The ACT Health Workforce Strategy 2023-2032 (Workforce Strategy) outlines the Territory-wide strategic approach to building and retaining a sustainable health workforce for the ACT and surrounding region. The vision for the Workforce Strategy is *'a highly skilled and valued health workforce supported by a learning health system delivering quality health outcomes for the community'*<sup>15</sup>.

As a result of increasing healthcare demand and workforce shortages, workforce challenges are currently experienced by the public and private health sector across Australia. Collaboration across the ACT is identified as essential to the successful development and implementation of workforce planning.

## Healthy Canberra: ACT Preventive Health Plan

The Healthy Canberra: ACT Preventive Health Plan 2020-2025 (Preventative Health Plan) identifies the strategic priorities and action areas for reducing the prevalence of chronic disease and supporting good health across all stages of life for the ACT population. The Preventative Health Plan is delivered through two, three-year action plans. The second action plan is currently in progress, due for completion in 2025<sup>16</sup>. This strategy is critical to supporting and building the health and wellbeing of people across the ACT and achievement of its objectives through coordinated action across the health sector, government and community cannot be overstated.

CSP is focused on service development and future requirements for the Northside Hospital, exploring and outlining non-capital solutions that improve health and wellbeing and reduce the need for acute inpatient care, is a key strategy for managing health service demand.

## ACT Health Quality Strategy

The ACT Health Quality Strategy 2018-2028 (Health Quality Strategy) is a framework for measuring improvement in the quality of health services delivered by ACT Health. The ambition of the Health Quality Strategy is to be a *'high performing health service that provides person-centred, safe and effective care'* with the aim of delivering *'person-centred, safe, effective and efficient care'*<sup>17</sup>. The Health Quality Strategy will be a key underpinning document for Northside Hospital as a provider of safe and quality health services in the ACT.

## ACT Child and Adolescent Clinical Services Plan

The ACT Child and Adolescent Clinical Services Plan 2023-2030 (Child and Adolescent CSP) is focused on the health needs of children and adolescents living in Canberra and surrounding regions. The vision for the Child and Adolescent CSP is to *'see children, adolescents and their families have easy access to a caring, inclusive and high-quality health system in the ACT that enables them to live their best and healthiest lives... now and in the future'*<sup>18</sup>. The Child and Adolescent CSP focuses on ACT Government funded clinical services for children and adolescents.

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<sup>15</sup> ACT Government. 2023. ACT Health Workforce Strategy 2023-2032. Accessed from:

[https://www.act.gov.au/\\_data/assets/pdf\\_file/0003/2326755/Workforce-Strategy-2023-2032.pdf](https://www.act.gov.au/_data/assets/pdf_file/0003/2326755/Workforce-Strategy-2023-2032.pdf)

<sup>16</sup> ACT Government. 2019. Healthy Canberra: ACT Preventative Health Plan 2020-2025. Accessed from:

[https://www.act.gov.au/\\_data/assets/pdf\\_file/0005/2119658/Healthy-Canberra-ACT-Preventive-Health-Plan-2020-2025.pdf](https://www.act.gov.au/_data/assets/pdf_file/0005/2119658/Healthy-Canberra-ACT-Preventive-Health-Plan-2020-2025.pdf)

<sup>17</sup> ACT Government. 2018. ACT Health Quality Strategy 2018-2028. Accessed from:

[https://www.act.gov.au/\\_data/assets/pdf\\_file/0007/2423635/ACT-Health-Quality-Strategy-2018-2028.pdf](https://www.act.gov.au/_data/assets/pdf_file/0007/2423635/ACT-Health-Quality-Strategy-2018-2028.pdf)

<sup>18</sup> ACT Government. 2018. ACT Child and Adolescent Clinical Services Plan 2023-2030. Accessed from:

[https://www.act.gov.au/\\_data/assets/pdf\\_file/0005/2423651/Child-and-Adolescent-Clinical-Services-Plan-2023-2030.pdf](https://www.act.gov.au/_data/assets/pdf_file/0005/2423651/Child-and-Adolescent-Clinical-Services-Plan-2023-2030.pdf)

## ACT Government Wellbeing Framework

The ACT Wellbeing Framework (Framework) provides high-level wellbeing indicators to measure wellbeing and track progress against the Framework. Health is one of the twelve (12) wellbeing domains identified within the Framework. The health-related indicators measure levels of overall health and mental health, including life expectancy and self-report indicators<sup>19</sup>. Northside Hospital will significantly influence the health and wellbeing of individuals within the ACT through increasing access to health services (a key outcome within the Framework), therefore the Framework is a key document for incorporation into the Northside Hospital CSP.

## Maternity in Focus: The ACT Public Maternity System Plan

The ACT Government Maternity in Focus: The ACT Public Maternity System Plan 2022-2032 sets the direction and ACT Government priorities for the public maternity system to meet the needs of women, pregnant people, their babies and families, and the multidisciplinary workforce. Within this plan, it is outlined that the ACTHD, CHS and NCH, will work closely with stakeholders to deliver a public maternity system that delivers the care which responds to the needs of the community and workforce<sup>20</sup>. The maternity services planned for the Northside Hospital will be aligned with the Plan, including to provide the right maternity care at the right time, which meets the needs of women and pregnant people and their family, and encompasses their social, emotional, physical, psychological, spiritual, and cultural needs and expectations.

To compliment the above, ACTHD undertook a Birth Centre Feasibility Study<sup>21</sup> to determine the most suitable birthing centre model for integration into the Northside Hospital Project. The final outcome from this study should be considered as part of the Northside Hospital Project.

## Canberra Health Services Strategic Plan

The vision of CHS is:

“creating exceptional health care together”<sup>22</sup>

The strategic plan sets out three strategic priorities to guide service delivery over the next five years. This CSP will utilise the key strategies detailed below to ensure that future service delivery is aligned to the overarching strategy to drive effectiveness and efficiency of activity through clinical network models, maintain sustainable practice, achieve improved patient outcomes and ensure equity of access to the right care at the right time regardless of where a person presents. These include:

1. **Delivering world class care** that is inclusive, culturally safe, delivered to the highest standards and evidence-based in a timely way across its acute, planned and community portfolios.
2. **Being a great place to work, learn and teach** to attract, recruit and retain skilled workers in a culture of open and respectful communication.
3. **Building a strong research, innovation and improvement environment** by demonstrating its health services leadership role and resulting in improved health outcomes for consumers.

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<sup>19</sup> ACT Government. 2020. ACT Wellbeing Framework. Accessed from:

[https://www.act.gov.au/\\_data/assets/pdf\\_file/0004/1498198/ACT-wellbeing-framework.pdf](https://www.act.gov.au/_data/assets/pdf_file/0004/1498198/ACT-wellbeing-framework.pdf)

<sup>20</sup> ACT Government. 2022. Maternity in Focus: The ACT Public Maternity System Plan 2022-2032. Accessed from:

[https://www.act.gov.au/\\_data/assets/pdf\\_file/0006/2324355/Maternity-in-Focus-ACT-System-Plan-2022-2032.pdf](https://www.act.gov.au/_data/assets/pdf_file/0006/2324355/Maternity-in-Focus-ACT-System-Plan-2022-2032.pdf)

<sup>21</sup> ACT Government. 2024. Northside Birth Centre Feasibility Study. Commercial in Confidence.

<sup>22</sup> Canberra Health Services. 2024. Canberra Health Services Strategic Plan 2024-2029. Accessed from:

[https://www.canberrahealthservices.act.gov.au/\\_data/assets/file/0005/1933178/CHS\\_Strategic-Plan-2024-2029\\_DIGITAL-FA.pdf](https://www.canberrahealthservices.act.gov.au/_data/assets/file/0005/1933178/CHS_Strategic-Plan-2024-2029_DIGITAL-FA.pdf)

## Belconnen District Strategy

The Belconnen District Strategy (2023)<sup>23</sup>, outlines the strategic direction and future planning outcomes for the Belconnen region. Of note for the Northside Hospital context, is the identified strategic direction for the development of an integrated Belconnen Education and Sports Innovation Precinct (Precinct). The Precinct will encompass Northside Hospital, University of Canberra, the UC Hospital, the Australian Institute of Sport and Bruce Canberra Institute of Technology and GIO Stadium. The Precinct will present significant networking and partnership opportunity for Northside Hospital. In addition, the strategies outlined within the document present further opportunities for employment in low socioeconomic regions, improved transportation and new community and recreational facilities which may further contribute to the growing population in the region which will be serviced by Northside Hospital.<sup>24</sup>

## Gungahlin District Strategy

The Gungahlin District Strategy (2023) outlines the strategic direction and future planning outcomes for the Belconnen region. The region has undergone significant suburban development recently, with the suburbs of Taylor, Kenny and Jacka as the latest to develop. The recent development in Taylor, Kenny and Jacka will provide improved diversity for social and affordable housing. The Strategy further outlines that additional housing options will be provided in the region in accessible locations, including locations in proximity to town centres and transportation. In addition, the strategies within the document present further planning for new facilities in the region, including schools, Amaroo tennis centre, Casey CRIP and a new community centre in the town centre.<sup>25</sup> The significant development within the Gungahlin region and increase in affordable and diverse housing may present further diverse socioeconomic populations for the Northside Hospital catchment.

## Molonglo Valley District Strategy

The Molonglo Valley District Strategy (2023) outlines the strategic direction and future planning outcomes for the Molonglo region. The Molonglo Valley is the newest district of the nine districts across Canberra and is the main greenfield development area. The development in Molonglo Valley is expected to provide affordable and diverse housing options which will accommodate for a significant portion of the overall demand for detached housing through townhouses and apartment style residences. As the district develops, there are expected changes to the employment base and demographics in the region. Development is also underway for local centres and community facilities, including new schools and college, district playing field, community centre and library facilities.<sup>26</sup> Similarly to the Gungahlin district, these significant developments and growing population is likely to further diversify the catchment for Northside Hospital.

## North And City District Planning Strategy

The Inner North and City District Planning Strategy (2023) outlines the strategic direction and future planning outcomes for the inner North and City region in Canberra. It is acknowledged that the City region does not fall within the catchment of Northside Hospital, however no strategic planning

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<sup>23</sup> The Belconnen, Gungahlin, Molonglo Valley and North and City District Strategies are prepared by the ACT prepared by the ACT Environment, Planning and Sustainable Development Directorate. The scope of the strategies include district strategies look at how the ACT will manage growth in a way that is sustainable. This way, Canberrans can continue to have access to services, transport, employment, health, education and nature. Accessed from: <https://www.planning.act.gov.au/professionals/our-planning-system/district-strategies>

<sup>24</sup> ACT Government. 2023. Belconnen District Strategy. Accessed from: [https://www.planning.act.gov.au/\\_data/assets/pdf\\_file/0010/2324683/district-strategies-2023-volume-2-district-strategies-belconnen.pdf](https://www.planning.act.gov.au/_data/assets/pdf_file/0010/2324683/district-strategies-2023-volume-2-district-strategies-belconnen.pdf)

<sup>25</sup> ACT Government. 2023. Gungahlin District Strategy. Accessed from: [https://www.planning.act.gov.au/\\_data/assets/pdf\\_file/0003/2324685/district-strategies-2023-volume-2-district-strategies-gungahlin.pdf](https://www.planning.act.gov.au/_data/assets/pdf_file/0003/2324685/district-strategies-2023-volume-2-district-strategies-gungahlin.pdf)

<sup>26</sup> ACT Government. 2023. Molonglo Valley District Strategy. Accessed from: [https://www.planning.act.gov.au/\\_data/assets/pdf\\_file/0006/2324688/district-strategies-2023-volume-2-district-strategies-molonglo-valley.pdf](https://www.planning.act.gov.au/_data/assets/pdf_file/0006/2324688/district-strategies-2023-volume-2-district-strategies-molonglo-valley.pdf)



documentation was provided which exclusively represents the North region. The North and City region is highly urbanised and has undergone significant developments and population growth. As the economic, civic and cultural centre of Canberra, it provides a wide range of facilities and assets. This region provides significant opportunity for partnerships for Northside Hospital with large and influential organisations such as Australian National University and Commonwealth Scientific and Industrial Research Organisation, amongst others<sup>27</sup>.

## 1.5 Guiding principles

The emphasis of the overall CSP will be on patient and family centred care, promote hospital avoidance where clinically appropriate, increasing ambulatory care and access to services within the community and improving system-wide integration. Hospital services will need to grow to address the very significant population growth and ageing of the population anticipated for the northside of ACT, and to provide accessible, timely and safe healthcare.

Service planning principles determine and guide the development of CSPs and provide a framework to achieve the vision and objectives of CHS. The following principles were endorsed:

- **Person-Centred and Inclusive Services:** Ensure all services prioritise consumer and carer consultation to promote shared decision-making, equity, and ease of access, with a focus on culturally safe and inclusive care for all populations.
- **Sustainable and Efficient Service Delivery:** Plan and deliver services informed by community need, making the best use of available resources to ensure long-term sustainability.
- **Evidence-Based, Timely, and Equitable Access:** Deliver the right service, at the right time, in the right place, by the right team guided by evidence and aimed at improving health outcomes, especially for priority populations.
- **High-Quality and Safe Care:** Provide care that meets the highest standards of safety, quality, and efficiency, ensuring a positive experience for both consumers and providers, while continually improving effectiveness.
- **Workforce Development and Innovation:** Foster a culture that attracts, develops, and retains skilled healthcare professionals through a supportive and respectful work environment, with a commitment to research, innovation, and continuous improvement in health outcomes.

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<sup>27</sup> ACT Government. 2023. Inner North and City District Strategy. Accessed from: [https://www.planning.act.gov.au/data/assets/pdf\\_file/0004/2324686/district-strategies-2023-volume-2-district-strategies-inner-north-and-city.pdf](https://www.planning.act.gov.au/data/assets/pdf_file/0004/2324686/district-strategies-2023-volume-2-district-strategies-inner-north-and-city.pdf)

## 1.6 Consultation Process

The development of CSP involved an extensive consultation process involving over 300 CHS, NCH and TCH executive, clinical, non-clinical and operational stakeholders as well as service partners across 50 individual interviews, focus groups and staff sessions. The CSP also harnesses the comprehensive consumer engagement undertaken by ACTHD<sup>28</sup> to inform early planning for the new Northside Hospital Project.

### Opportunities

**Building the role of NCH/Northside Hospital** as part of CHS, including clinical networks.

**Focusing on NCH speciality areas** to support CHS in Territory-wide service delivery.

**Streamlining the patient journey** through increased collaboration.

**Strengthening admission criteria.**

**Integrating the transport network** for inter-hospital transfers.

**Increasing outpatient services** such as Rapid Access Clinics to avoid admission.

**Strengthening partnerships** with university partners for research and workforce development.

**Investing in digital pathways** to support pre-admission and post-acute care.

### Challenges

**Increasing demand** across majority of services.

**Increasing presentations of paediatric people** attending the ED.

**Current transfer process of patients** between NCH and TCH and the influence of ACTAS on patient flow.

**Perceived disconnect with TCH services.**

**Addressing the needs of patient cohorts with varying complexity** across the hospital.

**Increasing volume of patients waiting in acute beds** for UCH or RACF placement.

**Workforce challenges** across medical, nursing and allied health.

**Limited research opportunities.**

<sup>28</sup> ACT Government. 2023. Phase 2 - Northside hospital consultation report - Designing ACT health services for a growing population. Accessed from: [https://yoursayconversations.act.gov.au/download\\_file/view/9781/2488](https://yoursayconversations.act.gov.au/download_file/view/9781/2488)

## 2. Key Drivers for Change

Various factors influence the delivery and access of health services, ranging from population growth, health status of the community, new service delivery models and broader technological advances and opportunities. The following represent high-level themes driving the need for change for North Canberra Hospital and include:

- Projected population growth in the Northside.
- Integration of NCH into CHS from the previously being delivered as a part of a publicly contracted service.
- Changing models of care and service delivery, with care increasingly moving to outpatient and community settings.
- Aging infrastructure of NCH and lack of master-planning across the hospital campus.
- Workforce and resourcing challenges across medical, nursing and allied health disciplines.
- Community expectations for seamless care delivery and access to high-quality and safe service.

It is evident that even with the significant health service operational changes, hospital avoidance programs and non-infrastructure solutions that are earmarked to be implemented given the integration of NCH into CHS, the current and projected demand for hospital health care remains substantial. Continuing on this pathway is unsustainable and there is a need for system transformation to ensure the right care is provided at the right time in the right place.

The proposed future approach to change will focus on developing virtual care and ambulatory care, developing and updating infrastructure and supporting new and innovative models of care, shifting care into the community accompanied by a modest increase in inpatient beds, to support the projected future population of the northside regions. There is a requirement to address existing operational issues, including fragmented patient flow and bed management, limited non-admitted outpatient capacity and ambiguous admission criteria, in the short to medium term.

### 2.1. Unsustainable demand for services

The local community requires the provision of local, comprehensive healthcare services, consistent with Role Delineation Level 4 to be provided at NCH. From 2018/19 to 2022/23, there has been a significant growth in demand for health services at NCH. These trends are expected to continue and extrapolated forward will be unsustainable with the current infrastructure. Current trends between 2018/19 and 2022/23 for NCH include:

- 1.4% reduction in adult acute medical and surgical overnight separations and 20.7% increase in adult acute overnight bed days including a 22.5% increase in the average length of stay from 3.8 days to 4.6 days.<sup>29</sup>
- 0.7% increase in maternity separations and 0.2% reduction in maternity bed days.<sup>30</sup>
- 14.6% increase in mental health overnight separations and 0.7% decrease in mental health overnight bed days including a reduced ALOS from 22.6 days to 20.0 days.<sup>31</sup>

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<sup>29</sup> ACTHD, 2024.2022/23 ABF Admitted Patient Extract. Includes NCH, acute care type. Excludes SRGs: chemotherapy, renal dialysis, unqualified neonates, care types: mental health, sub-acute and all others, and 0 to 15 years. Note: excludes Antenatal Admission and Postnatal Admission ESRGs due to coding change in 2022/23 which saw an over 100% increase in admitted antenatal and postnatal activity at both TCH and NCH.

<sup>30</sup> ACTHD, 2024.2022/23 ABF Admitted Patient Extract. Includes NCH, acute care type, Obstetrics SRG, all ages. Excludes SRGs: chemotherapy, renal dialysis, unqualified neonates and all other SRGs, care types: mental health, sub-acute and all others. Note: excludes Antenatal Admission and Postnatal Admission ESRGs due to coding change in 2022/23 which saw an over 100% increase in admitted antenatal and postnatal activity at both TCH and NCH.

<sup>31</sup> ACTHD, 2024.2022/23 ABF Admitted Patient Extract. Includes NCH, mental health care type. Excludes SRGs: chemotherapy, renal dialysis, unqualified neonates, care types: acute, sub-acute and all others, and 0 to 15 years.

- 31.6% increase in adult sub-acute overnight separations and 71.3% increase in sub-acute overnight bed days, influenced by Maintenance/Non-Acute activity.<sup>32</sup>
- Sub-Acute ALOS increasing from 11.2 days to 26.3 days.
- For CH, there was a 14.8% increase in overnight separations and 2.8% increase in overnight bed days.<sup>33</sup>
- For emergency department activity, given the COVID pandemic influencing how people accessed services between 2019/20 and 2021/22, a longer trend analysis was utilised for NCH, which had a 1.87% annual increase in emergency department (ED) presentations from 2018/19 to 2023/24.<sup>34</sup>

## 2.2. Population Growth

A key driver of increasing demand for health services is population growth and ageing. The population of the ACT overall is projected to grow by 17.8% from 457,565 people in 2022 to 538,793 people by 2031. By 2041, there is a projected 35.5% growth estimated for ACT to 619,876 people.

The majority of this growth is attributed to population growth across all ages in the northside of the Territory. By 2031, the Northside region is estimated to have a population of 343,636 people compared to 270,506 people in 2022. By 2041, an additional 150,203 people are projected to reside in the ACT North, bringing to total population to 420,709 people, representing a 55.5% increase from 2022.

As the Northside region also represents the natural catchment for NCH, with the majority of NCH activity being for Northside residents, the substantial population projected increase across 2031 and 2041 will likely strain NCH emergency and acute inpatient services, if investment is not made now to develop capacity within the health system to respond to this anticipated demand.

## 2.3. Integration of NCH into CHS

In July 2023, the integration of NCH into CHS was initiated, where previously services were delivered within a contracted agreement between the ACTHD and Calvary Health Care. With the creation of an integrated single network of public hospital and health services under the management of ACT Health, there is opportunity to reassess the distribution of services across the ACT.

It is well acknowledged that there are opportunities that can come from integrating NCH into the CHS, ranging from role clarity, improved networking of services, coordinated bed and patient transfer management, shared pathways, guidelines, and care standards.

This opportunity and key change driver for the ACT public health system enables CHS to provide a network of clinical services across the ACT to support access to high quality care for all residents. The CSP provides the opportunity to consider the service configurations, clinical networks and optimal care delivery settings best placed to deliver the right care at the right time and right place.

<sup>32</sup> ACTHD, 2024.2022/23 ABF Admitted Patient Extract. Includes NCH, sub-acute health care type. Excludes SRGs: chemotherapy, renal dialysis, unqualified neonates, care types: acute, mental health and all others, and 0 to 15 years.

<sup>33</sup> ACTHD, 2024.2022/23 ABF Admitted Patient Extract. Includes NCH\_Clarie Holland House, sub-acute health care type. Excludes SRGs: chemotherapy, renal dialysis, unqualified neonates, care types: acute, mental health and all others, and 0 to 15 years.

<sup>34</sup> CHS, 2024. North Canberra Hospital, Performance Profile, Series 1: 2017/18 - 2023/24. Includes NCH and emergency department patient care, all ages. Note: Series 1 has an 85% data quality assumption.



## 2.4. Delivering Care Outside the Hospital

There is system-wide benefit in reducing avoidable hospital and emergency department presentations through systematic approaches to better supporting people, especially priority populations in the community. Hospital avoidance, hospital substitution programs and new models of care are being rolled out at scale, particularly to target and support vulnerable communities and those people with chronic illnesses who are the most frequent re-users of hospital services. Models of care that shift care from within the hospital to outside of it and include core components such as community-based health care, virtual care, health literacy peer support, community development and self-management are key strategies for managing future demand. The models will need to be supported by strengthened partnerships, digital enablement and funding models involving primary care and social care sectors. This strengthens the ability of CHS to purposefully shift care into the community and into people's homes.

The CSP will consider the reconfiguration of hospital capacity and infrastructure required with new models of care by exploring and enabling additional HiTH, community-based care and virtual care capacity, thus moving the focus of care from the admitted hospital environment to ambulatory and community settings over time.

## 2.5. Changing Models of Care and Innovation in Service Delivery

Furthermore, systemic shifts in the care paradigm are occurring at a number of other levels:

- There is **increasing investment in digital and smart technologies** in health, with strong investment in core analytics, customer experience and virtual healthcare. Virtual healthcare includes using technology to more accurately diagnose, treat, deliver, schedule, monitor and communicate about care. These disruptive technologies are currently transforming the entire care continuum from general practice and emergency care, admission and discharge, chronic disease management, patient monitoring and adherence to treatments, interpreting and improving clinician engagement.
- **Robotics** has numerous future applications in healthcare. CHS is exploring the way robotics can significantly change the way health care is practised, particularly in the fields of surgery and pharmacy. Robotics also currently improves drug preparation, sterilises medical equipment, and allows our human resources to function in higher-value areas. Similarly digital reality or virtual reality similarly has applications across patient and clinician education, treatments, peri-operative planning and pain management.
- The **shift to ambulatory models of care** will occur as care and procedures are increasingly being undertaken on an outpatient basis.
- **Medical services are increasingly being provided on a day only basis.** There is likely to be more availability of procedures and diagnostics in the emergency, cardiology and respiratory departments, with greater capacity for monitoring organ function and new approaches for time-critical illnesses such as stroke and heart disease. Flexible spaces for procedures and novel models of care will be required while acknowledging that patient cohorts are becoming increasingly more complex, with multiple co-morbidities and complex health and social needs.

- Surgery will continue to focus on **minimally invasive procedures and interventions**, resulting in reduced hospital stay and improved outcomes. Hybrid and robotic operating theatres will continue to enable greater integration of technology including interventional radiology services to both guide and direct surgical interventions. There is evidence supporting the utilisation of robotic surgery in urological, gynaecological and colorectal surgery and improved quality of life (QOL)<sup>35</sup>, further supporting the need to incorporate it as part of routine surgical services delivery.
- Expensive and **aggressive drug regimens and novel pharmaceutical treatments** are likely to be even more frequently used for respiratory, cardiac, cancer, immunology and other systemic conditions.
- Medical Imaging will have an **increasing diagnostic and therapeutic role** (intervention) with some of these services being delivered using AI and robotic technologies. There is likely to be an increase in interventional radiological procedures as well as increased utilisation of imaging across all clinical streams particularly to support patient monitoring and precision medicine.
- Increasingly **care is being personalised with precision medicine** facilitating interventions that can be finely tuned to each individual. This will be further developed through faster diagnostics, genetic profiling, gene therapies, genomics, advanced computing, greater connectivity and artificial intelligence (AI). By 2036, it is likely that medicine will transition from universal standard care to universal precision care, promising customised care for each patient, individual risk profiling, earlier intervention and disease preventions, as well as personally tailored maximally cost-effective treatments. At a population level, precision medicine will mean that prevention can be more easily targeted to at-risk groups resulting in longer survival rates.<sup>36</sup>

## 2.6. Aging infrastructure

Many areas of NCH are space constrained, with a lack of clinical consultation, diagnosis, treatment, interview, storage, patient amenity and waiting areas. Stakeholder consultation revealed that the lack of space has significantly impacted on the ability to deliver new models of care as well as deliver the required and expand non-admitted patient services. Overall capital investment has been inadequate to optimise core clinical service functionality for contemporary care and appropriate patient flow.

Furthermore, the limited overall masterplanning at NCH has been noted with minimal co-location of inpatient and non-admitted services and a sprawled approach to infrastructure development over time. For example, non-admitted services are located in separate buildings, far from other clinical services, which requires clinicians, patients and their families to navigate the long distance and physical layout between services. It was also noted that due to limited spaces for teaching, education and non-admitted service delivery, the hospital has experienced training accreditation challenges.

## 2.7. Workforce Enabling Future Service Delivery

The delivery of healthcare across the ACT is facing significant workforce challenges, including shortages of skilled healthcare professionals, and difficulties in attracting and retaining staff due to competition with other regions and sectors, particularly the private health sector. These challenges are compounded by an aging workforce and the increasing demand for services driven by the ACT's growing and aging population. Additionally, the need for specialised skills across medical, surgical

<sup>35</sup> Li, A., Stanislaus, C. T., Steffens, D., McBride, K. E., Leslie, S., Thanigasalam, R., & Cunich, M. 2024. Prospective cohort study investigating quality of life outcomes following multi-speciality robotic-assisted surgery. *Journal of Minimal Access Surgery*, 20(1), 37–46. Accessed from [https://doi.org/10.4103/jmas.jmas\\_253\\_22](https://doi.org/10.4103/jmas.jmas_253_22)

<sup>36</sup> Boccia, S., Ádány, R., Villari, P., Cornel, M. C., De Vito, Corrado., & Pastorino, Roberta. (Eds.). 2021. *Personalised Health Care: Fostering Precision Medicine Advancements for Gaining Population Health Impact* (1st ed. 2021.). Springer International Publishing. Accessed from <https://doi.org/10.1007/978-3-030-52399-2>

and clinical support (radiology, pharmacy and pathology) areas further strains the workforce. These factors contribute to pressure on service delivery, impacting access to care, wait times, and the sustainability of healthcare services within the region.

Other key enablers for workforce development are research, education and training. Expanding the capacity of the health service to participate and undertake research while embedding education and training, which is vital to ongoing education and development of the clinical workforce across medical, nursing and allied health disciplines. Consultation revealed the importance of research and education and training as key strategies to address current workforce challenge and strengthen efforts to attract and retain skilled and high-talent people.

## **2.8. Consumer and Community Empowerment**

A fundamental principle underlying system transformation in health care is respect for patient decisions, values and preferences. Patients are increasingly expecting transparency, access and more tailored and personalised care. Community engagement involves patients and consumers being active caretakers of their own health. Community participation is ultimately concerned with 'working with' rather than 'doing to' people. Integral to people-centred engagement is supporting health literacy. CHS will continue to embed people centred care as 'core business' across all parts of the organisational functioning as well as enable consumers and patients to become involved in the Northside Hospital Project redevelopment process. This will leverage the previous consumer engagement approach utilised for the recent TCH clinical services expansion project. Consumers will also be involved in the co-design of the Future Service Framework process that will be following the CSP development to explore and define new models of care across various clinical specialities/services to inform the Northside Hospital Project.

### 3. Strategies to Address Demand

This CSP, aligned with ACT government priorities and the CHS Strategic Plan provides the opportunity to transform a key part of CHS to provide more value-based care in future-oriented, resilient facilities that are linked and integrated with primary and community-based services<sup>37</sup>. NCH infrastructure is inadequate for both the current and forecasted hospital demand to provide high quality care, innovation and to support new models of care.

#### 3.1. Non-Asset, Efficiency and Effectiveness Strategies

Non-asset-based improvements, focusing on optimising resource use and clinical outcomes, are essential given the currently increasing and forecasted patient demand, and budgetary constraints. It is important to note that non-asset solutions are not without investment, as these often rely on increased workforce requirements, physical infrastructure in other settings such as non-admitted spaces, or expanded digital infrastructure to implement.

##### Process Standardisation

To address current trends, NCH will be required to streamline patient flow, reduce waiting times for surgical and non-admitted services, and eliminating inefficiencies in clinical service delivery and associated processes. Process standardisation has also shown benefits in improving care efficiency while maintaining quality outcomes. This can include clinical redesign of existing services to maximise existing resources and patient care pathways.<sup>38</sup>

Workforce management is crucial including utilising data analytics to better manage resource allocation across the CHS. This will enable the required composition of services being delivered from NCH and TCH respectively as well as minimise reliance on contracted services to the private health sector. Clinical networks across CHS that utilise the capacity and capability of services across NCH, TCH and UCH will allow for the finite specialist workforce within the public system to deliver care from the right place and the right time.

These strategies underscore a holistic approach to hospital management, emphasising adaptability, strategic alignment, and workforce engagement to improve both clinical and operational outcomes. For NCH, addressing its immediate operational efficiencies are critical to change the ongoing trends particularly related to the elevated length of stay observed which will have influenced base case forecasted demand. The inclusion of scenario models that account for reduced length of stay, shifting of inpatient activity to other care settings and changing patient flows to reflect the changing state of NCH service delivery will be explored further.

##### Predictive Analytics

The use of data, predictive analytics and scenario planning has become more prominent and needs to continue throughout the redevelopment process. The implementation of the DHR in 2022 will allow CHS to collect, extract and interpret data in new ways to inform service design, demand forecasting and resource allocation. The approach of using real time data informed by clinical stakeholders and the patient experience will enable ongoing efficiency as well as help CHS to anticipate and respond to patient care needs effectively.

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<sup>37</sup> ACT Government. 2023. Value Base Health Care – ACT Health Forum #1 Report. Accessed from: [https://www.act.gov.au/data/assets/pdf\\_file/0007/2405923/ACT-Health-Forum-Report-November-2023.pdf](https://www.act.gov.au/data/assets/pdf_file/0007/2405923/ACT-Health-Forum-Report-November-2023.pdf)

<sup>38</sup> Walter, JK., Sharma, A. and Harrison, R. 2023. Efficiency Improvement Strategies for Public Health Systems: Developing and Evaluating a Taxonomy in the Australian Healthcare System. *Healthcare* 2023, 11(15), pp. 2177. Accessed from: <https://www.mdpi.com/2227-9032/11/15/2177>



## Virtual Hospital and Care Delivery

Another non-asset solution, though required well-consider infrastructure and workforce consideration, includes exploration of a virtual hospital. It enhances accessibility by providing remote care, reducing the need for physical visits, and thus can lower operational costs through considered reduction in physical bed spaces. It is well established that virtual care harnesses both physical and human resources to provide care more efficiently and has become an alternative mode of care delivery. This is becoming imperative as health systems strive to meet the needs of large, diverse patient populations and is true for NCH with its diverse population and projected population growth over the next 10 to 20 years.<sup>39</sup>

This and other digital service delivery model can support patient care through continuous monitoring and telehealth consultations as well as alleviate the burden on the hospital to relieve resources for critical in-person care. By leveraging digital health technologies, workflows can be streamlined, patient engagement enhanced, and resource utilisation optimised, leading to a more sustainable and patient-centered healthcare system. CHS will continue to explore the required digital models throughout the planning for the new Northside Hospital aligned to the Future Service Framework process, where new and innovative models of care across various specialities will be explored.

## Contemporary Models of Care

Models of care focused on delivering healthcare in the home are revolutionising the way services are provided, offering a flexible, patient-centered approach that avoids the need for extensive infrastructure investment. These non-asset solutions leverage existing technology, care teams, and patients' homes to deliver high-quality care directly where people feel most comfortable. These models improve accessibility and outcomes for chronic disease management to post-acute care. At this time, CHS is developing strategic Future Service Frameworks for selected clinical services. It is recommended that detailed models of care with a focus on care delivered in the home. Upon development of these models, tailored implementation strategies supported by implementation science will lead to successful transition toward these contemporary healthcare delivery models.

### 3.2. Latent Demand Considerations

Latent demand within a health system refers to the unmet needs of a population that haven't been addressed due to limited access to services, long waiting times, or accessing care through private health care providers. So, when a new hospital is commissioned, there is the real potential for this latent demand to emerge. A key consideration is a surge in patient activity by attracting patients who previously could not access care or by those who would have otherwise sought care in the private health system. It is expected that there will be a redistribution of activity from the private sector and to some extent, TCH.

Operational challenges can occur in trying to manage higher than anticipated patient volumes which can then impact scheduling, patient flow, and bed management. This can also place further pressure on the CHS operations and fiscal position by having to manage the increased demand with increased workforce or extending operating hours of particular services such as non-admitted clinics and operating theatres.

Further, the community will likely have high expectations from the new Northside Hospital and if it is unable to meet these expectations due to latent demand, it can lead to dissatisfaction, negative perceptions and have a reputational risk for CHS.

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<sup>39</sup> Hole, C., Munn, L. and Swick, M. 2021. The Virtual Hospital. JONA: The Journal of Nursing Administration, 51(10), pp. 500-506. Accessed from: doi: 10.1097/NNA.0000000000001054.

Responding to changes in patient flow activity requires careful planning and resource management to ensure that the new hospital can provide high-quality care without being overwhelmed. This may include a phased approach to commissioning services, increased staffing during the go-live period, and extensive consultation with consumers and government.

## 4. Canberra Health Service Context

CHS delivers services across the ACT providing health care to residents of the ACT and the surrounding Southern NSW region. It is recognised as ACT's largest public health care provider. Figure 3 shows the location of public hospitals, community-based services and walk-in centres across the Territory.

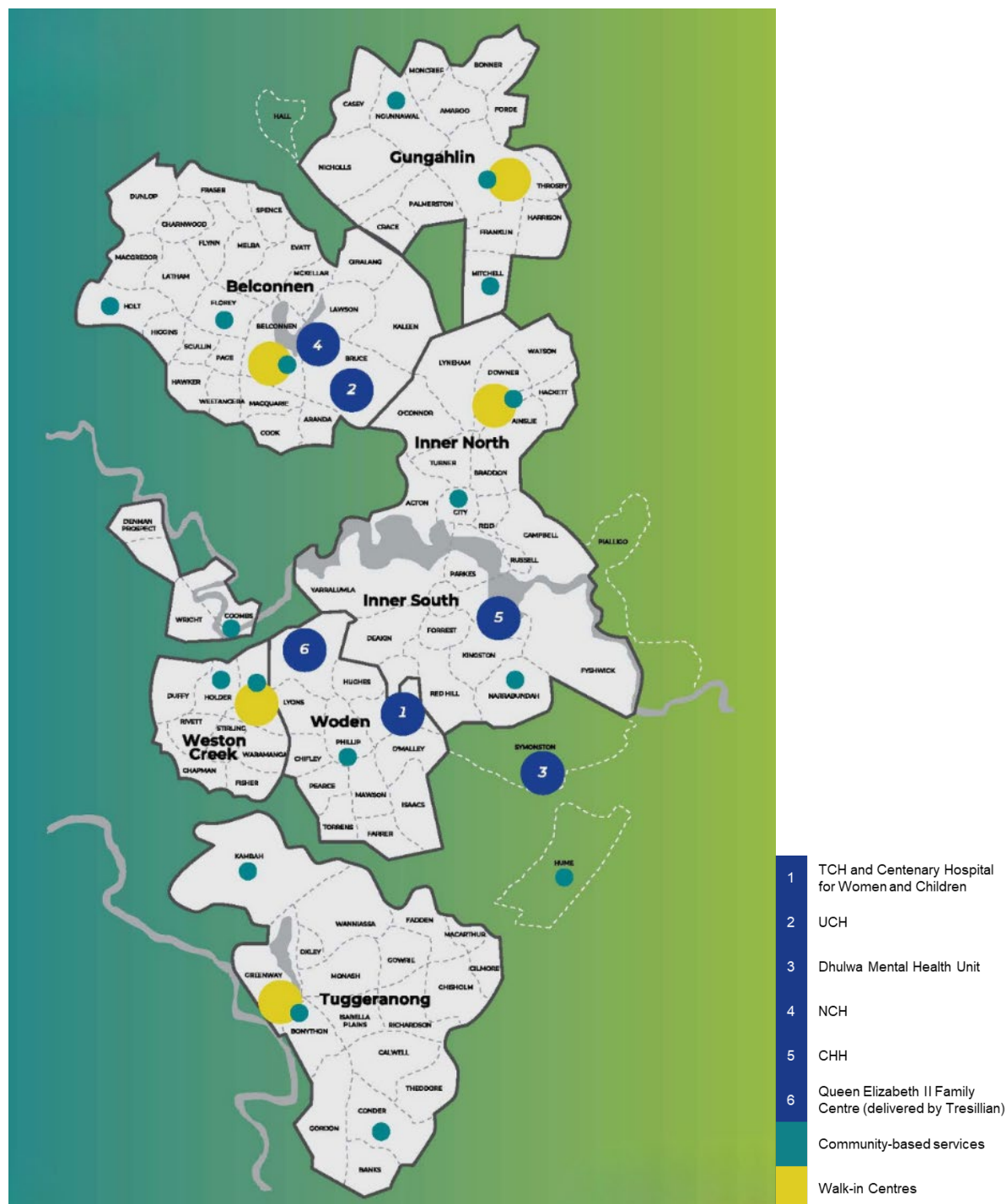


Figure 3: Map of ACT Government funded services. Source: ACT Government, 2022.

The table below represents the facilities and services delivered by CHS as a single and integrated public health system.<sup>40 41</sup>

| Service                                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TCH and Centenary Hospital for Women and Children</b> | TCH is a tertiary teaching hospital located in Garran and has 670 beds. TCH provides trauma services and most major medical and surgical sub-specialty services. Services provided include medical, surgical, emergency, maternity, paediatrics, specialist outpatient clinics, mental health, critical care, allied health, sexual health, alcohol and drug treatment and other clinical support services.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>NCH and CHH</b>                                       | NCH is a 250-bed general and teaching hospital that provides emergency, acute care, elective surgery and generalist inpatient hospital services, as well as maternity and special care nursery, intensive care and coronary care services, medical imaging and pathology and select outpatient services.<br><br>CHH is a 27-bed hospice providing specialist palliative care through inpatient services, outpatient clinics, community based and specialist outreach services.                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>University of Canberra Hospital (UCH)</b>             | UCH is located in Bruce and has 84 inpatient beds and 75-day places. Services provided include inpatient and day rehabilitation services and sub-acute mental health. The facility also includes the Clinical Education and Research Centre.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Mental Health Services</b>                            | The Mental Health Service delivers over 30 distinct public mental health services within the ACT. These include inpatient, and community based and provide services to people presenting with different levels of acute mental illness. Adult, adolescent and older persons inpatient units are located at TCH, NCH and UCH, the Dhulwa Mental Health Unit at Symonston, the Gawanggal Mental Health Unit at Bruce and the Eating Disorders Residential Centre at Coombs <sup>42</sup> .<br><br>Services that exist within the community setting include early detection, intervention, and hospital diversion. Adult Community Recovery Service teams (CRS), Child and Adolescent Mental Health Services (CAMHS) and Older Persons Mental Health Services (OPMHS) provide community-based treatment and support services together with primary healthcare networks to consumers and their families. <sup>43</sup> |
| <b>Walk-in Centres</b>                                   | Nurse led Walk-in Centres are located in Belconnen, Dickson, Gungahlin, Tuggeranong and Weston Creek. Services provided include free treatment for minor injuries and illnesses, health advice and information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Community Health Centres</b>                          | Community Health Centres provide general and specialist health services and are located in Belconnen, Canberra City, Dickson, Gungahlin, Kambah, Phillip, Weston and Tuggeranong. Services provided include rehabilitation, aged care services, women, youth and children's services, mental health, dental services, allied health and nursing services.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Maternal and Child Health Services</b>                | Maternal and Child Health services are located in ACT Government sites at Lanyon, Tuggeranong, Phillip, Narrabundah, Belconnen, Florey, Kambah, West Belconnen, City, Dickson, Gungahlin and Ngunnawal. Services provided include provision of health information and advice on baby and child health and development, breastfeeding, nutrition and feeding, sleep issues, parenting, child safety, behavioural issues and perinatal mental health.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Community Paediatric and Child Health Service</b>     | The Community Paediatric and Child Health Service is delivered to children aged between 0 to 16 and is located in Holder. Services provided include assessment, treatment and advice for developmental concerns or disability.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Justice Health Services</b>                           | Justice Health Services are delivered at the Alexander Maconochie Centre in Hume and Bimberi Youth Justice Centre in Mitchell. Services provided include medical, dental and mental health care for people in custody, including youth detention.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Queen Elizabeth II Family Centre</b>                  | Queen Elizabeth II Family Centre is located in Curtin, has approximately 13 beds and is delivered by Tresillian with governance residing with ACTHD. Services provided include a residential program for families in postnatal and early childhood experiencing health and behavioural difficulties.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

**Table 2: Canberra Health Services – Description of Services. Source: ACT Government, 2022 ACT Health Services Plan 2022-2030. Accessed August 2024.**

<sup>40</sup> Canberra Health Services. 2024. Canberra Health Services Strategic Plan 2024 – 2029. Accessed from:

[https://www.canberrahealthservices.act.gov.au/\\_data/assets/file/0005/1933178/CHS\\_Strategic-Plan-2024-2029\\_DIGITAL-FA.pdf](https://www.canberrahealthservices.act.gov.au/_data/assets/file/0005/1933178/CHS_Strategic-Plan-2024-2029_DIGITAL-FA.pdf)

<sup>41</sup> ACT Government. 2022. ACT Health Services Plan 2022-2030. Accessed from:

[https://www.act.gov.au/\\_data/assets/pdf\\_file/0018/2250441/ACT-Health-Services-Plan\\_2022-to-2030.pdf](https://www.act.gov.au/_data/assets/pdf_file/0018/2250441/ACT-Health-Services-Plan_2022-to-2030.pdf)

<sup>42</sup> Canberra Health Services. 2024. Model of Care – Eating Disorders Residential Treatment Centre. Accessed from:

[https://www.canberrahealthservices.act.gov.au/\\_data/assets/pdf\\_file/0010/2515870/Eating-Disorders-Residential-Treatment-Centre-Model-of-Care-V2.1\\_Signed.pdf](https://www.canberrahealthservices.act.gov.au/_data/assets/pdf_file/0010/2515870/Eating-Disorders-Residential-Treatment-Centre-Model-of-Care-V2.1_Signed.pdf)

<sup>43</sup> Canberra Health Services. 2022. Model of Care Adult Acute Mental Health Services Inpatient Units Model of Care. Accessed from:

[https://www.canberrahealthservices.act.gov.au/\\_data/assets/pdf\\_file/0004/2430967/Adult-Acute-Mental-Health-Services-Model-of-Care.pdf](https://www.canberrahealthservices.act.gov.au/_data/assets/pdf_file/0004/2430967/Adult-Acute-Mental-Health-Services-Model-of-Care.pdf)

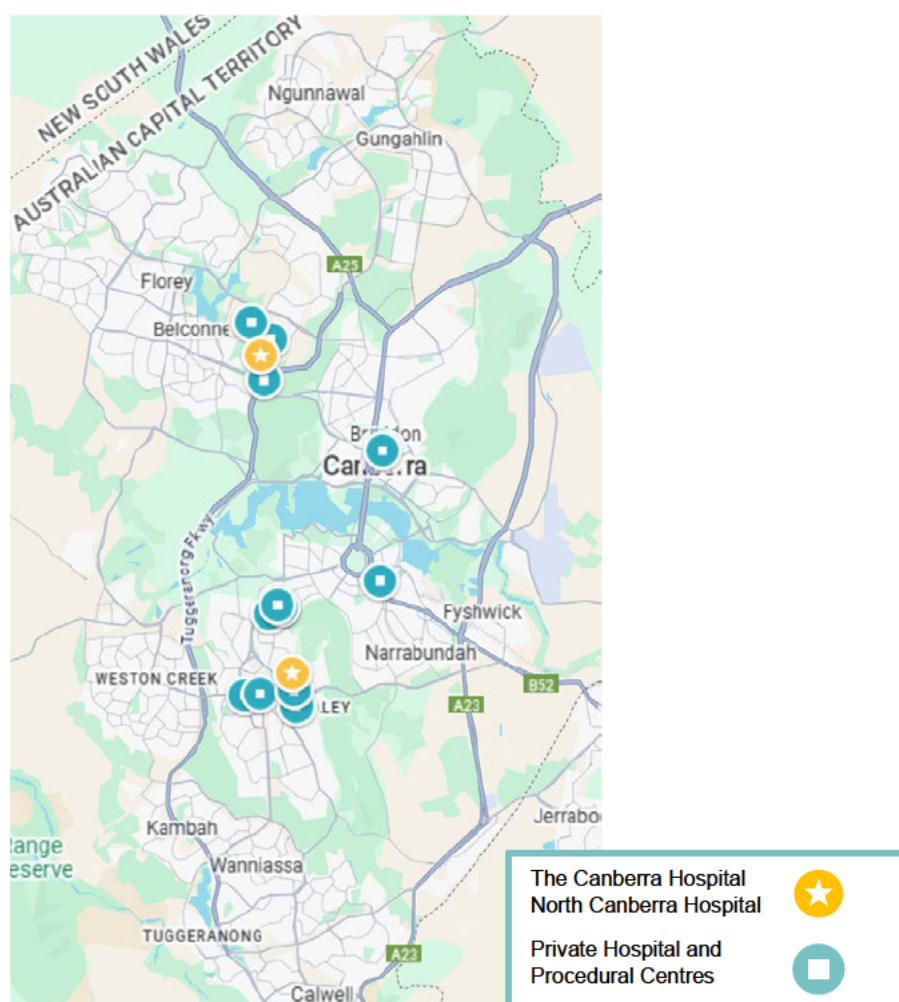


Appendix 1 provides the current role delineation level (RDL) for services provided at TCH, UCH and NCH.

ACTHD utilises the NSW Health Guide to the Role Delineation of Clinical Services to describe services across the three major hospitals within the Territory.<sup>44</sup> The purpose of role delineation is to provide a framework that describes the minimum support services, workforce and other requirements for clinical services to be delivered safely. It delineates the level of clinical services, not hospitals or health facilities as a whole, to describe the respective complexity of services delivered at each respective facility.<sup>45</sup>

## 5. Private Health Service Providers

ACT has a comprehensive private hospital and health service sector, which the ACTHD contract services from in order to manage demand within the public sector. The figure below represents the approximate locations of the private hospitals and procedural centres within ACT, outlined in Table 2. The list of specialities provided at each hospital and centre, and the indicative number of practitioners identified is in Appendix 2.



**Figure 4: Map of Private Hospitals and Procedural Centres.** Sources: healthshare.com.au, 2024 – accessed from: <https://www.healthshare.com.au/hospitals/hospitals-in-act/>; Google Maps, 2024.

<sup>44</sup> ACT Government. 2022. ACT Health Services Plan 2022-2030. Accessed from: [https://www.act.gov.au/data/assets/pdf\\_file/0018/2250441/ACT-Health-Services-Plan\\_2022-to-2030.pdf](https://www.act.gov.au/data/assets/pdf_file/0018/2250441/ACT-Health-Services-Plan_2022-to-2030.pdf)

<sup>45</sup> NSW Ministry of Health. 2024. NSW Health Guide to the Role Delineation of Clinical Services. Accessed from: <https://www.health.nsw.gov.au/services/Publications/role-delineation-of-clinical-services.pdf>

| Region    | Name                                                      | Location |
|-----------|-----------------------------------------------------------|----------|
| Northside | Calvary Bruce Private Hospital                            | Bruce    |
|           | Canberra Surgicentre                                      | Braddon  |
|           | Icon Cancer Centre Canberra                               | Bruce    |
| ACT South | ACT Endoscopy                                             | Deakin   |
|           | Barton Private Hospital                                   | Barton   |
|           | Brindabella Endoscopy Centre                              | Garran   |
|           | Calvary John James Hospital                               | Deakin   |
|           | Canberra Imaging Group <sup>46</sup> (Flagship in Deakin) | Deakin   |
|           | Canberra Microsurgery                                     | Phillip  |
|           | Canberra Private Hospital                                 | Deakin   |
|           | Canberra Region Neurology and Pain Centre <sup>47</sup>   | Phillip  |
|           | Genea Canberra                                            | Deakin   |
|           | Mugga Wara Endoscopy Centre <sup>48</sup>                 | Garran   |
|           | National Capital Private Hospital                         | Garran   |

**Table 3: Private Hospital and Health Service Providers within ACT.** Source: [healthshare.com.au](https://www.healthshare.com.au), 2024. Accessed from: <https://www.healthshare.com.au/hospitals/hospitals-in-act/>. Excludes private medical imaging services that deliver diagnostic services only.

As observed, private hospital and procedural services are heavily concentrated around or in close proximity to TCH and NCH. The majority of private services are located in the South Canberra region, despite the majority of the population residing in the ACT North region with the region projected to increase by 27% to 343,636 people by 2031 and by 55.5% to 420,709 people by 2041.

This has less of a challenge for physically accessing services, given that the private sector delivers specialist services that people are willing to travel for and the geographic proximity of the Territory. However, access is a challenge given that there are out of pocket expenses associated with accessing private health services including private allied health and diagnostic services and the recent cost of living crisis further exacerbates this. It has been documented that services and practitioners are free to set their fees if Medicare fees are set at low levels, further impacting the equity of access issue. This is further compounded by workforce shortages, higher cost of delivering care in regional centres and specialists charging more than three times the Medicare Benefits Scheme (MBS) rate for common procedures.<sup>49</sup>

For CHS, engaging and contracting services with the private sector enables patients to receive the care and services they require, however this further impacts on operational sustainability, has fiscal implications and contributes to the existing fragmented and uncoordinated care pathways that have been outlined throughout stakeholder consultation.

<sup>46</sup> Canberra Imaging Group has centres with ACT at Belconnen, Bruce, Deakin, Dickson, Garran, Gungahlin and Wanniasa. It also has established centres at Goulburn and Queanbeyan, within NSW.

<sup>47</sup> Also has a centre at the Ives Complex in Bruce

<sup>48</sup> Located within National Capital Private Hospital

<sup>49</sup> Angeles, MR., Crosland, P. and Hensher, M. 2023. Challenges for Medicare and universal health care in Australia since 2000. Medical Journal of Australia, 218(7). Accessed from: <https://www.mja.com.au/journal/2023/218/7/challenges-medicare-and-universal-health-care-australia-2000>



## 6. North Canberra Hospital Context



Figure 5: North Canberra Hospital

NCH is a 250-bed public hospital located in Bruce. The NCH was previously referred to as 'Calvary Public Hospital Bruce' and in July 2023, Calvary Public Hospital Bruce transitioned across to CHS and is now known as NCH.

Services at NCH are predominately at Role Delineation Level 4 and include emergency medical, surgical, maternity and sub-acute services. The following services are currently provided by NCH:

- Emergency Department.
- Critical Care including Intensive Care and Coronary Care.
- Medical Services including General Medicine, Cardiology, Neurology, Geriatrics, Respiratory and Endocrinology.
- Surgical Services including General Surgery, Orthopaedics, Breast Surgery, Gynaecology, Urology and Ophthalmology.
- Maternity Services including Special Care Nursery.
- Palliative Care at CHH.
- Mental Health including Adult and Older Persons inpatient units.
- Medical Imaging including X-ray, Ultrasound, CT and MRI (limited contracted service).
- Ambulatory Care and Outpatient Services including Care Closer to Home Services.
- Allied Health including Physiotherapy, Occupational Therapy, Dietetics, Social Work, Psychology, Speech Pathology, Aboriginal Liaison and Pastoral and Spiritual Care.
- Pharmacy.

## 7. Catchment Profile

At present, the primary catchment for the Northside Hospital is the Belconnen, Gungahlin, Molonglo and North Canberra regions<sup>50</sup>. It is acknowledged that residents from outside the Territory, in particular from Southern NSW comprising of Queanbeyan, Young – Yass, Goulburn – Mulwaree, South Coast and Snowy Mountains regions, currently access NCH services.

### 7.1 Population Profile

Between 2016 and 2021, the population for ACT has increased by 14.4% with those aged over 65 years having the highest growth rate compared with other ages, demonstrating the aging of the population overall with 24.5% growth. The population aged between 5 and 14 years increased by 18% combined, over the five-year period.

| Age               | Australian Capital Territory, 2016 | Australian Capital Territory, 2021 | Variance      | Growth 2016-2021 |
|-------------------|------------------------------------|------------------------------------|---------------|------------------|
| 0-4 years         | 26,796                             | 26,680                             | -116          | -0.4%            |
| 5-9 years         | 25,449                             | 29,162                             | 3,713         | 14.6%            |
| 10-14 years       | 22,233                             | 27,097                             | 4,864         | 21.9%            |
| 15-19 years       | 24,506                             | 26,348                             | 1,842         | 7.5%             |
| 20-24 years       | 31,430                             | 34,261                             | 2,831         | 9.0%             |
| 25-29 years       | 32,485                             | 39,282                             | 6,797         | 20.9%            |
| 30-34 years       | 33,630                             | 38,468                             | 4,838         | 14.4%            |
| 35-39 years       | 30,188                             | 37,236                             | 7,048         | 23.3%            |
| 40-44 years       | 28,213                             | 32,148                             | 3,935         | 13.9%            |
| 45-49 years       | 26,554                             | 29,284                             | 2,730         | 10.3%            |
| 50-54 years       | 24,433                             | 26,925                             | 2,492         | 10.2%            |
| 55-59 years       | 22,359                             | 23,926                             | 1,567         | 7.0%             |
| 60-64 years       | 19,147                             | 21,481                             | 2,334         | 12.2%            |
| 65-69 years       | 17,287                             | 18,513                             | 1,226         | 7.1%             |
| 70-74 years       | 12,167                             | 17,162                             | 4,995         | 41.1%            |
| 75-79 years       | 8,522                              | 11,749                             | 3,227         | 37.9%            |
| 80-84 years       | 5,837                              | 7,598                              | 1,761         | 30.2%            |
| 85 years and over | 6,159                              | 7,181                              | 1,022         | 16.6%            |
| <b>Total</b>      | <b>397,395</b>                     | <b>454,501</b>                     | <b>57,106</b> | <b>14.4%</b>     |

Table 4: Current Population for ACT, 2022 to 2041. Source: ABS Census, 2021. Accessed August 2024.

The overall ACT population is projected to significantly increase with a total population estimate of 619,876 people by 2041, equating to a projected increase of 35.5%, an additional 162,311 people<sup>51</sup>.

In 2022, the population of the Northside catchment (ACT North) is 270,506 people, accounting for 59.1% of total number of people in the ACT. By 2031, an additional 73,130 people are projected to be residing in the Northside catchment. By 2041, the projected increase will total 150,203 people, representing a 55.5% increase from 2022.

<sup>50</sup> Note SA3 groupings consistent with the ABS groupings and population projections, have been used. Refer to Appendix 2 for a description on the SA regions and the makeup of the regions identified as the primary catchment in this plan.

<sup>51</sup> ACT Government. Latest ACT Population Projections. Accessed from: <https://catalogue.data.infrastructure.gov.au/dataset/rdh-latest-act-population-projections>

All regions within the Northside catchment are projected to increase considerably by 2031 and 2041, compared to the Southside region of the ACT. The largest projected increase is observed in Molonglo with this region projecting an increase of 21,020 people by 2031 and 55,492 by 2041.

| Region          | 2021/22 | 2023/24 | 2025/26 | 2030/31 | 2035/36 | 2040/41 | Growth<br>2022 to 2031 |        | Growth<br>2022 to 2041 |        |
|-----------------|---------|---------|---------|---------|---------|---------|------------------------|--------|------------------------|--------|
|                 |         |         |         |         |         |         | No.                    | %      | No.                    | %      |
| Belconnen       | 105,976 | 108,179 | 111,884 | 121,436 | 129,266 | 138,195 | 15,460                 | 14.6%  | 32,219                 | 30.4%  |
| Gungahlin       | 90,383  | 96,418  | 100,954 | 106,723 | 111,214 | 116,451 | 16,340                 | 18.1%  | 26,068                 | 28.8%  |
| Molonglo        | 12,102  | 14,460  | 18,287  | 33,122  | 51,692  | 67,594  | 21,020                 | 173.7% | 55,492                 | 458.5% |
| North Canberra  | 62,045  | 66,089  | 70,811  | 82,355  | 90,511  | 98,469  | 20,310                 | 32.7%  | 36,424                 | 58.7%  |
| ACT North Total | 270,506 | 285,146 | 301,936 | 343,636 | 382,683 | 420,709 | 73,130                 | 27.0%  | 150,203                | 55.5%  |
| ACT South Total | 187,059 | 189,034 | 191,306 | 195,157 | 196,548 | 199,167 | 8,098                  | 4.3%   | 12,108                 | 6.5%   |
| ACT Total       | 457,565 | 474,180 | 493,242 | 538,793 | 579,231 | 619,876 | 81,228                 | 17.8%  | 162,311                | 35.5%  |

Table 5: Population Projections by Northside regions, 2022 to 2041. Source: ACT Government, 2023 Latest ACT Population Projections. Accessed August 2024.

Overall across the ACT, there will be an additional 15,485 children (aged 0-15 years) by 2031 and an additional 30,157 children by 2041, representing a 33.7% increase with 63.6% projected to be living across the Northside regions.

For those aged over 75 years, there is a projected increase of 34.4% representing 9,697 people by 2031 and a 56.0% increase (15,769 people) by 2041. It is estimated that by 2041, 58.9% will reside in the Northside of the ACT, compared to 41.1% in the ACT South areas.

|           | Age Groups   | 2021/22        | 2023/24        | 2025/26        | 2030/31        | 2035/36        | 2040/41        | Growth<br>2022 to 2031 |              | Growth<br>2022 to 2041 |              |
|-----------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------------|--------------|------------------------|--------------|
|           |              |                |                |                |                |                |                | No.                    | %            | No.                    | %            |
| ACT North | 0 - 15       | 53,581         | 56,732         | 59,674         | 66,790         | 73,936         | 80,740         | 13,209                 | 24.7%        | 27,159                 | 50.7%        |
|           | 16 - 49      | 147,969        | 154,220        | 162,569        | 183,147        | 201,417        | 219,441        | 35,178                 | 23.8%        | 71,472                 | 48.3%        |
|           | 50 - 64      | 38,184         | 41,029         | 44,019         | 51,783         | 59,043         | 65,893         | 13,599                 | 35.6%        | 27,709                 | 72.6%        |
|           | 65 - 74      | 17,642         | 18,341         | 19,197         | 21,891         | 25,253         | 28,772         | 4,249                  | 24.1%        | 11,130                 | 63.1%        |
|           | 75+          | 13,130         | 14,824         | 16,477         | 20,025         | 23,034         | 25,863         | 6,895                  | 52.5%        | 12,733                 | 97.0%        |
|           | <b>Total</b> | <b>270,506</b> | <b>285,146</b> | <b>301,936</b> | <b>343,636</b> | <b>382,683</b> | <b>420,709</b> | <b>73,130</b>          | <b>27.0%</b> | <b>150,203</b>         | <b>55.5%</b> |
| ACT South | 0 - 15       | 35,981         | 36,815         | 37,430         | 38,257         | 38,552         | 38,979         | 2,276                  | 6.3%         | 2,998                  | 8.3%         |
|           | 16 - 49      | 83,551         | 84,879         | 86,736         | 89,596         | 90,418         | 92,120         | 6,045                  | 7.2%         | 8,569                  | 10.3%        |
|           | 50 - 64      | 34,722         | 33,823         | 32,900         | 32,339         | 32,673         | 33,531         | -2,383                 | -6.9%        | -1,191                 | -3.4%        |
|           | 65 - 74      | 17,764         | 17,486         | 17,480         | 17,122         | 16,633         | 16,460         | -642                   | -3.6%        | -1,304                 | -7.3%        |
|           | 75+          | 15,041         | 16,031         | 16,760         | 17,843         | 18,272         | 18,077         | 2,802                  | 18.6%        | 3,036                  | 20.2%        |
|           | <b>Total</b> | <b>187,059</b> | <b>189,034</b> | <b>191,306</b> | <b>195,157</b> | <b>196,548</b> | <b>199,167</b> | <b>8,098</b>           | <b>4.3%</b>  | <b>12,108</b>          | <b>6.5%</b>  |
| ACT       | 0 - 15       | 89,562         | 93,547         | 97,104         | 105,047        | 112,488        | 119,719        | 15,485                 | 17.3%        | 30,157                 | 33.7%        |
|           | 16 - 49      | 231,520        | 239,099        | 249,305        | 272,743        | 291,835        | 311,561        | 41,223                 | 17.8%        | 80,041                 | 34.6%        |
|           | 50 - 64      | 72,906         | 74,852         | 76,919         | 84,122         | 91,716         | 99,424         | 11,216                 | 15.4%        | 26,518                 | 36.4%        |
|           | 65 - 74      | 35,406         | 35,827         | 36,677         | 39,013         | 41,886         | 45,232         | 3,607                  | 10.2%        | 9,826                  | 27.8%        |
|           | 75+          | 28,171         | 30,855         | 33,237         | 37,868         | 41,306         | 43,940         | 9,697                  | 34.4%        | 15,769                 | 56.0%        |
|           | <b>Total</b> | <b>457,565</b> | <b>474,180</b> | <b>493,242</b> | <b>538,793</b> | <b>579,231</b> | <b>619,876</b> | <b>81,228</b>          | <b>17.8%</b> | <b>162,311</b>         | <b>35.5%</b> |

Table 6: Population Projections by Age Cohorts, 2022 to 2041. Source: ACT Government, 2023 Latest ACT Population Projections. Accessed August 2024.

Residents from outside the ACT, predominately from the Southern NSW regions, access health services at NCH, acting as a secondary catchment. In 2021, the region had 238,781 people and is projected to grow to 257,849, representing an 8.0% growth. The population aged 75 and over is projected to grow by 54.4% by 2031.

By 2041, the Southern NSW region is projected to grow by 16.9%, representing 279,181 people. The trend of the elderly population remains highest at 100.8%, doubling by 2041 to account for 44,052 people by 2041. In 2023, 11.0% of care at NCH was provided to residents of Southern NSW. Of total NCH activity across all care types, 17.8% for 65 to 74 years and 19.7% for 75+ thus the increasing aging population at Southern NSW especially for those aged over 75 will need to be considered.



|                               | 2021/22        | 2023/24        | 2025/26        | 2030/31        | 2035/36        | 2040/41        | Growth<br>2021-2031 | Growth<br>2021-2041 |
|-------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------------|---------------------|
| 0-14                          | 41,237         | 41,849         | 42,106         | 42,428         | 43,076         | 43,979         | 2.9%                | 6.7%                |
| 15-49                         | 92,549         | 91,326         | 93,229         | 98,087         | 101,021        | 102,983        | 6.0%                | 11.3%               |
| 50-64                         | 51,795         | 50,412         | 49,848         | 49,082         | 50,474         | 53,269         | -5.2%               | 2.8%                |
| 65-74                         | 31,263         | 31,660         | 32,772         | 34,392         | 34,673         | 34,897         | 10.0%               | 11.6%               |
| 75+                           | 21,937         | 25,470         | 27,920         | 33,860         | 39,690         | 44,052         | 54.4%               | 100.8%              |
| <b>Southern NSW<br/>Total</b> | <b>238,781</b> | <b>240,718</b> | <b>245,875</b> | <b>257,849</b> | <b>268,935</b> | <b>279,181</b> | <b>8.0%</b>         | <b>16.9%</b>        |

Table 7: Population Projections for Southern NSW by Age, 2021-2041. Source: ABS, 2021; NSW Department of Planning, Housing and Infrastructure, 2024. Accessed August 2024.

## 7.2 Socio-Economic and Health Status

### Socio-Economic Status

The evidence is clear that people with lower socioeconomic indicators including education attainment, household income, workforce participation, occupation and housing have poorer health outcomes.<sup>52 53 54</sup>

Overall, data on the socioeconomic status of the Northside region indicates a high level of economic advantage based on employment rates, educational attainment and income. The rates for Northside are comparable to the broader ACT region, with a slightly higher advantage across educational attainment and employment. Appendix 3 provides a detailed table of demographic and socio-economic indicators across the Northside primary catchment and ACT.

The Northside region of the ACT demonstrates a diverse and varied socioeconomic profile, reflecting both strengths and challenges compared to the broader ACT area. Population data indicates a slightly higher proportion of young families and working-age adults, suggesting a dynamic community with a robust labour force. However, housing affordability remains a concern, with 40% of Northside households paying off mortgages and a higher proportion of Northside households renting and earning less than \$650 per week. Educational attainment in the Northside region aligns closely with ACT averages, though certain areas see lower rates of postgraduate qualifications, which may influence employment opportunities.

The region's cultural diversity is notable, with 27% of Northside residents born outside Australia compared to 23% for all ACT, and 29% of Northside residents speak a language other than English at home, compared to 25% for the ACT.

Northside residents face challenges, particularly with higher reported rates of chronic conditions such as asthma and diabetes, which could impact long-term community well-being. In 2021, the ABS provided an opportunity for respondents to report on long-term health conditions. Of total responses from Northside residents, 41% indicated a person had one or more health conditions, with asthma, cancer, diabetes, heart disease and mental health conditions being consistently reported slightly above the ACT average

### 7.3 Health Status

ABS Census data for 2021 reported<sup>55</sup> that people in the Northside region (Belconnen, Gungahlin, Molonglo and North Canberra) report having a higher proportion of the following long-term health conditions, when compared to ACT overall:

<sup>52</sup> Frasquilho et al. 2016. Mental health outcomes in times of economic recession: a systematic literature review. BMC Public Health. Accessed from: DOI 10.1186/s12889-016-2720-y

<sup>53</sup> De Jager, E., Gunnarsson, R. and Ho, YH. 2022. Disparities in surgical outcomes for low socioeconomic status patients in Australia. ANZ Journal of Surgery, 92(5), 1026-1032. Accessed from: doi: 10.1111/ans.17675

<sup>54</sup> Finegan et al. 2018. Associations between socioeconomic status and psychological therapy outcomes: A systematic review and meta-analysis. Depression and Anxiety, 35(6), 560-573. Accessed from: DOI: 10.1002/da.22765

<sup>55</sup> Respondents had the option to record multiple long-term health conditions therefore the sum of total responses count will not equal the total person count. Source: ABS, 2021.



- Mental health conditions including depression and anxiety
- Arthritis
- Diabetes
- Heart disease

|                                                            | Belconnen | Gungahlin | Molonglo | North Canberra | Northside |      | ACT     |      | Comparison |
|------------------------------------------------------------|-----------|-----------|----------|----------------|-----------|------|---------|------|------------|
|                                                            | No.       | No.       | No.      | No.            | No.       | %    | No.     | %    |            |
| Mental health conditions (including depression or anxiety) | 11,597    | 7,196     | 930      | 7,213          | 26,936    | 12.1 | 45,517  | 10.0 | Á          |
| Asthma                                                     | 10,380    | 6,943     | 801      | 205            | 18,329    | 8.2  | 40,839  | 9.0  | â          |
| Arthritis                                                  | 9,122     | 4,467     | 388      | 3,755          | 17,732    | 8.0  | 35,106  | 7.2  | á          |
| Diabetes (excluding gestational diabetes)                  | 4,545     | 3,045     | 293      | 1,497          | 9,380     | 4.2  | 17,501  | 3.9  | á          |
| Heart disease (including heart attack or angina)           | 3,686     | 1,692     | 127      | 1,464          | 6,969     | 3.1  | 14,098  | 3.1  | -          |
| Cancer (including remission)                               | 3,140     | 1,409     | 116      | 1,375          | 6,040     | 2.7  | 12,182  | 2.7  | -          |
| Lung condition (including COPD or emphysema) (b)           | 1,626     | 690       | 46       | 684            | 3,046     | 1.4  | 5,998   | 1.3  | -          |
| Kidney disease                                             | 1,110     | 557       | 58       | 415            | 2,140     | 1.0  | 4,194   | 0.9  | -          |
| Stroke                                                     | 842       | 399       | 24       | 391            | 1,656     | 0.7  | 3,237   | 0.7  | -          |
| Dementia (including Alzheimer's)                           | 601       | 165       | 11       | 424            | 1,201     | 0.5  | 2,634   | 0.6  | -          |
| Any other long-term health condition(s)(c)                 | 10,938    | 7,097     | 842      | 5,725          | 24,602    | 11.1 | 44,128  | 9.7  | á          |
| No long-term health condition(s)                           | 62,906    | 59,575    | 8,242    | 37,144         | 167,867   | 75.5 | 277,197 | 61.0 | á          |

**Table 8: Long Term Health Conditions by Residents for the Belconnen, Gungahlin, Molonglo, North Canberra regions, Northside primary catchment and ACT. Source: ABS Census, 2021. Accessed August 2024.**

Recognising that the highly-reported health conditions above are associated with chronic disease and ongoing management necessitating long-term and continuous care, this places a heavy burden on healthcare systems. Planning needs to take into consideration the growing prevalence of chronic illnesses observed in line with growing populations in order to guarantee that service models, infrastructure, workforces, and resources are distributed appropriately. Specifically, acknowledging that good chronic disease management supported by primary practice can reduce presentations and admissions to the hospital. Models of care focused on integrated tertiary and primary care approaches will further support current and future demand management.

## 7.4 Culturally and Linguistically Diverse Communities

The cultural diversity across the Northside catchment is notable, with 27% of Northside residents born outside Australia compared to 23% for all ACT, and 29% of Northside residents speak a language other than English at home, compared to 25% for the ACT.

## 7.5 First Nations Communities

Across the Northside catchment, 4,611 First Nations people resided, accounting for 1.7% of the total current Northside population. Of the Northside First Nations population, 47.9% reside within Belconnen.

For the Northside Aboriginal and Torres Strait Islander community, the median age is younger at 24 years compared to 32 years for non-Indigenous communities. With only 14% earning more than \$2,000 per week compared to 21% of all Northside people, this economic disparity can further exacerbate already present health inequity particularly related to access to non-public health services.

Over half of the community reported having a long-term health condition, with mental health, asthma, arthritis, diabetes and heart disease being highly reported.

## 8. Canberra Health Services Current Activity

Overall, in 2022/23, across the three hospitals within CHS including CHH, there was a total of 100,207 inpatient separations<sup>56</sup> and 423,941 bed days. This represented a 6.0% growth in separations and 17.1% growth in bed days compared to 2018/19, demonstrating an increase in health service utilisation for ACT hospitals.

It is important to note that UCH is a sub-acute facility, providing inpatient and day rehabilitation and sub-acute mental health services which lead to longer lengths of stay. This also applies to CHH, which delivers inpatient palliative care in the sub-acute setting. Thus, both facilities are characterised by smaller separations and large bed day volume proportions when compared to TCH and NCH.

| Hospital/Facility | Values   | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Variance | Growth 2019-2023 |
|-------------------|----------|---------|---------|---------|---------|---------|----------|------------------|
| TCH               | Seps     | 64,081  | 63,045  | 68,369  | 66,665  | 67,658  | 3,577    | 5.6%             |
|                   | Bed days | 251,960 | 250,284 | 256,964 | 257,993 | 271,019 | 19,059   | 7.6%             |
| NCH               | Seps     | 28,232  | 28,011  | 33,423  | 25,986  | 30,588  | 2,356    | 8.3%             |
|                   | Bed days | 81,002  | 84,218  | 91,575  | 84,674  | 95,969  | 14,967   | 18.5%            |
| UCH               | Seps     | 1,836   | 2,148   | 1,667   | 1,522   | 1,501   | -335     | -18.2%           |
|                   | Bed days | 23,237  | 36,792  | 38,097  | 43,632  | 50,970  | 27,733   | 119.3%           |
| CHH               | Seps     | 401     | 388     | 357     | 342     | 460     | 59       | 14.7%            |
|                   | Bed days | 5,852   | 6,204   | 5,651   | 5,150   | 5,983   | 131      | 2.2%             |
| Total Separations |          | 94,550  | 93,592  | 103,816 | 94,515  | 100,207 | 5,657    | 6.0%             |
| Total Bed days    |          | 362,051 | 377,498 | 392,287 | 391,449 | 423,941 | 61,890   | 17.1%            |

**Table 9: Separations and Bed days by ACT Public Hospitals and CHH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Excludes Unqualified Neonates, Chemotherapy and Renal Dialysis SRGs and Organ Procurement and Unknown Care Types, Antenatal and Postnatal Admissions SRGs.**

|                     | Values   | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Variance | Growth 2019-2023 |
|---------------------|----------|---------|---------|---------|---------|---------|----------|------------------|
| Acute Hospitals     | Seps     | 92,313  | 91,056  | 101,792 | 92,651  | 98,246  | 5,933    | 6.4%             |
|                     | Bed days | 332,962 | 334,502 | 348,539 | 342,667 | 366,988 | 34,026   | 10.2%            |
| Sub-Acute Hospitals | Seps     | 2,237   | 2,536   | 2,024   | 1,864   | 1,961   | -276     | -12.3%           |
|                     | Bed days | 29,089  | 42,996  | 43,748  | 48,782  | 56,953  | 27,864   | 95.8%            |
| Total Separations   | Seps     | 94,550  | 93,592  | 103,816 | 94,515  | 100,207 | 5,657    | 6.0%             |
| Total Bed days      | Bed days | 362,051 | 377,498 | 392,287 | 391,449 | 423,941 | 61,890   | 17.1%            |

**Table 10: Separations and Bed days by Acute and Sub-Acute Activity across CHS Hospitals, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Includes TCH, NCH, UCH and CHH. Excludes Unqualified Neonates, Chemotherapy and Renal Dialysis SRGs and Organ Procurement and Unknown Care Types**

In 2022/23, acute separations accounted for 94.1% of total separations with 50.0% of inpatient acute separations being overnight with 44.1% of total activity same day. Between 2018/19 and 2022/23, acute overnight activity remained consistent with a 0.6% change while same day activity increased by 12.3%. Sub-acute separations accounted for 5.9% of total CHS separations and 25.4% of total CHS bed days, indicative of the higher ALOS associated with sub-acute care. Appendix 4 presents a detailed table of separations and bed days by hospital, stay type and care type.

<sup>56</sup> In 2022/23, there was a substantial increase in antenatal admissions for both TCH and NCH, with 4,302 same days separations reported compared to 740 in 2021/22. Postnatal admission separations exhibited similar trend with 248 separations in 2022/23 for NCH and TCH compared to 76 separations in 2021/22. Where acute separations are reported, antenatal and postnatal ESRR activity was omitted due to the unrealistic skew of the activity trend between 2018/19 and 2022/23.

| Hospital/<br>Facility       | Stay Type | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth<br>2019-2023 |
|-----------------------------|-----------|---------|---------|---------|---------|---------|----------|---------------------|
| TCH                         | Overnight | 39,344  | 38,501  | 40,114  | 37,617  | 40,650  | 1,306    | 3.3%                |
|                             | Same Day  | 24,737  | 24,544  | 28,255  | 29,048  | 27,008  | 2,271    | 9.2%                |
|                             | TCH Total | 64,081  | 63,045  | 68,369  | 66,665  | 67,658  | 3,577    | 5.6%                |
| NCH                         | Overnight | 14,343  | 14,079  | 15,782  | 13,668  | 14,488  | 145      | 1.0%                |
|                             | Same Day  | 13,889  | 13,932  | 17,641  | 12,318  | 16,100  | 2,211    | 15.9%               |
|                             | NCH Total | 28,232  | 28,011  | 33,423  | 25,986  | 30,588  | 2,356    | 8.3%                |
| UCH                         | Overnight | 905     | 1,362   | 1,202   | 1,225   | 1,267   | 362      | 40.0%               |
|                             | Same Day  | 931     | 786     | 465     | 297     | 234     | -697     | -74.9%              |
|                             | UCH Total | 1,836   | 2,148   | 1,667   | 1,522   | 1,501   | -335     | -18.2%              |
| CHH                         | Overnight | 388     | 375     | 343     | 333     | 442     | 54       | 13.9%               |
|                             | Same Day  | 13      | 13      | 14      | 9       | 18      | 5        | 38.5%               |
|                             | CHH Total | 401     | 388     | 357     | 342     | 460     | 59       | 14.7%               |
| Total Overnight Separations |           | 54,980  | 54,317  | 57,441  | 52,843  | 56,847  | 1,867    | 3.4%                |
| Total Same Day Separations  |           | 39,570  | 39,275  | 46,375  | 41,672  | 43,360  | 3,790    | 9.6%                |
| Total Separations           |           | 94,550  | 93,592  | 103,816 | 94,515  | 100,207 | 5,657    | 6.0%                |

**Table 11: Separations by Stay Type and ACT Public Hospitals and CHH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Excludes Unqualified Neonates, Chemotherapy and Renal Dialysis SRGs and Organ Procurement and Unknown Care Types, Antenatal and Postnatal Admissions SRGs.**

Over the past five years, ALOS has remained relatively stable at TCH, while an increasing trend has been observed for NCH. This could be related as outlined during stakeholder consultation that NCH has been caring for an increasing volume of long-stay patients, who are awaiting nursing home placement or transition to UCH for ongoing sub-acute care. Further analysis revealed that in 2022/23, 1,248 separations incurred a length of stay greater than 15 days, accounting for 29,315 bed days. This represented 35% of total bed days for NCH in 2022/23.

As previously noted, the sub-acute care delivery undertaken at UCH and CHH is representative of their respective long ALOS. However, it is noted that the decrease in ALOS at CHH may be associated with increasing community based palliative care service delivery and the desire for patients to remain at home longer while under the care of the palliative care team, which was noted during consultation.

| Hospital/Facility |          | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth |
|-------------------|----------|---------|---------|---------|---------|---------|----------|--------|
| TCH               | Seps     | 40,140  | 39,298  | 40,848  | 38,305  | 41,622  | 1,482    | 3.7%   |
|                   | Bed days | 229,171 | 227,608 | 230,620 | 231,279 | 246,842 | 17,671   | 7.7%   |
|                   | ALOS     | 5.7     | 5.8     | 5.6     | 6.0     | 5.9     | 0.2      | 3.9%   |
| NCH               | Seps     | 14,677  | 14,361  | 16,138  | 13,983  | 15,013  | 336      | 2.3%   |
|                   | Bed days | 67,748  | 70,895  | 74,678  | 72,991  | 80,930  | 13,182   | 19.5%  |
|                   | ALOS     | 4.6     | 4.9     | 4.6     | 5.2     | 5.4     | 0.8      | 16.8%  |
| UCH               | Seps     | 905     | 1,362   | 1,202   | 1,225   | 1,267   | 362      | 40.0%  |
|                   | Bed days | 22,306  | 36,006  | 37,632  | 43,335  | 50,736  | 28,430   | 127.5% |
|                   | ALOS     | 24.6    | 26.4    | 31.3    | 35.4    | 40.0    | 15.4     | 62.5%  |
| CHH               | Seps     | 388     | 375     | 343     | 333     | 442     | 54       | 13.9%  |
|                   | Bed days | 5,839   | 6,191   | 5,637   | 5,141   | 5,965   | 126      | 2.2%   |
|                   | ALOS     | 15.0    | 16.5    | 16.4    | 15.4    | 13.5    | -1.6     | -10.3% |
| Total Separations |          | 56,110  | 55,396  | 58,531  | 53,846  | 58,344  | 2,234    | 4.0%   |
| Total Bed days    |          | 325,064 | 340,700 | 348,567 | 352,746 | 384,473 | 59,409   | 18.3%  |

**Table 12: Overnight Only Separations, Bed days and ALOS by ACT Public Hospitals and CHH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Excludes Unqualified Neonates, Chemotherapy and Renal Dialysis SRGs and Organ Procurement and Unknown Care Types, Antenatal and Postnatal Admissions SRGs**

Analysis of where residents access services across TCH and NCH indicates local access is occurring within the ACT. In 2022/23, 45% of TCH activity was from ACT South residents, reflecting the tertiary nature of this hospital for the ACT. And, 74% of NCH activity was from ACT North residents consistent with the role of the facility. Acknowledging the historical activity flows of residents from Southern NSW due to the proximity of town centres such as Queanbeyan and Yass, 19% of care at TCH and 13% of care at NCH was delivered to residents from NSW.



| Hospital/<br>Facility | Area of<br>Residence | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth<br>2019-2023 | 2022/23<br>Proportion |
|-----------------------|----------------------|---------|---------|---------|---------|---------|----------|---------------------|-----------------------|
| TCH                   | ACT North            | 18,275  | 18,003  | 19,800  | 19,706  | 18,739  | 464      | 2.5%                | 27.7%                 |
|                       | ACT South            | 29,239  | 28,995  | 30,802  | 30,751  | 30,876  | 1,637    | 5.6%                | 45.6%                 |
|                       | Southern NSW         | 13,650  | 13,326  | 14,915  | 13,930  | 13,203  | -447     | -3.3%               | 19.5%                 |
|                       | Interstate Other     | 1,175   | 1,199   | 1,171   | 831     | 3,113   | 1,938    | 164.9%              | 4.6%                  |
|                       | NSW Other            | 1,742   | 1,522   | 1,681   | 1,447   | 1,727   | -15      | -0.9%               | 2.6%                  |
|                       | Total                | 64,081  | 63,045  | 68,369  | 66,665  | 67,658  | 3,577    | 5.6%                | 100.0%                |
| NCH                   | ACT North            | 21,017  | 20,927  | 24,902  | 18,704  | 22,475  | 1,458    | 6.9%                | 73.5%                 |
|                       | ACT South            | 3,325   | 3,215   | 3,914   | 3,523   | 3,931   | 606      | 18.2%               | 12.9%                 |
|                       | Southern NSW         | 3,114   | 3,126   | 3,681   | 3,298   | 3,420   | 306      | 9.8%                | 11.2%                 |
|                       | Interstate Other     | 403     | 423     | 560     | 188     | 347     | -56      | -13.9%              | 1.1%                  |
|                       | NSW Other            | 373     | 320     | 366     | 273     | 415     | 42       | 11.3%               | 1.4%                  |
|                       | Total                | 28,232  | 28,011  | 33,423  | 25,986  | 30,588  | 2,356    | 8.3%                | 100.0%                |
| UCH                   | ACT North            | 769     | 834     | 834     | 577     | 559     | -210     | -27.3%              | 37.2%                 |
|                       | ACT South            | 781     | 978     | 639     | 635     | 653     | -128     | -16.4%              | 43.5%                 |
|                       | Southern NSW         | 258     | 302     | 169     | 261     | 271     | 13       | 5.0%                | 18.1%                 |
|                       | Interstate Other     | 15      | 20      | 22      | 39      | 11      | -4       | -26.7%              | 0.7%                  |
|                       | NSW Other            | 13      | 14      | 3       | 10      | 7       | -6       | -46.2%              | 0.5%                  |
|                       | Total                | 1,836   | 2,148   | 1,667   | 1,522   | 1,501   | -335     | -18.2%              | 100.0%                |
| CHH                   | ACT North            | 172     | 173     | 137     | 152     | 195     | 23       | 13.4%               | 42.4%                 |
|                       | ACT South            | 187     | 182     | 191     | 155     | 218     | 31       | 16.6%               | 47.4%                 |
|                       | Southern NSW         | 40      | 31      | 25      | 34      | 42      | 2        | 5.0%                | 9.1%                  |
|                       | Interstate Other     | 1       | 1       | 1       | 1       | 1       | 0        | 0.0%                | 0.2%                  |
|                       | NSW Other            | 1       | 1       | 3       |         | 4       | 3        | 300.0%              | 0.9%                  |
|                       | Total                | 401     | 388     | 357     | 342     | 460     | 59       | 14.7%               | 100.0%                |

**Table 13: Separations by Area of Residence and ACT Public Hospitals and CHH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Excludes Unqualified Neonates, Chemotherapy and Renal Dialysis SRGs and Organ Procurement and Unknown Care Types**

Table 14 shows the ACT North Resident patient flow across CHS. For TCH, there has been a 1.9% annual growth for paediatric patients between 2018/19 and 2022/23. While NCH also saw an increase in ACT North paediatric patients from 2018/19. Noting there are no paediatric inpatient services at NCH, it can be assumed that this cohort was predominately cared for within the ED Short Stay Unit with NCH ED, while likely awaiting treatment and/or transfer to TCH for further inpatient care. Consistent with the notion that older people utilise health services more, and tend to have complex care needs, there was growth in activity for this cohort of ACT North residents at both TCH and NCH.

The declining trend of ACT North Residents at UCH is consistent with clinical consultation that indicated difficulties in accessing placement at UCH meaning non-acute patients are awaiting transfer within the acute beds.



| Hospital/<br>Facility | Age   | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth<br>2019-2023 | CAGR<br>2019-2023 |
|-----------------------|-------|---------|---------|---------|---------|---------|----------|---------------------|-------------------|
| TCH                   | 0-15  | 3,557   | 3,372   | 3,664   | 3,442   | 3,842   | 285      | 8.0%                | 1.9%              |
|                       | 16-49 | 8,420   | 8,170   | 8,888   | 9,092   | 8,284   | -136     | -1.6%               | -0.4%             |
|                       | 50-64 | 2,709   | 2,826   | 3,097   | 3,219   | 2,611   | -98      | -3.6%               | -0.9%             |
|                       | 65-74 | 1,629   | 1,767   | 1,974   | 1,835   | 1,749   | 120      | 7.4%                | 1.8%              |
|                       | 75+   | 1,960   | 1,868   | 2,177   | 2,118   | 2,252   | 292      | 14.9%               | 3.5%              |
|                       | Total | 18,275  | 18,003  | 19,800  | 19,706  | 18,738  | 463      | 2.5%                | 0.6%              |
| NCH                   | 0-15  | 734     | 814     | 1,126   | 810     | 1,019   | 285      | 38.8%               | 8.5%              |
|                       | 16-49 | 8,783   | 9,010   | 10,958  | 7,860   | 9,504   | 721      | 8.2%                | 2.0%              |
|                       | 50-64 | 3,546   | 3,471   | 4,238   | 3,239   | 3,885   | 339      | 9.6%                | 2.3%              |
|                       | 65-74 | 3,119   | 3,001   | 3,421   | 2,639   | 2,974   | -145     | -4.6%               | -1.2%             |
|                       | 75+   | 4,834   | 4,629   | 5,159   | 4,156   | 5,093   | 259      | 5.4%                | 1.3%              |
|                       | Total | 21,016  | 20,925  | 24,902  | 18,704  | 22,475  | 1,459    | 6.9%                | 1.7%              |
| UCH                   | 16-49 | 210     | 191     | 142     | 142     | 119     | -91      | -43.3%              | -13.2%            |
|                       | 50-64 | 64      | 114     | 250     | 115     | 117     | 53       | 82.8%               | 16.3%             |
|                       | 65-74 | 205     | 154     | 112     | 58      | 86      | -119     | -58.0%              | -19.5%            |
|                       | 75+   | 290     | 375     | 330     | 262     | 237     | -53      | -18.3%              | -4.9%             |
|                       | Total | 769     | 834     | 834     | 577     | 559     | -210     | -27.3%              | -7.7%             |
| CHH                   | 16-49 | 9       | 16      | 4       | 10      | 11      | 2        | 22.2%               | 5.1%              |
|                       | 50-64 | 43      | 43      | 26      | 24      | 23      | -20      | -46.5%              | -14.5%            |
|                       | 65-74 | 32      | 36      | 39      | 57      | 47      | 15       | 46.9%               | 10.1%             |
|                       | 75+   | 88      | 78      | 68      | 61      | 114     | 26       | 29.5%               | 6.7%              |
|                       | Total | 172     | 173     | 137     | 152     | 195     | 23       | 13.4%               | 3.2%              |

**Table 14: Separations for ACT North Resident by age group at ACT Public Hospitals, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Excludes Unqualified Neonates, Chemotherapy and Renal Dialysis SRGs and Organ Procurement and Unknown Care Types**

In the ACT, TCH and NCH also provide emergency department services to residents across ACT and the surrounding regions. In 2022/23, TCH accounted for 61% of all ED presentations, representative of its tertiary role and being the Territory's trauma centre and NCH accounted for the remaining 39% of total ED presentations. Over the past five years, ED presentations across CHS have shown a declining trend, reflecting the impact of the COVID pandemic and expansion of walk-in services with the declining trend attributed to presentations for triage categories 3 and 4.

Table 15 shows that while there has been a declining trend among most age groups, there is an increasing trend for people aged 50 to 64 years and over 75 years presenting to either TCH or NCH. This is consistent with the aging of the population observed.

| Hospital/<br>Facility  | Age Group | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Proportion<br>2022/23 | Variance | Growth |
|------------------------|-----------|---------|---------|---------|---------|---------|-----------------------|----------|--------|
| TCH                    | 0-15      | 23,226  | 20,460  | 21,865  | 19,974  | 22,522  | 25%                   | -704     | -3.0%  |
|                        | 16-49     | 38,600  | 37,428  | 40,622  | 38,017  | 36,423  | 41%                   | -2,177   | -5.6%  |
|                        | 50-64     | 11,792  | 11,954  | 12,848  | 12,164  | 12,239  | 14%                   | 447      | 3.8%   |
|                        | 65-74     | 7,284   | 7,470   | 7,833   | 7,138   | 7,201   | 8%                    | -83      | -1.1%  |
|                        | 75+       | 9,917   | 10,074  | 10,255  | 9,646   | 10,864  | 12%                   | 947      | 9.5%   |
|                        | (blank)   | -       | -       | -       | -       | 1       | 0%                    | 1        | -      |
| NCH                    | TCH Total | 90,819  | 87,386  | 93,423  | 86,939  | 89,250  | 100%                  | -1,569   | -1.7%  |
|                        | 0-15      | 10,923  | 8,784   | 9,798   | 8,716   | 9,576   | 17%                   | -1,347   | -12.3% |
|                        | 16-49     | 29,095  | 27,373  | 31,184  | 29,852  | 27,714  | 49%                   | -1,381   | -4.7%  |
|                        | 50-64     | 7,439   | 7,001   | 8,101   | 7,530   | 7,544   | 13%                   | 105      | 1.4%   |
|                        | 65-74     | 4,789   | 4,373   | 4,849   | 4,444   | 4,511   | 8%                    | -278     | -5.8%  |
|                        | 75+       | 6,279   | 6,104   | 6,360   | 6,218   | 7,074   | 13%                   | 795      | 12.7%  |
| NCH Total              |           | 58,525  | 53,635  | 60,292  | 56,760  | 56,419  | 100%                  | -2,106   | -3.6%  |
| Total ED Presentations |           | 149,344 | 141,021 | 153,715 | 143,699 | 145,669 | -                     | -3,675   | -2.5%  |

**Table 15: ED Presentations by Age, TCH and NCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Excludes unknown visit types.**

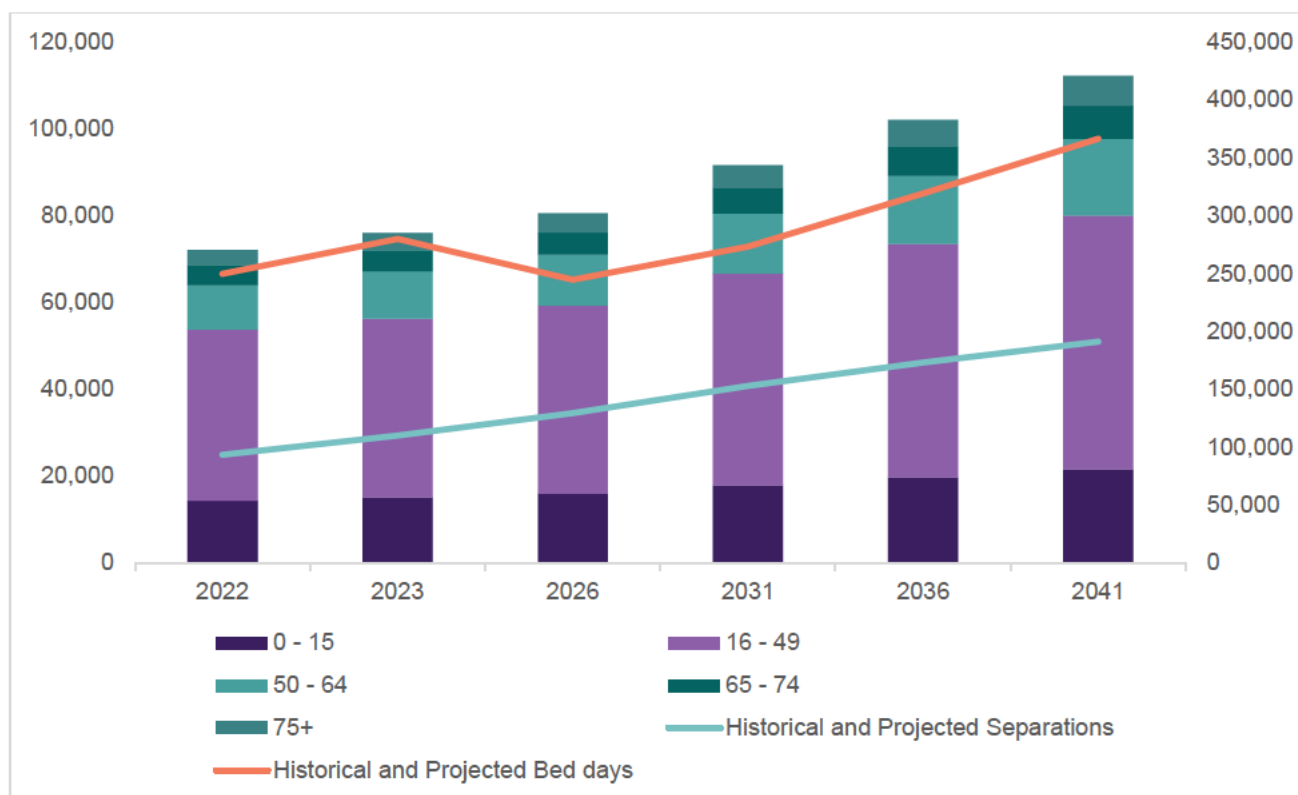
It is acknowledged that Canberra Health Services delivers a range of non-admitted and community-based services to complement the care delivered within the inpatient setting. Historically, non-admitted patient data has been difficult to utilise in planning, given inherent data variability across services. The implementation of the ACT myDigital Health Record (DHR) and significant work to better understand non-admitted patient data enables health services to plan for these integral services into the future.

Across CHS, there has been an increase in non-admitted patient activity, due to changing models of care that have seen care delivered outside of the admitted patient (inpatient) setting and increase in community-based models, enabling patients to receive care in their homes.

| Clinical Unit                  | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23   | 2023/24 | Variance | Growth |
|--------------------------------|---------|---------|---------|---------|-----------|---------|----------|--------|
| Geriatric & Rehabilitation     | 26,829  | 13,263  | 14,828  | 32,812  | 23,709    | 28,771  | 1,942    | 7%     |
| Medical                        | 340,297 | 387,102 | 402,496 | 507,568 | 892,719   | 395,149 | 54,852   | 16%    |
| Surgical                       | 116,159 | 126,364 | 110,687 | 116,142 | 100,899   | 114,916 | -1,243   | -1%    |
| Mental Health                  | 33,296  | 41,008  | 46,357  | 47,291  | 41,924    | 70,699  | 37,403   | 112%   |
| Total Non-Admitted Patient OOS | 516,581 | 567,737 | 574,368 | 703,813 | 1,059,251 | 609,535 | 92,954   | 18%    |

**Table 16: Non-Admitted Patient Occasions of Service (OOS), Canberra Health Services, 2018/19-2023/24.** Source: Canberra Health Performance Profile Series 1, 2024. Includes COVID-related OOS in 2021/22 and 2022/23. An 85% data quality and completeness confidence indicator has been applied.

It is recognised that activity is driven by population growth, the figure below shows that for NCH, this case remains true. When aligning the actual and base case projected activity for NCH, the trend is aligned to the Northside population projection trend. Further, it is well understood that the aging population is contributing to this trend, which is expected to be 52.5% by 2031 and 97.0% by 2041, driving future demand for additional bed capacity.



**Figure 6: NCH Acute Historical and Projected Activity and ACT North Population.** Source: 2022/23 ABF Admitted Patient (AP) ACTHD Data Extract, 2024; 2021/22 HPA AP Projections, provided by ACTHD, 2024; ACT Government, 2023 Latest ACT Population Projections

## 9. Current Profile and Activity for NCH

NCH delivers acute inpatient, outpatient and community-based services with core and clinical services predominately at Role Delineation Level (RDL) 4 (Appendix 1). This is aligned with its role as a District Hospital.

The delivery of these services is achieved by:

- Core services including Anaesthesia, Operating Theatres, Intensive Care, Radiology, Pathology and Pharmacy.
- Emergency Services.
- Acute services provided by Staff Specialist, Visting Medical Officers (VMOs), Advanced Trainees and/or Trainees.
- General and some speciality medical services including Cardiology, Endocrinology, Gastroenterology, Geriatric Medicine, Neurology and Respiratory Medicine. Other medical sub-specialities are supported by services at TCH in a networked arrangement.
- General Surgery and some speciality surgical services including Breast Surgery, Gynaecology, Orthopaedic Surgery, Ophthalmology and Urology.
- Maternity services with Obstetrics include antenatal and postnatal support, and Special Care Nursery available on-site. Neonates requiring neonatal intensive care are transferred to TCH and/or a NSW-based Neonatal Intensive Care Unit.
- Specialist Palliative Care services through the CHH, which is located offsite, which delivers Territory-wide medical, nursing and allied health inpatient, outpatient and community-based care, as well as a consult-liaison service to NCH.
- Mental Health inpatient services for acute adult and older person mental health care with access to Community Mental Health and Alcohol and Other Drug services, delivered off-site through the CHS Mental Health, Justice Health, Alcohol and Drug Services (MHJHADS).
- Access to specialist Clinical Nurse Educators, Clinical Nurse Consultants, and/or Nurse Practitioners on-site for emergency medical, surgical, maternity, mental health and selected ambulatory services. Sub-specialty expertise is accessed through TCH.
- Allied Health clinicians in Physiotherapy, Occupational Therapy, Dietetics, Social Work, Psychology, Aboriginal Liaison, Speech Pathology and Pastoral and Spiritual Care within both inpatient and outpatient settings.
- Medical, nursing and allied health education and workforce development.

NCH delivers the majority of its acute medical services within a General Medicine Model, supported by discipline-specific consultants on a roster including after-hours support. Cardiology and Neurology services are delivered within a sub-speciality model including inpatient, selected procedural and outpatient services. Consultation revealed that while outpatient services are established for cardiology and neurology, other sub-speciality clinics are to be developed in the future.

Acknowledging the proportion of older patients treated at NCH, there is a need to increase geriatric services with a Geriatric Management Taskforce having been established to address this patient cohort including those who present with complex cognitive impairment. It was reflected that the current infrastructure exacerbates the challenges of managing patients with severe cognitive impairment.

NCH also delivers a range of surgical services aligned to RDL Level 4. The current casemix is on primarily planned low-complexity procedures with selected emergency cases. Consultation revealed that undertaking emergency and higher-acuity cases can be challenging due to the NCH lacking the required workforce and resources to support them. These cases are commonly transferred to TCH, which faces constraints due to delivering a higher proportion of surgical activity for the ACT.



Specifically, NCH delivers Breast Surgery services for all residents within the ACT including surgery for benign and cancerous conditions. Gynaecological oncology surgical services have also recently commenced at NCH.

There are no dedicated areas for sub-acute activity such as rehabilitation, maintenance and geriatric evaluation and management (GEM). The care of these patients occurs across the medical and surgical wards, which can impact patient flow processes and length of stay.

While some paediatric activity may be observed, there are no dedicated acute paediatric inpatient beds or services. Paediatric patients that require admission are commonly transferred to TCH or if this occurs at NCH, it is within an adult ward.

The following sections will provide a high-level commentary and data analysis of the service areas at NCH including preliminary consultation findings undertaken with staff at NCH, TCH and CHS.

## 9.1 Emergency Department

The Emergency Department (ED) at NCH, is classified as a RDL 4 service, providing 24-hour emergency care to adult and paediatric patients who require immediate medical attention for severe injury or illness. It operates within a senior medical and nursing model, with support from allied health and mental health clinical teams.

The ED has 23 ED acute care spaces for adults and paediatric presentations. While the ED does receive paediatric patients, there are no dedicated spaces currently. There is a 15-space Fast Track area to treat ambulant, non-complex adult and paediatric presentations likely to be discharged within 2 hours. The unit also has a 15-bed ED Short Stay Unit for presentations requiring observation and to be discharged within 24 hours, 1 isolation room and 2 resuscitation bays.

| Treatment Spaces                                                     |           |
|----------------------------------------------------------------------|-----------|
| ED – Acute Care Spaces                                               | 23        |
| ED – Resuscitation Bays                                              | 2         |
| ED Fast Track                                                        | 15        |
| ED Other Rooms (Isolation, mental health assessment, procedure room) | 4         |
| ED Short Stay Unit <sup>57</sup>                                     | 15        |
| <b>Total ED Treatment Spaces</b>                                     | <b>59</b> |

Table 17: Current Built Total ED Treatment Spaces. Source: NCH, 2024.

The data analysis in this section's tables has utilised the current approved ED ABF data extract, issued by ACTHD. Consultation revealed that the data trend below does not reflect the actual observed trend, especially with significantly increased activity in 2023/24. A review of 2023/24 emergency data from CHS<sup>58</sup> indicated a substantial increase in ED presentations overall, with a considerable increase in ED presentations that result in admissions. Other factors that can contribute to this spike in activity include limited bulk-billing general practices across the ACT, seasonal outbreaks and increased presentations for lower acuity due to challenges accessing primary care.<sup>59</sup>

<sup>57</sup> EDSSU activity is captured as part of the ABF Admitted Patient Extract

<sup>58</sup> The 2023/24 CHS hospital services activity data has not been approved for release, publication and/or broader circulation, as it is undergoing further verification. Data issued by CHS was provided to enable this analysis.

<sup>59</sup> AIHW. 2024. Emergency department care. Accessed from: <https://www.aihw.gov.au/reports-data/myhospitals/sectors/emergency-department-care>



In 2022/23, 17% of all ED presentations at NCH were for those aged 0 to 15. Those over 65 years accounted for 21% of total ED activity. The overall trend is variable, which is likely influenced by the COVID-19 pandemic, with an increasing trend remaining for those aged 50 to 64 years and over 75 years of age. In 2022/23, of all adult ED presentations, 33.7% were admitted to either the ED short stay unit, Hospital in The Home (HiTH) or an inpatient ward. Differentiation of admission by location was not available at this time. The paediatric admission rate was 1.5% reflective of the limited paediatric inpatient capacity

Between 2018/19 and 2022/23, NCH ED growth rate changed. This trend observed shows a level of variability over the past which includes the influx of the activity observed during 2020/21 and 2021/22 from the COVID pandemic and the introduction of ED avoidance strategies such as the Walk-in Centres, established in 2020 and other community-based models, particularly for mental health services across 2022. ED presentations are likely to increase in future years in line with the projected population growth anticipated in the ACT North regions and this has been explored as part of scenario modelling.

| Age Group              | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth 2019-2023 | Rate per 1000 population 2022/23 |
|------------------------|---------|---------|---------|---------|---------|----------|------------------|----------------------------------|
| 0-15                   | 10,923  | 8,784   | 9,798   | 8,716   | 9,581   | -1,342   | -12.3%           | 178.8                            |
| 16-49                  | 29,095  | 27,373  | 31,184  | 29,852  | 27,722  | -1,373   | -4.7%            | 187.4                            |
| 50-64                  | 7,439   | 7,001   | 8,102   | 7,530   | 7,546   | 107      | 1.4%             | 197.6                            |
| 65-74                  | 4,789   | 4,373   | 4,849   | 4,445   | 4,514   | -275     | -5.7%            | 255.9                            |
| 75+                    | 6,279   | 6,104   | 6,360   | 6,218   | 7,074   | 795      | 12.7%            | 538.8                            |
| Total ED Presentations | 58,525  | 53,635  | 60,293  | 56,761  | 56,437  | -2,088   | -3.6%            | 208.6                            |

Table 18: Current ED Presentations by Age Group for NCH. Source: ACTHD Data Extract, 2024.

In 2022/23, 49% of the total activity was categorised as Triage Category 3, indicative of urgent presentations to the ED. Urgent and non-urgent presentations could be treated in other settings such as Walk-in Centres or managed as part of hospital avoidance programs to minimise the need for admission. Other trends have been observed, as noted through consultation including limited access to bulk-billing services within the community and people delaying access to care, which can be leading to people presenting to the ED with exacerbated conditions requiring emergency treatment and care.

| Triage Category                               | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth 2021-2041 | Proportion of Total 2022/23 |
|-----------------------------------------------|---------|---------|---------|---------|---------|----------|------------------|-----------------------------|
| 1 - Resuscitation: Immediate (within seconds) | 183     | 299     | 276     | 226     | 296     | 113      | 61.7%            | 0.5%                        |
| 2 - Emergency: Within 10 minutes              | 5,278   | 5,971   | 6,862   | 6,352   | 6,832   | 1,554    | 29.4%            | 12.1%                       |
| 3 - Urgent: Within 30 minutes                 | 29,124  | 27,138  | 28,928  | 28,026  | 27,771  | -1,353   | -4.6%            | 49.2%                       |
| 4 - Semi-urgent: Within 60 minutes            | 20,605  | 17,552  | 21,026  | 19,403  | 18,883  | -1,722   | -8.4%            | 33.5%                       |
| 5 - Non-urgent: Within 120 minutes            | 3,335   | 2,675   | 3,201   | 2,754   | 2,655   | -680     | -20.4%           | 4.7%                        |
| Total ED Presentations                        | 58,525  | 53,635  | 60,293  | 56,761  | 56,437  | -2,088   | -3.6%            | 100.0%                      |

Table 19: Current ED Presentations by Triage Category for NCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024.

Most ED presentations for NCH are from within the ACT North regions of Belconnen, Gungahlin, Molonglo Valley and North Canberra, accounting for 85% of total NCH ED presentations in 2022/23. Of the 5% of activity from Southern NSW residents in 2022/23, the majority are from Young-Yass (1,576), Queanbeyan (806), South Coast (158), Goulburn (105) and Snowy Mountains (48) regions.

While there was a 6.7% growth in ED presentation from ACT North residents to the TCH ED between 2018/19 and 2022/23, clinical consultation revealed that residents in the northern region have been choosing to by-pass NCH and access ED services at TCH. This places unnecessary pressure on TCH to manage patients who could be safely cared for locally at NCH both in the ED and subsequent admissions.

Furthermore, of the total ACT North resident demand, 17,360 were for paediatric ED presentations with 50.3% attending TCH. For ACT North adult ED presentations, 29.6% presented at TCH.

Given that paediatric service capability and capacity are limited at NCH, it seems likely that parents are by-passing NCH to have their children seen at TCH. Consultation with clinical stakeholders indicated that when paediatric patients present to NCH ED and require an admission, they have to be transferred via ACT Ambulance Service (ACTAS) to the TCH paediatric ward. This has led to fragmented patient care journeys and creates delays in efficient bed management across the Territory.

It seems inevitable that the population in the ACT North regions continues to grow. There will be a requirement for adequate paediatric cover to better manage and care for paediatric ED presentations, as well as potential clinically-appropriate paediatric admissions.

| Hospital                    | Area of Residence | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth 2021-2024 | Proportion of Total 2022/23 |
|-----------------------------|-------------------|---------|---------|---------|---------|---------|----------|------------------|-----------------------------|
| TCH                         | ACT North         | 23,809  | 23,535  | 25,760  | 24,423  | 25,403  | 1,594    | 6.7%             | 28.5%                       |
|                             | ACT South         | 53,047  | 50,542  | 53,831  | 50,097  | 49,993  | -3,054   | -5.8%            | 56.0%                       |
|                             | Interstate Other  | 1,883   | 1,806   | 1,370   | 1,327   | 1,680   | -203     | -10.8%           | 1.9%                        |
|                             | NSW Other         | 2,214   | 1,997   | 1,999   | 1,646   | 2,230   | 16       | 0.7%             | 2.5%                        |
|                             | Overseas          | -       | -       | -       | -       | 125     | 125      | -1               | 0.1%                        |
|                             | Southern NSW      | 9,866   | 9,506   | 10,463  | 9,446   | 9,839   | -27      | -0.3%            | 11.0%                       |
| Total TCH ED Presentations  |                   | 90,819  | 87,386  | 93,423  | 86,939  | 89,270  | -1,549   | -1.7%            | 100.0%                      |
| NCH                         | ACT North         | 51,247  | 46,739  | 52,740  | 50,033  | 48,249  | -2,998   | -5.9%            | 85.5%                       |
|                             | ACT South         | 2,414   | 2,393   | 2,733   | 2,507   | 3,474   | 1,060    | 43.9%            | 6.2%                        |
|                             | Interstate Other  | 1,075   | 985     | 878     | 766     | 854     | -221     | -20.6%           | 1.5%                        |
|                             | NSW Other         | 1,055   | 915     | 1,026   | 827     | 1,080   | 25       | 2.4%             | 1.9%                        |
|                             | Overseas          | -       | -       | -       | -       | 86      | 86       | -                | 0.2%                        |
|                             | Southern NSW      | 2,734   | 2,603   | 2,916   | 2,628   | 2,694   | -40      | -1.5%            | 4.8%                        |
| Total NCH ED Presentations  |                   | 58,525  | 53,635  | 60,293  | 56,761  | 56,437  | -2,088   | -3.6%            | 100.0%                      |
| ACT North Demand for ED     |                   | 75,056  | 70,274  | 78,500  | 74,456  | 73,652  | -1,404   | -1.9%            |                             |
| ACT North Resident % at TCH |                   | 31.7%   | 33.5%   | 32.8%   | 32.8%   | 34.5%   | 2.8%     | 8.7%             |                             |
| ACT North Resident % at NCH |                   | 68.3%   | 66.5%   | 67.2%   | 67.2%   | 65.5%   | -2.8%    | -4.1%            |                             |

Table 20: Current ED Presentations by Area of Residence for NCH and TCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024.

Key challenges identified include:

- Paediatric patients attending the NCH ED, often necessitates transfer to TCH for treatment and ongoing management, due to the limited on-site paediatric services at NCH. While, TCH paediatric ED presentations observed a declining trend between 2018/19 to 2022/23, ACT North paediatric ED presentations for residents have grown by 1.8% annually between 2018/19 and 2022/23. This would indicate they are by-passing NCH for TCH.
- Increased mental health presentations to the ED, leading to patients having extended ED length of stays while awaiting specialist mental health review, treatment and/or admission. Stakeholder consultation indicated that this patient cohort is frequently transferred to TCH or transferred to community mental health teams.
- Lack of care coordination between primary, secondary and tertiary care settings, unclear referral processes between the ED and Walk-In Centres. It was outlined during consultation that this has been leading to a poor patient experience of the patient journey.
- Current infrastructure is not fit for purpose and is impacting patient care such as for mental health patients, paediatrics and maternity patients presenting to ED experiencing complications.



## Future Direction

Table 21 represents the opportunities and future considerations for ED services. Consultation indicated that there are operational efficiencies that can be gained with service-related improvements to be made in the immediate and short term to enable services to be delivered safely, effectively and efficiently. Thus, the strategies below have been categorised to also consider changes to service delivery that do not require an infrastructure response.

| Type             | Opportunity / Improvements / Future Directions for Consideration                                                                                                                                                                     |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service Delivery | <ul style="list-style-type: none"> <li>Expanding ED services to enable paediatric care to be provided at NCH due to the volume of paediatric patients presenting to the ED currently.</li> </ul>                                     |
|                  | <ul style="list-style-type: none"> <li>Establishing a care pathway to better care for patients with behaviours of concern and/or mental health, and determine requirement for spaces such as Behavioural Assessment Unit.</li> </ul> |
| Workforce        | <ul style="list-style-type: none"> <li>Expanding the role of nurse practitioners and advance-practice allied health clinicians within the ED.</li> </ul>                                                                             |
|                  | <ul style="list-style-type: none"> <li>Increasing capacity to implement Senior Physician Review within the ED to support patient flow.</li> </ul>                                                                                    |
| Models of Care   | <ul style="list-style-type: none"> <li>Developing integrated care pathways with medical and surgical specialties to streamline the patient journey from ED to inpatient wards.</li> </ul>                                            |
|                  | <ul style="list-style-type: none"> <li>Review ED short stay and fast-track models to accelerate the patient journey within the ED safely, thus reducing waiting times for more urgent cases.</li> </ul>                              |
|                  | <ul style="list-style-type: none"> <li>Establishing care pathways with defined criteria, understanding the role of regional hospitals such as Queanbeyan Hospital within the CHS Network.</li> </ul>                                 |
| Enablers         | <ul style="list-style-type: none"> <li>Planning infrastructure and workforce to enable ED models of care to operate efficiently and safely including mental health workforce and infrastructure within the ED.</li> </ul>            |
|                  | <ul style="list-style-type: none"> <li>Utilising technology to improve communication and coordination between hospitals and transport services.</li> </ul>                                                                           |
|                  | <ul style="list-style-type: none"> <li>Enhancing partnerships with primary care services across the ACT to maintain ED avoidance for semi- and non-urgent presentations, and patients who frequently present.</li> </ul>             |
|                  | <ul style="list-style-type: none"> <li>Exploring the integration of the ambulance and patient transport system within the ACT to better enable and manage patient flow between all ACT public hospitals.</li> </ul>                  |
|                  | <ul style="list-style-type: none"> <li>Considering a single, coordinated bed and transport management system across the ACT.</li> </ul>                                                                                              |

Table 21: Strategic directions for Emergency Department services for NCH

## 9.2 Intensive Care Services

The Intensive Care Unit (ICU) at NCH is co-located with the Coronary Care Unit (CCU) and while medical governance is separate, nursing governance and staffing covers both units. CCU will be captured as part of the Cardiology section.

The unit, classified a RDL 4 Intensive Care Service<sup>60</sup>, provides specialist intensive care services to adult patients 24 hours a day, seven days a week in a designated intensive care unit in a multidisciplinary approach with life-threatening or potentially life threatening, and reversible or potentially reversible organ failure including:

- Care to critically ill adult patients needing complex multi-system life support.
- Takes referrals for admission and assesses against agreed clinical criteria as outlined within the ICU Admission Policy.
- ICU Liaison Service to identify patients at risk of admission or re-admission across NCH operates 8 hours a day, 7 days a week. This includes ICU review and assessment of patients on other inpatient wards or within the ED using agreed and standardised risk criteria. This service is supported by an ICU nurse.

<sup>60</sup> Consultation indicated that the ICU is classified a RDL 4 Intensive Care Services within the ACT Health Services Plan 2022-2030, although meets the criteria for RDL 5 within the NSW Health Guide to the Role Delineation of Clinical Services (2024).

- Medical Emergency Team (MET) Response, with an ICU Registrar acting as the MET responder and supported by ICU Liaison Service. The current MET model is split between ED for medical and paediatric response.
- Care for patients requiring intensive care from across the Territory including time critical transfers via Ambulance.
- Transfers patients to TCH predominately and other centres where specialist or subspecialist service is required but not available at NCH.
- Accepts appropriate transfers from retrieval services from lower-level services, including those from Southern NSW Local Health District (LHD)<sup>61</sup>.
- Works with surgical teams and anaesthetic teams to identify patients at risk of requiring intensive care admission postoperatively including as part of the elective pre-admission process.

The ICU has a capacity of 10 beds with funding available to operate up to 10 ICU2 patients, and a reduced number of beds if some patients require ICU1 level of care (up to 5 ICU1 patients), or a combination thereof, depending on the complexity and casemix within the ICU.

Admission to the ICU is predominately via the ED as well as through urgent medical or surgical referral, identified during a MET incident, via retrieval from CHS or other service, or post-operatively. The staffing ratio follows the Australian College of Critical Care Nurses (ACCCN) workforce standard ratios for ICU including 1 nurse to 1 patient for ICU-1 patients and 1 nurse to 2 patients for ICU-2 patients. The staffing mix includes nursing team leaders, education staff, Clinical Nurse Consultation and Assistant Director of Nursing, shared by the Coronary Care Unit.

Consistent with a RDL-4 ICU service, NCH does not provide services such as cardiothoracic surgery, ECMO, major trauma, or neurosurgery, which are available at TCH. If required urgently these services are accessed from TCH through interhospital transfers utilising ACTAS.

Between 2019 and 2021, there has been a change in ICU activity<sup>62</sup>. It is noted that this includes the COVID-19 period and that service activity across the system changed during this time period. The declining trend can be attributed to the reduced capacity to accept patients from ED, which would lead to transfer to TCH, adding to the existing patient transport challenges, consistently noted through consultation.

| Hospital | Values                  | 2019   | 2021   | Variance | Growth | CAGR 2019-2021 |
|----------|-------------------------|--------|--------|----------|--------|----------------|
| NCH      | ICU flagged separations | 783    | 739    | -44      | -5.6%  | -2.9%          |
|          | ICU Hours               | 55,067 | 49,298 | -5,769   | -10.5% | -5.4%          |
|          | ALOS                    | 70.3   | 66.7   | -3.619   | -5.1%  | -2.6%          |
|          | Calculated beds         | 8      | 8      | 0        | 0.0%   | 0.0%           |

**Table 22: Historical ICU Activity for NCH, 2018/19-2020/21. Source: 2021/22 HPA ED Projections, provided by ACTHD, 2024. Includes acute only and 16 and over. Excludes Chemotherapy, Renal Dialysis and Unqualified Neonates, and 00-15 years. Bed calculation based on 75% occupancy. Note: The most recent ICU data available is from 2021.**

Key challenges and issues identified include:

- The limited network model between ICU service across NCH and TCH, with frequent transfers to higher level care at TCH if the condition of the patient deteriorates.
- Current shared governance arrangement across ICU and CCU has been noted to impact admissions to the respective units, further exacerbating
- With the lower acuity of surgical cases at NCH and no Close Observation capacity on the inpatient wards at NCH, there is a perceived deskilling of the wards due to reduced exposure to complex casemix which requires all at-moderate clinical risk to be referred to ICU.

<sup>61</sup> This accounted for 3% of total NSW Southern Residents at NCH for 2021.

<sup>62</sup> Historical ICU data was only available for 2019 and 2021.



- Capacity of ICU and CCU is reduced at times when non-ICU/CCU patients require care in a negative pressure room, which are only available in ICU and CCU.
- With the ICU and CCU having the only negative pressure inpatient rooms within NCH. Consultation outlined that medical outliers can be found within the units which are co-located, impacting patient flow for patients that require ICU and CCU care.

## Future Direction

Table 19 represents the opportunities and future considerations for the ICU service. It was recognised the future service delivery of intensive care services will be informed by the overarching strategic direction for NCH, operating this service to the full extent of RDL-4. Opportunities for developing an ICU network for Territory-wide bed capacity and flow to enable appropriate use of ICU beds, including retrievals, surgical cases and for sub-speciality care, and facilitate smooth and efficient transfers of ICU patients.

| Type             | Opportunity / Improvements / Future Directions for Consideration                                                                                                                                                                                                        |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | <ul style="list-style-type: none"> <li>▪ Establish the ACT ICU Network with TCH to enable integrated service delivery, enable cross appointments and support education and training to enhance ICU capability across CHS.</li> </ul>                                    |
|                  | <ul style="list-style-type: none"> <li>▪ Exploring the integration of NCH into the NSW ICU Network.</li> </ul>                                                                                                                                                          |
| Workforce        | <ul style="list-style-type: none"> <li>▪ Redesigning the current MET governance so that it sits entirely with the ICU for both MET 1 and MET 2, noting this will require the appropriate medical, nursing and administrative resources to cover the service.</li> </ul> |
| Models of Care   | <ul style="list-style-type: none"> <li>▪ Strengthening monitoring capability across inpatient wards.</li> </ul>                                                                                                                                                         |
|                  | <ul style="list-style-type: none"> <li>▪ Developing clear ICU/CCU admission criteria and policy to support effective bed management and care of the patient within the appropriate setting.</li> </ul>                                                                  |

Table 23: Strategic directions for ICU services for NCH

## 9.3 Medical Services

Medical Services provided at NCH operate within a generalist medical model supported by a diverse mix of Staff Specialists and VMOs from various specialities. Specialities include but are not limited to Cardiology, Gastroenterology, Endocrinology, Geriatric Medicine, and Respiratory Medicine. Access to other sub-specialities is provided by TCH with networking arrangements being further developed as a result of the integration of NCH into CHS.

There are three general medical inpatient wards dedicated to providing acute and subacute care and supported by a ward-dedicated Clinical Nurse Consultant, which includes:

- 5 West with 30 beds including the 6-bed Stroke Unit.
- 4 East with 30 beds.
- 4 West with 28 beds.
- Medical Assessment and Planning Unit (MAPU) with 24 beds.

Consultation indicated that medical outliers are also cared for on 6W due to an increasing number of sub-acute patients who are awaiting transfer to UCH other sub-acute facilities or a nursing home, that are occupying acute medical beds. This is further exacerbated by acute medical patients awaiting transfer to TCH for sub-speciality related procedures such as interventional radiology or interventional cardiology, which are not on site at NCH consistent with the hospital's role.

The MAPU is a 24-bed inpatient short stay unit providing multidisciplinary assessment, care and treatment of acutely ill medical patients, with a predicted length of stay of 48 to 72 hours. It has an additional function in providing comprehensive initial assessment for patients who require longer-term care. It is staffed by senior medical officers during business hours and junior medical staff 24 hours a day, 7 days a week.

There is a limited geriatric medicine service with Geriatricians operating within the General Medical model. Ongoing challenges with managing older persons have persisted over time including the management of older persons with complex cognitive conditions such as dementia, and caring for older persons in an acute setting that may be better served within a sub-acute setting.

The projected population of ACT North residents aged 65 and over is anticipated to increase by 36.2% by 2031 and 77.5% by 2041. Older people are more likely to access hospital services and in 2023, 267 patients (regardless of care type) had a primary or secondary diagnosis of dementia, compared to 133 in 2018/19. Thus over time, it is expected that this patient cohort will also grow and necessitate the development of appropriate models of care and infrastructure to care for people with behavioural and psychological symptoms of dementia.

Between 2018/19 and 2022/23, separations with a Maintenance care type in NCH increased from 264 separations to 493 separations, with the average length of stay (ALOS) being 14.3 days in 2018/19 to 16.8 days in 2022/23. The increasing number of Maintenance separations during this period has also been observed at TCH and UCH.

Over the past five years, medical separations at NCH increased by 20% while medical bed days increased by 32%. The majority of separations were emergency/unplanned accounting for 74% of total separations in 2022/23. The increase in ALOS since 2018/19 is consistent with the patient flow and bed management challenges noted throughout consultation, including patients awaiting transfer to TCH for specialist care and/or services not available at NCH.

The total combined current medical bed capacity for NCH is 112 excluding HiTH spaces. It was consistently expressed throughout the consultations when discussing the current operational impacts of the increased activity over time that there are outliers across the facility, as well as noting that NCH is operating at a 100% bed occupancy consistently. This is supported in the data as shown in Table 24<sup>63</sup>.

| Clinical Grouping                      | Stay Type |          | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth |
|----------------------------------------|-----------|----------|---------|---------|---------|---------|---------|----------|--------|
| Medical-Adult                          | Overnight | Seps     | 8,117   | 7,924   | 8,884   | 7,068   | 8,490   | 373      | 4.6%   |
|                                        |           | Bed days | 31,779  | 34,383  | 36,232  | 36,620  | 41,710  | 9,931    | 31.3%  |
|                                        |           | ALOS     | 3.9     | 4.3     | 4.1     | 5.2     | 4.9     | 1.0      | 25.5%  |
|                                        | Same Day  | Seps     | 7,579   | 8,022   | 10,435  | 6,231   | 10,320  | 2,741    | 36.2%  |
|                                        |           | Bed days | 7,579   | 8,022   | 10,435  | 6,231   | 10,320  | 2,741    | 36.2%  |
| Medical-Adult Seps                     |           |          | 15,696  | 15,946  | 19,319  | 13,299  | 18,810  | 3,114    | 19.8%  |
| Medical-Adult Bed days                 |           |          | 39,358  | 42,405  | 46,667  | 42,851  | 52,030  | 12,672   | 32.2%  |
| Medical-Adult Overnight Calculated Bed |           |          | 87      | 94      | 99      | 100     | 114     | 27       | 31.3%  |
| Medical-Adult Same Day Calculated Bed  |           |          | 19      | 20      | 26      | 15      | 25      | 7        | 36.2%  |
| Medical-Adult Total Calculated Beds    |           |          | 106     | 114     | 125     | 116     | 140     | 34       | 32.1%  |

**Table 24: Historical Medical Activity, NCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Chemotherapy, Renal Dialysis, Organ Procurement care type and Unknown care type. Acute care type only, medical partition, 16 years and over. Overnight beds calculated at 100% occupancy. Same day overnight beds at 240 days at 170% occupancy.**

In 2022/23, Neurology, Gastroenterology, General Medicine, Cardiology and Respiratory Medicine were observed as high-volume SRGs<sup>64</sup> for NCH. While NCH delivers medical care within a General Medicine model, the general medical roster consists of physicians that represent the services listed below. This provides an opportunity to explore sub-specialities at NCH that are delivering care with RDL 4 with adequate volumes to sustain sub-speciality services. This has been observed to date with Cardiology and Neurology.

<sup>63</sup> This activity includes separations that involved ED Short Stay Unit or a HiTH component. HiTH is discussed further in section 10.11.

<sup>64</sup> Service Related Group (SRG) and Enhanced SRG (ESRG) classifications categorise admitted patient episodes into groups representing clinical divisions of hospital activity, based on aggregations of AR-DRGs. SRGs are used to assist in planning services, analysing and comparing hospital activity, examining patterns of service needs and access, and projecting potential trends in services. Source: AIHW, 2019, Appendix C: Service related groups. Accessed from: <https://www.aihw.gov.au/reports/hospitals/hospital-resources-2017-18-ahs/contents/appendixes/appendix-c-service-related-groups>



| Clinical Grouping   | Service Related Groups  | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth |
|---------------------|-------------------------|---------|---------|---------|---------|---------|----------|--------|
| Medical-Adult       | 21 Neurology            | 1,827   | 1,938   | 2,582   | 2,177   | 2,910   | 1,083    | 59.3%  |
|                     | 15 Gastroenterology     | 2,388   | 2,379   | 2,864   | 2,083   | 2,878   | 490      | 20.5%  |
|                     | 27 General medicine     | 2,594   | 2,534   | 2,909   | 1,947   | 2,857   | 263      | 10.1%  |
|                     | 11 Cardiology           | 2,517   | 2,462   | 3,225   | 1,855   | 2,627   | 110      | 4.4%   |
|                     | 24 Respiratory medicine | 1,405   | 1,517   | 1,380   | 1,106   | 1,407   | 2        | 0.1%   |
|                     | Other SRGs              | 4,965   | 5,116   | 6,359   | 4,131   | 6,131   | 1,166    | 23.5%  |
| Medical-Adult Total |                         | 15,696  | 15,946  | 19,319  | 13,299  | 18,810  | 3,114    | 19.8%  |

**Table 25: Medical Activity by Top 5 SRGs, NCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Chemotherapy, Renal Dialysis, Organ Procurement care type and Unknown care type. Acute care type only. Based on assigned DRGsv10.**

Key challenges and issues outlined through consultation included:

- Patients awaiting transfer to TCH for further care, for medical imaging within NCH to enable diagnosis, limited alternatives for assessment whereby admission is the primary option, and limited capacity to discharge patients to other care settings. This further demonstrates the impact to service delivery by the impacted by the lack of a coordinated and timely system to transfer patients.
- Managing the intersection between General Medicine and subspecialty care including transferring patients to TCH for specialist procedures such as ERCP, interventional radiology, intervention cardiology and dialysis.
- Caring for sub-acute patients within the acute setting while they await transfer to an appropriate sub-acute facility and/or nursing home.
- Delays in radiology with the current model of outsourced radiology reporting impacting timely management and leading to increased length of stay.
- Limited care pathways and unclear admission criteria have led to an increase in activity that may be better managed in outpatient, community and/or sub-acute settings.
- Limited integration of medical and surgical services to support pre-operative models.
- Limited infrastructure capacity to enable expansion of other sub-speciality outpatient services such as gastroenterology

## Future Direction

Noting that medical service activity has increased over the past five years, the aging profile of medical services patients, current operational issues including fragmented care pathways, and limited capacity to undertake outpatient services/clinics. The following tables present the opportunities and future considerations for medical services at NCH.

| Type             | Opportunity / Improvements / Future directions for consideration                                                                                                                                                                                     |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | <ul style="list-style-type: none"> <li>▪ Expansion of medical services into sub-specialities aligned to casemix for NCH such as Gastroenterology, Cardiology, Neurology, Respiratory Medicine, Geriatric Medicine.</li> </ul>                        |
|                  | <ul style="list-style-type: none"> <li>▪ Enhancing networking across sub specialities within CHS</li> </ul>                                                                                                                                          |
|                  | <ul style="list-style-type: none"> <li>▪ Establishment of a Neurology Ward to enable access to neurology and stroke care aligned to proposed RDL, support workforce development and continuity of care for the neurology patient journey.</li> </ul> |
|                  | <ul style="list-style-type: none"> <li>▪ Strengthening the existing stroke unit by establishing an acute stroke service.</li> </ul>                                                                                                                  |
|                  | <ul style="list-style-type: none"> <li>▪ Developing of a streamlined stroke care model including feasibility for a stroke unit for rapid diagnosis and treatment.</li> </ul>                                                                         |
|                  | <ul style="list-style-type: none"> <li>▪ Enhancing services for older people across disciplines including acute care management and longer term sub-acute care requirements.</li> </ul>                                                              |
|                  | <ul style="list-style-type: none"> <li>▪ Establishing a Behavioural and Psychological Symptoms of Dementia (BPSD) unit to support the care and management of people experiencing BPSD.</li> </ul>                                                    |
|                  | <ul style="list-style-type: none"> <li>▪ Establishing Rapid Access Clinics for patients who need follow-up care without the need for a hospital admission or extended hospital stays.</li> </ul>                                                     |

| Type           | Opportunity / Improvements / Future directions for consideration                                                                                                                                                                                                                                                                          |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Workforce      | <ul style="list-style-type: none"> <li>Enhancing multidisciplinary approaches that enable clinicians to perform at to the full extent of their scope</li> </ul>                                                                                                                                                                           |
|                | <ul style="list-style-type: none"> <li>Expanding CCU multidisciplinary workforce including Medical Officers, Cardiac Scientist, ECHO Sonographers, Team Leader, Educator and Clinical Nurse Consultant, and Nurse Practitioner to facilitate patient management and flow, and coordinate dedicated CCU education and training.</li> </ul> |
| Models of Care | <ul style="list-style-type: none"> <li>Exploring a post-ICU care model to better more effectively manage patient flow</li> </ul>                                                                                                                                                                                                          |
|                | <ul style="list-style-type: none"> <li>Developing model of care to manage and support complex dementia patients, in collaboration with the Older Persons Mental Health service.</li> </ul>                                                                                                                                                |
|                | <ul style="list-style-type: none"> <li>Establishing clear pathways for improved coordination and transfer between acute care and sub-acute care services, within NCH, CHS and Residential Aged Care Facilities (RACFs).</li> </ul>                                                                                                        |
|                | <ul style="list-style-type: none"> <li>Improving the transfers to UCH</li> </ul>                                                                                                                                                                                                                                                          |
| Enablers       | <ul style="list-style-type: none"> <li>Implementing digital models of care, such as the development of applications and digital platforms that offer tailored educational content and real-time feedback to patients.</li> </ul>                                                                                                          |
|                | <ul style="list-style-type: none"> <li>Implementing hybrid models of care for heart failure, combining in-person visits with digital monitoring and remote therapeutics.</li> </ul>                                                                                                                                                       |
|                | <ul style="list-style-type: none"> <li>Establishing and building partnerships with community-based services and RACFs to facilitate smoother transition for patients out of the hospital.</li> </ul>                                                                                                                                      |

**Table 26: Strategic Directions for Medical Services for NCH**

## Cardiology

NCH provides a RDL-4 Cardiology Department delivering inpatient and outpatient services. There are no dedicated inpatient beds for cardiology patients though the service includes the 6-bed non-interventional Coronary Care Unit (CCU). The patient cohort is for those patients with cardiac arrhythmias, cardiac inflammatory conditions, non-ST-elevation myocardial infarction (NSTEMI) or STEMI post intervention and patient post procedures of pacemaker insertion, defibrillator insertion and angiograms with or without stents and heart failure. Cardiology Consultants will consult general medical patients with a cardiology condition though consultation indicated this is a small volume.

Currently, the CCU medical team is available within business hours with a temporary increase of CCU registrar cover until 9pm on weekdays and cover on weekends for 3 hours. The staffing ratio is 1 nurse to 3 patients. Where patients are actively deteriorating or present a risk of harm to self, patient ratios may be increased to 1:1 or 1:2 in consultation with management team. The primary source of admission for the CCU is the ED followed by inpatient ward transfers.

The Cardiology Department provides the following outpatient services including:

- Outpatient echocardiography (ECHO)
- CT coronary angiograms
- adrenaline and flecainide challenges
- Dobutamine stress echocardiography
- Cardioversions and trans-oesophageal echocardiography (TOE), which currently occur in theatres
- Cardiology follow up clinics
- Cardiac rehabilitation program.

Access to the cardiac catheterisation labs when required is provided by TCH for public patients. Patients transferred to TCH for their procedures, where medically appropriate, are transferred back to NCH for the remainder of their care. Over time, this has led to a fragmented cardiology patient journey with a reliance on ACTAS, the Territory's ambulance and emergency service, which prioritises emergency cases within the community. Consultation indicated that this can lead to



additional bed days at both TCH and NCH for patients awaiting transfer and this has been observed by the increased ALOS over the past five years.

For those patients with private health insurance, access to cardiac catheterisation labs at National Capital Private Hospital and Calvary Bruce Private Hospital can be arranged. This has been brought to light in recent years and through consultation that there is a growing reliance on the private health system to enable access to services not available at NCH. In 2022/23, there were 111 Cardiology and Interventional Cardiology separations for contracted care (i.e. care undertaken by private health providers), which was a significant increase from 2018/19 where 4 separations were reported.

Over the past five years, for Cardiology and Interventional Cardiology separations (which account for around 9% of total NCH separations<sup>65</sup>), there has been a 1.6% annual growth in separations and 9.1% growth in bed days from 2018/19 to 2022/23. This has seen an increased length of stay to 4.1 days in 2022/23, compared to 3.3 days in 2018/19. In 2022/23, there was a calculated bed requirement for 17 overnight beds and 4 same day beds. This activity has been included as part of the Medical Services analysis.

| Stay Type             | Values      | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Growth 2019-2023 | CAGR 2019-2023 |
|-----------------------|-------------|---------|---------|---------|---------|---------|------------------|----------------|
| Overnight             | Separations | 1,147   | 1,045   | 1,373   | 997     | 1,307   | 13.9%            | 3.3%           |
|                       | Bed days    | 3,797   | 3,726   | 4,434   | 4,275   | 5,385   | 41.8%            | 9.1%           |
|                       | ALOS        | 3.3     | 3.6     | 3.2     | 4.3     | 4.1     | 24.5%            | 5.6%           |
| Same Day              | Separations | 1,427   | 1,447   | 1,890   | 913     | 1,440   | 0.9%             | 0.2%           |
| Total NCH Separations |             | 2,574   | 2,492   | 3,263   | 1,910   | 2,747   | 6.7%             | 1.6%           |
| Total NCH Bed days    |             | 5,224   | 5,173   | 6,324   | 5,188   | 6,825   | 30.6%            | 6.9%           |

**Table 27: Historical Cardiology and Intervention Cardiology Activity, NCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Excludes All other SRGS. Includes all care types.**

Other key challenges and issues related to current service delivery for cardiology services include:

- Cardiology outpatient services are under resourced with long wait lists existing for all services including chest pain, ECHO, cardiac rehabilitation and CT angiography.
- Limited specialist cardiac workforce and equipment onsite such as cardiac sonographers, cardiac scientists/physiologists and echocardiogram machines, further necessitates the need to transfer patients to TCH so they receive the required care.
- Limited ability to undertake telemetry on the ward further exacerbating the need for monitoring to occur within the CCU, adding to critical care bed block.
- Complex medical governance exists with CCU currently co-located with ICU.

Opportunities and future considerations for cardiology services include:

- Establishing an integrated Cardiology and CCU service to enable whole of patient journey management and consolidate clinical governance arrangements for this cohort. This will include a review of workforce and resources, including appropriate ambulatory designed models of care to reduce hospital demand, through hospital avoidance, earlier discharge and coordinated follow up.
- Consideration of establishment of interventional cardiology capability with on-site cardiac catheterisation lab for service delivery aligned to a RDL-4 service.
- Address patient flow challenges and critical care bed block to enable CCU bed capacity to be better utilised.
- Strengthen the existing heart failure clinic with greater emphasis on multidisciplinary care and service delivery.
- Enhancing non-admitted and outpatient services across key cardiology programs to facilitate

<sup>65</sup> Excluding Chemotherapy, Renal Dialysis, Obstetrics, Qualified Neonates and Unqualified Neonates

ongoing care and management of people with chronic cardiovascular conditions outside of the inpatient setting.

## Neurology

NCH has an established RDL 4 Neurology service which delivers inpatient and outpatient services. This includes 4 dedicated beds which provide specialist neurology care for patients with ischemic and haemorrhagic stroke and an acute stroke team for intravenous thrombolysis in appropriate patients.

TCH provides endovascular thrombectomy and neurosurgery services and is the endovascular clot retrieval referral hub for seven hospitals including six hospitals within Southern NSW LHD.

Various key challenges were noted for the Neurology service at NCH including:

- High-demand for outpatient services with long waitlists in place.
- Limited on-site radiological services including MRI which is provided by a private provider.
- Limited formal processes to transfer patients between the public and private sectors.
- Neurology inpatients are not consolidated into a single ward.
- Transfers between TCH could be improved, given that TCH is the RDL-6 Neurology and Stroke Service, and provides the Territory's clot retrieval service.
- Reduction in EEG services over the past two years due to workforce shortages has impacted the care of patients requiring epilepsy management.
- Limited infrastructure and workforce capacity to undertake nerve conduction services, leading to a reliance on services at TCH.
- Increased reliance on private services for imaging services and neurology studies, due to public capacity at NCH.
- Ambiguous and informal care pathways for transferring NSW residents back to Southern NSW LHD services.

Future opportunities and improvements for the future are reflected in Table 26.

## 9.4 Surgical Services

### Current State

North Canberra Hospital provides surgical services including General Surgery, Orthopaedic, Gynaecology, Urology, Breast Cancer Surgery, Ophthalmology, and Dental Surgery. Surgical services are supported by a 7 operating theatres and 1 procedural room for non-complex interventional cases such as scopes, cardioversions, ECT and PICC lines, and a 28-bed ward (6W).

NCH delivers predominately elective services in the areas of Urology, Endoscopy, General Surgery and Gynaecology. NCH is currently the primary centre in ACT for Breast Surgery. A Gynae-Oncology Surgery Service was established in 2024<sup>66</sup>.

The majority of surgical activity at NCH is for same day planned procedures with a low emergency workload. Emergency cases are often sent to TCH, including for lower-impact cases such as fractures.

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<sup>66</sup> Due to the recency of this service being established, trended data is not available.

While NCH is the provider of breast cancer surgery for benign and cancerous conditions for the Territory, the service is provided across multiple public and private health service providers and locations. It is observed that:

- Imaging services are available at TCH and predominately within the private sector for mammography, ultrasound, biopsy, breast MRI and PET CT staging.
- Breastscreen is delivered from community health centres in Belconnen, Canberra City and Philip.
- Breast care nursing is delivered at NCH for both public and private patients.
- The Benign Breast Imaging Clinic, for positive screens, is delivered from TCH.
- Sub-speciality allied health services delivered by both private providers and NCH.
- Medical and radiation oncology is provided at TCH.
- Multidisciplinary Team Meetings include both public and private patients.

It was noted that private outsourced services are under pressure to provide services in line with the foundations of universal healthcare provision as expected within a public health setting. For example, when a patient with a breast mass and suspected cancer seen in North Canberra Hospital is sent for ultrasound guided biopsy to a private health provider, patients have to cover the associated out of pocket costs or due to private sonographer shortages, long wait times are expected. It has been indicated through consultation that patient outcomes are affected due to lack of coordination, inequitable access to care due to out of pocket expenses and fragmented patient journey.

In 2022, a fire within NCH theatres necessitated a refurbishment of the NCH theatre complex. During 2022/23, surgical cases were managed by TCH and the private health sector to manage the surgical waitlist.

Other key challenges and issues outlined through consultation included:

- Inconsistent surgical bed availability not meeting the needs of the demand for surgery, leading to operational inefficiencies and long wait lists.
- Patient flow challenges impacting surgical bed availability due to medical long stay patients awaiting placement at UCH and/or nursing homes.
- Difficulties in managing patient flow from private consulting rooms to public health services, further contributing to the long surgical waitlist issues.
- Limited capacity for outpatient services, leading to under-provision of post-op care after discharge.
- Perceived operational inefficiencies in managing procedural rooms and back of house activities.
- Coordination challenges between NCH and TCH for sub-speciality surgical cases and care, leading to increased wait times for surgery and impacting post-operative care.

Given the theatre fires in 2022, where TCH together with the private sector delivered surgical services to public patients, and the operational challenges observed at NCH, a declining trend was observed with NCH surgical activity being predominately planned.



| Hospital                    | Urgency of Admission | Values   | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth 2019-2023 | CAGR 2019-2023 |
|-----------------------------|----------------------|----------|---------|---------|---------|---------|---------|----------|------------------|----------------|
| NCH                         | Emergency            | Seps     | 1,233   | 1,281   | 1,162   | 1,212   | 1,155   | -78      | -6.3%            | -1.6%          |
|                             |                      | Bed Days | 6,626   | 6,421   | 5,525   | 5,661   | 6,326   | -300     | -4.5%            | -1.2%          |
|                             | Planned              | Seps     | 7,767   | 7,157   | 8,526   | 7,693   | 6,584   | -1,183   | -15.2%           | -4.0%          |
|                             |                      | Bed Days | 10,579  | 9,968   | 11,474  | 10,601  | 9,193   | -1,386   | -13.1%           | -3.4%          |
| NCH Total Seps              |                      |          | 9,000   | 8,438   | 9,688   | 8,905   | 7,739   | -1,261   | -14.0%           | -3.7%          |
| NCH Total Bed days          |                      |          | 17,205  | 16,389  | 16,999  | 16,262  | 15,519  | -1,686   | -9.8%            | -2.5%          |
| TCH                         | Emergency            | Seps     | 8,915   | 9,640   | 10,144  | 9,908   | 9,787   | 872      | 9.8%             | 2.4%           |
|                             |                      | Bed Days | 53,353  | 58,965  | 56,944  | 57,349  | 57,751  | 4,398    | 8.2%             | 2.0%           |
|                             | Planned              | Seps     | 7,467   | 7,460   | 8,476   | 7,632   | 7,878   | 411      | 5.5%             | 1.3%           |
|                             |                      | Bed Days | 22,037  | 21,967  | 23,061  | 19,999  | 20,591  | -1,446   | -6.6%            | -1.7%          |
| TCH Total Seps              |                      |          | 16,382  | 17,100  | 18,620  | 17,540  | 17,665  | 1,283    | 7.8%             | 1.9%           |
| TCH Total Bed days          |                      |          | 75,390  | 80,932  | 80,005  | 77,348  | 78,342  | 2,952    | 3.9%             | 1.0%           |
| CHS Total Surgical Seps     |                      |          | 25,382  | 25,538  | 28,308  | 26,445  | 25,404  | 22       | 0.1%             | 0.0%           |
| CHS Total Surgical Bed days |                      |          | 92,595  | 97,321  | 97,004  | 93,610  | 93,861  | 1,266    | 1.4%             | 0.3%           |

**Table 28: Surgical-Adult Activity Trend for NCH and TCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Chemotherapy, Renal Dialysis, Obstetrics, Organ Procurement care type and Unknown care type. Acute care type only, intervention partition and 16 years and over.**

Patient flow challenges and bed blocks were outlined consistently during consultations, indicating the limited availability of surgical beds due to medical outliers. Table 29 outlines that in 2022/23 there was a total surgical bed requirement of 46 beds for NCH. While a decreasing trend is observed, bed management and patient flow challenges may be contributing to this.

| Clinical Grouping        | Admission Type |          | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth 2019-2023 |
|--------------------------|----------------|----------|---------|---------|---------|---------|---------|----------|------------------|
| Surgical-Adult           | Overnight      | Seps     | 3,252   | 3,123   | 3,403   | 3,373   | 2,716   | -536     | -16.5%           |
|                          |                | Bed Days | 11,457  | 11,074  | 10,714  | 10,730  | 10,496  | -961     | -8.4%            |
|                          |                | ALOS     | 3.5     | 3.5     | 3.1     | 3.2     | 3.9     | 0        | 9.7%             |
|                          | Same Day       | Seps     | 5,748   | 5,315   | 6,285   | 5,532   | 5,023   | -725     | -12.6%           |
|                          |                | Bed Days | 5,748   | 5,315   | 6,285   | 5,532   | 5,023   | -725     | -12.6%           |
| Surgical-Adult Seps      |                | Seps     | 9,000   | 8,438   | 9,688   | 8,905   | 7,739   | -1,261   | -14.0%           |
| Surgical -Adult Bed days |                | Bed Days | 17,205  | 16,389  | 16,999  | 16,262  | 15,519  | -1,686   | -9.8%            |

**Table 29: Historical Surgical Activity, NCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Organ Procurement, Chemotherapy and Renal Dialysis. Acute care type only, intervention partition and 16 years and over.**

While the overall surgical activity trend for NCH is observed to have declined, Urology, Gynaecology, Breast Surgery and Plastics and Colorectal Surgery have increased. This is consistent with consultation which outlined the areas of potential specialisation for NCH, particularly for high-volume low-complexity surgical models.

It was outlined that NCH undertakes the majority of breast surgical cases across the ACT and the Plastics activity reported here is associated with the surgical breast oncology service that has developed over time. Despite having a busy ED, the majority of emergency orthopaedics is transferred to TCH due to limited emergency surgical capacity at NCH, demonstrated by the observed volumes for orthopaedics in the table below. The majority of this activity (98.2%) is for planned work.

| Clinical Grouping         | Service Related Group               | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth |
|---------------------------|-------------------------------------|---------|---------|---------|---------|---------|----------|--------|
| Surgical-Adult            | 16 Diagnostic GI                    | 1,962   | 1,830   | 2,011   | 1,860   | 1,751   | -211     | -10.8% |
|                           | 52 Urology                          | 1,078   | 1,151   | 1,297   | 1,433   | 1,308   | 230      | 21.3%  |
|                           | 50 Ophthalmology                    | 1,453   | 1,311   | 1,717   | 1,284   | 858     | -595     | -40.9% |
|                           | 71 Gynaecology                      | 771     | 818     | 987     | 856     | 793     | 22       | 2.9%   |
|                           | 54 General surgery                  | 671     | 627     | 684     | 660     | 618     | -53      | -7.9%  |
|                           | 15 Gastroenterology                 | 579     | 488     | 540     | 469     | 418     | -161     | -27.8% |
|                           | 49 Orthopaedics                     | 551     | 495     | 702     | 603     | 386     | -165     | -29.9% |
|                           | 51 Plastic & reconstructive surgery | 291     | 250     | 334     | 315     | 308     | 17       | 5.8%   |
|                           | 41 Breast surgery                   | 268     | 310     | 304     | 320     | 276     | 8        | 3.0%   |
|                           | 44 Upper gastrointestinal surgery   | 254     | 227     | 253     | 263     | 246     | -8       | -3.1%  |
|                           | 43 Colorectal surgery               | 210     | 214     | 237     | 209     | 240     | 30       | 14.3%  |
|                           | 24 Respiratory medicine             | 262     | 195     | 107     | 125     | 165     | -97      | -37.0% |
|                           | 47 Oral and maxillofacial surgery   | 253     | 187     | 193     | 144     | 118     | -135     | -53.4% |
|                           | 48 Ear, nose & throat/head & neck   | 266     | 227     | 218     | 185     | 69      | -197     | -74.1% |
|                           | 12 Interventional Cardiology        |         |         |         | 18      | 67      | 67       | -      |
|                           | 11 Cardiology                       | 32      | 16      | 17      | 26      | 33      | 1        | 3.1%   |
|                           | Other SRGs                          | 99      | 92      | 87      | 135     | 85      | -14      | -14.1% |
| Surgical-Adult Total Seps |                                     | 9,000   | 8,438   | 9,688   | 8,905   | 7,739   | -1,261   | -14.0% |

**Table 30: Surgical Activity by Top 5 SRGs, NCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Organ Procurement, Chemotherapy and Renal Dialysis. Includes Acute care type only. Based on assigned DRGs v10.**

For ACT North residents, 52.8% of surgical activity is undertaken at TCH with 30.5% being for emergency and 21.8% for planned cases, predominately for Orthopaedics, General Surgery and Interventional Cardiology.

### Future Direction

For NCH to fulfil its role, there needs to be a focus on supporting its emergency cases that come through the ED. This is partly due to legacy operating models and ACTAS bypassing NCH with a review of ACT North residents flowing to the TCH ED via ambulance at a higher rate than ACT North residents self-presenting to TCH.

Aligned to its RDL-4 surgical services, delivering a high-volume low-complexity surgery service for CHS with TCH continuing to act as the Tertiary Centre for more complex surgery. This needs to occur within a coordinated and networked approach with TCH so CHS can utilise its surgical expertise and workforce across both facilities.

With significant workforce shortages across disciplines such as Anaesthesia, ENT, Ophthalmology and Plastics and given the proximity of the two hospitals, networked surgical models are critical to meeting demand and delivering an efficient service. Maintaining the balance between low- and high-complexity surgical caseloads at each hospital is essential to support workforce attraction, retention and development strategies.

As with medical services, investment in non-admitted patient services is critical to support the long-term sustainability of high-quality healthcare delivery. For surgical services, ensuring better patient outcomes pre- and post-surgery can be achieved by enabling dedicated outpatient services focused on the high-volume services such as Urology, General Surgery, Gynaecology and Ophthalmology. Recognising that some of these currently exist albeit on a limited capacity, there is an opportunity to redesign outpatient service delivery and infrastructure to allow services to meet current and future demand.

Building on the role of NCH, developing its Breast Cancer Surgery Service is important, with the surgical expertise at NCH and oncology capability and capacity at TCH, the service can be better networked to reduce access issues for public patients and enable a coordinated patient care pathway. Improving access to the required medical imaging and diagnostic components essential for the detection of benign and malignant tumours is vital to enabling good patient outcomes.

Further opportunities and future considerations for surgical services include:

| Type             | Opportunity / Improvements / Future Directions for Consideration                                                                                                                                                                                                                                                                                                        |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | <ul style="list-style-type: none"> <li>Establishing elective high-volume low complexity service for NCH with integrated surgical workforce model with TCH to build a skill-mix across both sites.</li> </ul>                                                                                                                                                            |
|                  | <ul style="list-style-type: none"> <li>Establishing an integrated breast service to enable access to care for breast symptoms, imaging, biopsy for diagnosis, staging and further work-up.</li> </ul>                                                                                                                                                                   |
|                  | <ul style="list-style-type: none"> <li>Exploring the feasibility of interventional radiology and radiology-guided surgery for cases within a RDL-4 service.</li> </ul>                                                                                                                                                                                                  |
|                  | <ul style="list-style-type: none"> <li>Exploring feasibility for robotic surgery capability, noting that for some specialities such as urology and colorectal surgery, this can be considered as part of attracting and retaining senior surgical workforce and influencing surgical trainee requirements.</li> </ul>                                                   |
| Workforce        | <ul style="list-style-type: none"> <li>Improving access to reconstructive services by increasing the availability and timeliness of plastic and reconstructive surgeries post-mastectomy. It was indicated through consultation that the availability of Plastics and Reconstructive Surgeons is limited within the ACT and remains a key challenge for CHS.</li> </ul> |
| Models of Care   | <ul style="list-style-type: none"> <li>Implementing a surgical network model with services strategically distributed between NCH and TCH, ensuring resource efficiency, patient safety, and high-quality care.</li> </ul>                                                                                                                                               |
|                  | <ul style="list-style-type: none"> <li>Reviewing the management of Category 3 patients across CHS to ensure the waitlist accurately reflects clinical need and progression of the disease. This may be a reassessment to prioritise patients who need surgery sooner and potentially reassess those who can safely delay surgery.</li> </ul>                            |
|                  | <ul style="list-style-type: none"> <li>Exploring pre-operative models such as pre-rehabilitation (pre-hab)<sup>67</sup> to improve patient outcomes post-surgery.</li> </ul>                                                                                                                                                                                            |
| Enablers         | <ul style="list-style-type: none"> <li>Strengthening collaboration with TCH to share resources and enhance training opportunities across both sites, to improve patient flow and resource utilisation.</li> </ul>                                                                                                                                                       |
|                  | <ul style="list-style-type: none"> <li>Optimising patient pathways before surgery using digital tools to keep patients healthy while they wait and avoid unnecessary admissions.</li> </ul>                                                                                                                                                                             |
|                  | <ul style="list-style-type: none"> <li>Enhancing visibility of patients who are on waiting lists, enabling timely interventions if a patient's condition deteriorates.</li> </ul>                                                                                                                                                                                       |
|                  | <ul style="list-style-type: none"> <li>Establish surgical research capacity and capability including establishment of a clinical trials unit.</li> </ul>                                                                                                                                                                                                                |

Table 31: Strategic Directions for Surgical Services for NCH

## 9.5 Operating Theatres and Procedural Rooms

NCH has 7 theatres and 1 procedural room for non-complex interventional cases with 4.5 theatres funded for operations. This includes 4 theatres for full elective sessions and 0.5 for emergency cases after hours. In 2022, a fire damaged the operating rooms where 4 theatres were refurbished. Stakeholder consultation indicated that the refurbishment did not address functional and operational considerations with theatre sizes varying in size across the complex, which had operational impacts on the type of services that can be performed. Together with workforce challenges, consistent across the health system, there continues to be operational inefficiencies related to theatre and procedural room management. Furthermore, the current infrastructure is impacting the increasing

<sup>67</sup> Prehabilitation, or prehab, is a type of preparation for surgery that focuses on improving patients' functional status before a major stressor, such as surgery, with a goal of improving outcomes sooner after surgery. Source: Rodriguez, ME and Foreman RM, 2024, Preparing Oncology Patients for Surgery: A Prehab Pilot Program, The Journal of Nurse Practitioners, <https://doi.org/10.1016/j.nurpra.2024.105127>



reliance on equipment required for theatre cases and it was reported through clinical consultation that some cases cannot be performed in certain theatres due to the limited size to accommodate the required equipment for the surgery/procedure. As well as the increasing volume of medical patients that are outlying in the surgical wards that has an upstream impact on theatre activity.

Due to accreditation requirements, the Sterile Services Unit (SSU) is no longer provided on-site at NCH. The interim measure is for a hub and spoke model supported by TCH SSU. Executive and clinical consultation revealed challenges with reliance on a single SSU across CHS including limited redundancy across the system, adequate storage capacity at NCH to perform planned theatre lists and reduced capacity to be agile within theatres and with cases due to set equipment being transferred between TCH and NCH.

NCH has 1 procedural room where non-complex diagnostic and interventional procedures are undertaken. Due to the limited capacity, some cases that are suited for procedural rooms or other intervention settings such as a cardiac catheterisation lab are undertaken within theatres.

Table 32 provides an indicative analysis of theatre activity for NCH by utilising the intervention flag assigned to separations as a proxy for theatre and procedural room cases. Between 2018/19 and 2022/23, there has been a declining trend in theatre activity. A key consideration is this is not a reflection of demand but rather a current throughput. As expressed previously, operational challenges impact on the ability to schedule cases, perform them and then discharge home efficiently and effectively, meaning they are in recovery spaces longer, and/or transfer patients to inpatient wards that are expressing bed block.

| Hospital                           | Urgency Admission Type                  | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Variance | Growth 2019-2023 | CAGR 2019-2023 |
|------------------------------------|-----------------------------------------|---------|---------|---------|---------|---------|----------|------------------|----------------|
| NCH                                | 1 - Urgency status assigned - emergency | 1,249   | 1,294   | 1,178   | 1,243   | 1,174   | -75      | -6.0%            | -1.5%          |
|                                    | 2 - Urgency status assigned - elective  | 7,849   | 7,225   | 8,603   | 7,762   | 6,676   | -1,173   | -14.9%           | -4.0%          |
| Total NCH Intervention Separations |                                         | 9,098   | 8,519   | 9,781   | 9,005   | 7,850   | -1,248   | -13.7%           | -3.6%          |
| Calculated Emergency Theatres      |                                         | 0.3     | 0.3     | 0.3     | 0.3     | 0.3     | -6.0%    | -1.5%            | -6.0%          |
| Calculated Planned Theatres        |                                         | 4.1     | 3.8     | 4.5     | 4.0     | 3.5     | -14.9%   | -4.0%            | -14.9%         |

**Table 32: Current Interventional/Theatre Activity, NCH, 2018/19-2022/23.** Source: ACTHD ABF AP Data Extract, 2024. Exclude Unqualified Neonates, Organ Procurement, Chemotherapy and Renal Dialysis, Urgency Not Assigned or Urgency Unknown. Includes all care types, intervention partition flag only. Calculated Emergency Theatre based on 4,380 cases per year and calculated planned theatre based on 1,920 cases per year.

## Endoscopy

In June 2024, the endoscopy suite at NCH<sup>68</sup> was upgraded to include state-of-the-art technology and better manage demand in anticipation of the National Bowel Screening Program expansion.

Table 33 shows the changing trend from 2018/19, with less scopes being performed at NCH in 2022/23. This can be due to existing operational and procedure room management challenges outlined throughout the clinical consultation, where operating theatre complex inefficiencies impact throughput.

<sup>68</sup> Activity data aligned to this enhancement will be captured in the 2024/25 data extracts, commonly available post June 2025.



The increasing ALOS observed may be attributed to medical patients who may require diagnostic procedures to determine diagnosis. Current theatre management issues outlined during clinical consultations including that not all theatres are operational, may be contributing to the reduced capacity to undertake these cases.

| Hospital           | Stay Type | Values   | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Variance | Growth 2019-2023 | CAGR 2019-2023 |
|--------------------|-----------|----------|---------|---------|---------|---------|---------|----------|------------------|----------------|
| NCH                | Overnight | Seps     | 210     | 210     | 205     | 229     | 140     | -70      | -33.3%           | -9.6%          |
|                    |           | Bed days | 1,136   | 1,154   | 1,103   | 1,139   | 930     | -206     | -18.1%           | -4.9%          |
|                    |           | ALOS     | 5.4     | 5.5     | 5.4     | 5.0     | 6.6     | 1.2      | 22.8%            | 5.3%           |
|                    | Same Day  | Seps     | 2,331   | 2,108   | 2,347   | 2,101   | 2,029   | -302     | -13.0%           | -3.4%          |
| Total NCH Seps     |           |          | 2,541   | 2,318   | 2,552   | 2,330   | 2,169   | -372     | -14.6%           | -3.9%          |
| Total NCH Bed days |           |          | 3,467   | 3,262   | 3,450   | 3,240   | 2,959   | -508     | -14.7%           | -3.9%          |

**Table 33: Current Endoscopy Activity, NCH, 2018/19-2022/23. Source: ACTHD ABF AP Data Extract, 2024. Exclude Unqualified Neonates, Organ Procurement, Chemotherapy and Renal Dialysis. Includes all care types, ESRG 152 Complex endoscopy, 161 diagnostic colonoscopy and 162 diagnostic gastroscopy**

## Cardiac Catheterisation Laboratory

There is no on-site cardiac catheterisation lab at NCH. Cases requiring cardiac catheterisation lab and interventional cardiology services are transferred to NCH or private hospitals including Calvary Bruce Private Hospital or National Capital Hospital.

Inpatients at NCH who clinically require such services, and not demonstrating signs of serious complications, wait as an inpatient until a treatment slot becomes available at TCH, before being transferred by ACTAS. After a short recovery period at TCH, patients are returned via ACTAS to NCH.

Executive and stakeholder consultation indicated the need for better access to care for patients presenting to NCH, minimising reliance on the private sector for this capacity and limiting transfers to TCH. A flow-on impact of these transfers is that patients are waiting in an acute bed for transfer, which further exacerbates the existing bed management issues and increasing length of stay at NCH.

Currently, interventional cardiology procedures are undertaken within an operating theatre. It was outlined that workforce challenges with interventional cardiologists at NCH have also limited the service being developed with 1 Interventional Cardiologist resuming activity at NCH recently, as shown by the low volumes for Interventional Cardiology at NCH in recent years.

| Hospital           | Stay Type | Values   | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Variance | Growth 2019-2023 | CAGR 2019-2023 |
|--------------------|-----------|----------|---------|---------|---------|---------|---------|----------|------------------|----------------|
| TCH                | Overnight | Seps     | 1,308   | 1,313   | 1,317   | 1,310   | 1,262   | -46      | -3.5%            | -0.9%          |
|                    |           | Bed days | 3,696   | 3,715   | 3,908   | 3,830   | 4,335   | 639      | 17.3%            | 4.1%           |
|                    |           | ALOS     | 2.8     | 2.8     | 3.0     | 2.9     | 3.4     | 1        | 21.6%            | 5.0%           |
|                    | Same Day  | Seps     | 725     | 740     | 792     | 691     | 623     | -102     | -14.1%           | -3.7%          |
| Total TCH Seps     |           |          | 2,033   | 2,053   | 2,109   | 2,001   | 1,885   | -148     | -7.3%            | -1.9%          |
| Total TCH Bed days |           |          | 4,421   | 4,455   | 4,700   | 4,521   | 4,958   | 537      | 12.1%            | 2.9%           |
| NCH                | Overnight | Seps     | -       | -       | -       | 18      | 67      |          |                  |                |
|                    |           | Bed days | -       | -       | -       | 91      | 281     |          |                  |                |
|                    |           |          | -       | -       | -       | 5.1     | 4.2     |          |                  |                |

**Table 34: Current Interventional Cardiology Activity, TCH and NCH, 2018/19-2022/23. Source: ACTHD ABF AP Data Extract, 2024. Exclude Unqualified Neonates, Organ Procurement, Chemotherapy and Renal Dialysis. Includes all care type.**

Table 35 shows the transfers from NCH to TCH for Intervention Cardiology between 2018/19 and 2022/23. It is noted that in August 2022, a temporary arrangement was in place where NCH patients were transferred to Calvary Bruce Private Hospital to receive these services. This has been captured below.

| Values      | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23           | Variance | Growth 2019-2023 | CAGR 2019-2023 |
|-------------|---------|---------|---------|---------|-------------------|----------|------------------|----------------|
| Separations | 123     | 108     | 148     | 115     | 134 <sup>69</sup> | 11       | 8.9%             | 2.2%           |

Table 35: NCH Transfers<sup>70</sup> to TCH for Interventional Cardiology, 2018/19-2022/23. Source: ACTHD ABF AP Data Extract, 2024. Includes DRG F10A, F10B, F12A, F12B, F24A, F24B, F41A, F41B, F42A and F42B.

## Future Direction

Due to the interrelationship between surgical services, maternity, and to an extent selected medical specialities that have an interventional component such as cardiology, gastroenterology, respiratory medicine, psychiatry and operating theatres, a coordinated theatre complex management approach is required to enable efficiencies. This approach would support efficiencies in workforce resource and allocation, comprehensive theatre and procedure waitlist management and exploring whether non-complex procedures can be undertaken as outpatients within a day surgical model to limit the requirement for overnight acute beds.

## 9.6 Maternity Service

The Women and Children's Service at NCH provides RDL 4 maternity, RDL 4 gynaecology and RDL 3 neonatal services within a multidisciplinary model across a 21-bed ward for maternity and gynaecology patients, a 14-bed Special Care Nursery (SCN), 2-room Birth Centre and 1 assessment room, for delivering the Midwifery Continuity of Care model and 6 Birth Suites with 1 assessment room.

The Women and Children's Service also cares for patients with gynaecological conditions, providing complex gynaecological procedures. A key challenge noted through consultation was the shared spaces for inpatient and outpatient care delivery, especially for those patients who are receiving care after pregnancy loss.

Recently, gynae-oncology surgery has commenced at NCH with 1 day per month operating for selected uncomplicated day stay or overnight only. The service is currently in development with limited staffing with consolidation of the service indicated through clinical consultation.

The Maternity service delivers both obstetric-led and midwifery-led care models, providing choice to people in their pregnancy journey. Other components of care delivered by the service include:

- **Maternity Care Team:** The multidisciplinary care team provide comprehensive care through antenatal clinics, birthing suites, and postnatal wards. The staffing model includes Midwives, Allied Health Professionals, and Obstetricians.
- **Midwifery Continuity of Care Model:** A midwife is allocated to provide care throughout pregnancy, labour and postpartum and includes community-based appointments and home follow-up visits post birth.
- **Diabetes in Pregnancy Program:** The program provides specialised care for pregnant people with diabetes.
- **Specialty Clinics:** The clinics provide pregnancy enhancement programs and clinics for specific conditions such as post-caesarean care.

<sup>69</sup> Includes 74 separations undertaken at Calvary Bruce Private Hospital during interim arrangements between August and November 2022.

<sup>70</sup> Transfer is defined as for each TCH Interventional Cardiology separation, there is at least one prior NCH episode of care where the gap between NCH separation date and TCH admission date is 0 to 3 days.

- **Maternity Assessment Area:** An assessment service for pregnancy-related issues such as high blood pressure or decreased foetal movement. The service provides drop-in or scheduled appointments and is currently available 3 days per week between 11:30am to 9pm.
- **To be Launch:** The service is targeted at priority population groups, including Aboriginal and Torres Strait Islander people, refugees and people with perinatal loss.

Over the past 5 years, the maternity service has observed an increasing trend with caesarean deliveries increasing over the same period by 15%, while vaginal deliveries exhibit a declining trend. Consultation with clinicians indicated that approximately 20% of maternity patients choose to birth under the Continuity of Care model, with a goal of 75% in the coming years. This is aligned with current strategies to offer greater choice to women and birthing people.<sup>71</sup>

| Clinical Grouping             | ESRG                    |          | 2018/19      | 2019/20      | 2020/21      | 2021/22      | 2022/23             | Variance   | Growth 2019-2023 |
|-------------------------------|-------------------------|----------|--------------|--------------|--------------|--------------|---------------------|------------|------------------|
| Maternity                     | 721 Antenatal admission | Seps     | 517          | 494          | 578          | 485          | 1,065 <sup>72</sup> | 548        | 106.0%           |
|                               |                         | Bed days | 632          | 635          | 744          | 623          | 1,350               | 718        | 113.6%           |
|                               | 722 Vaginal delivery    | Seps     | 1,113        | 1,111        | 1,102        | 1,110        | 1,050               | -63        | -5.7%            |
|                               |                         | Bed days | 2,433        | 2,429        | 2,314        | 2,341        | 2,142               | -291       | -12.0%           |
|                               | 723 Caesarean delivery  | Seps     | 501          | 511          | 660          | 647          | 576                 | 75         | 15.0%            |
|                               |                         | Bed days | 1,660        | 1,780        | 2,171        | 2,127        | 1,869               | 209        | 12.6%            |
|                               | 724 Postnatal admission | Seps     | 126          | 107          | 138          | 101          | 291                 | 165        | 131.0%           |
|                               |                         | Bed days | 277          | 219          | 307          | 212          | 536                 | 259        | 93.5%            |
| <b>Maternity NCH Seps</b>     |                         |          | <b>2,257</b> | <b>2,223</b> | <b>2,478</b> | <b>2,343</b> | <b>2,982</b>        | <b>725</b> | <b>32.1%</b>     |
| <b>Maternity NCH Bed days</b> |                         |          | <b>5,002</b> | <b>5,063</b> | <b>5,536</b> | <b>5,303</b> | <b>5,897</b>        | <b>895</b> | <b>17.9%</b>     |

**Table 36: Maternity Activity for NCH and TCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Chemotherapy and Renal Dialysis, Organ Procurement care type and Unknown care type. Acute care type only. Overnight beds calculated at 365 days at 85% occupancy. Same day beds calculated at 240 days at 170% occupancy.**

Other operational considerations influencing the current care delivery of maternity and gynaecology services include:

- The increase in the volume of caesarean deliveries, indicating an increasing requirement for all-restrained theatre capacity.
- The current combined gynaecology and obstetrics inpatient and outpatient service delivery model with shared infrastructure between the two services highlights that the patient experience is compromised, especially for patients with early pregnancy complications or foetal loss alongside maternity patients and well babies.
- Encouraging women to deliver under the Midwifery Continuity of Care model
- Lack of dedicated psychology services has led to an increased reliance on the specialist Perinatal Mental Health Service.
- Current infrastructure is not fit for purpose.

<sup>71</sup> ACT Government. 2022. Maternity in Focus: The ACT Public Maternity System Plan 2022-2032. Accessed from: [https://www.act.gov.au/data/assets/pdf\\_file/0006/2324355/Maternity-in-Focus-ACT-System-Plan-2022-2032.pdf](https://www.act.gov.au/data/assets/pdf_file/0006/2324355/Maternity-in-Focus-ACT-System-Plan-2022-2032.pdf)

<sup>72</sup> The high increase in antenatal and postnatal admissions has been associated with administrative changes, which saw this activity being coded as admitted patient activity, inconsistent with the historical trend. See Appendix 5.



Opportunities and future considerations for the maternity service include:

| Type             | Opportunity / Improvements / Future Directions for Consideration                                                                                                                                                                         |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | <ul style="list-style-type: none"> <li>Expanding for the Midwifery Continuity of Care model to include home birthing and community-based options.</li> </ul>                                                                             |
|                  | <ul style="list-style-type: none"> <li>Exploring a Birthing on Country model to support Aboriginal and Torres Strait Islander people on their pregnancy journey.</li> </ul>                                                              |
|                  | <ul style="list-style-type: none"> <li>Establishing an Early Pregnancy Assessment Unit for people in early stage or at risk of pregnancy loss.</li> </ul>                                                                                |
| Enablers         | <ul style="list-style-type: none"> <li>Building upon existing outpatient services to include better access to post-operative clinics, specialty clinics</li> <li>Consideration for separate gynaecology and maternity spaces.</li> </ul> |

**Table 37: Strategic directions for Maternity Services for NCH**

## Future Direction

The future direction for maternity services is centred on ensuring that it is operating to the full extent of the RDL-4 services scope, to support the current and projected ACT North catchment to access maternity services across the care continuum of women and birthing people.

Strengthening the outpatient model and support to maternity patients presenting to ED is vital in order for NCH to manage the projected demand from within ACT as well as the surrounding NSW regions who may choose to birth at ACT.

A unified ACT public maternity service, aimed to deliver consistent care across both sites is a key objective and is aligned with CHS objectives in establishing clinical networks across ACT. This will provide further support for a shared workforce model across both hospitals.

The recent review<sup>73</sup> into birth centre options for the ACT was undertaken to explore the feasibility of different birthing centre models. The findings of this report will be considered as part of ongoing facility planning, aligned to the maternity strategies within this CSP.

## 9.7 Special Care Nursery

The Special Care Nursery (SCN) provides immediate care for newborns at and over 34 weeks gestation without identifying additional foetal risk within a 14-cot unit. The unit provides acute short-term respiratory support prior to retrieval and will accept that back transfer of premature babies from TCH and convalescing babies from TCH on low flow oxygen. The unit is supported by Visiting Medical Officer Paediatricians. The model of care has a paediatrician on call for 24-hours accepting new admissions on the day they are on call.<sup>74</sup>

Clinical consultation noted that better coordination and transfer between Neonatal Intensive Care Unit (NICU) and SCN services is critical to the ongoing management of qualified neonates across the ACT. Workforce challenges associated with paediatric sub-specialties within ACT persist and influence care delivery for this cohort.

<sup>73</sup> ACTHD. 2024. Northside Birth Centre Feasibility Study.

<sup>74</sup> ACTHD. 2023. Review of Special Care Nursery Cot Capacity in ACT Public Hospitals.

Over the past five years, activity within the SCN at NCH has remained relatively stable, despite a decreasing trend in bed days.

| Clinical Grouping |          | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth |
|-------------------|----------|---------|---------|---------|---------|---------|----------|--------|
| Qualified         | Seps     | 432     | 491     | 531     | 530     | 438     | 6        | 1.4%   |
| Neonates          | Bed days | 2,480   | 2,494   | 2,545   | 2,586   | 2,359   | -121     | -4.9%  |

Table 38: Qualified Neonates Activity for NCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Organ Procurement, Chemotherapy and Renal Dialysis. Acute care type only.

## Future Strategies

As the maternity service expands with the ACT North population projections, SCN services and capacity will be required to meet the associated demand. Noting the limited paediatric sub-speciality workforce across ACT, enhanced and coordinated integration with TCH Neonatal Services to care for unwell babies that present to NCH is required.

## 9.8 Paediatrics Service

There is no dedicated paediatric inpatient service at NCH. The majority of paediatric activity is via the ED and admitted to the ED short-stay for observation for non-complex presentation. Small volumes may be admitted to an inpatient ward for ongoing care, as deemed clinically appropriate. Otherwise, paediatric patients are transferred to TCH to receive inpatient care, which accounts for 92% of total CHS paediatric activity.

It is important to note that with most of the population growth projected to occur in the ACT North regions including an additional 15,485 children by 2031, the requirement for enabling paediatric patients to receive the required care at NCH needs to be considered.

In 2022/23, paediatric activity at NCH increased by 55.7%, despite the lower volume compared to CHS. This was primarily for non-surgical injuries (79), ear and upper respiratory infections (67), oesophagitis and gastroenteritis (59), viral illnesses (54) and abdominal pain (45).

| Hospital/<br>Facility | Clinical<br>Grouping  |             | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth |
|-----------------------|-----------------------|-------------|---------|---------|---------|---------|---------|----------|--------|
| NCH                   | Acute-<br>Paediatrics | Seps        | 476     | 502     | 769     | 427     | 741     | 265      | 55.7%  |
|                       |                       | Bed<br>days | 477     | 513     | 772     | 428     | 751     | 274      | 57.4%  |
| TCH                   | Acute-<br>Paediatrics | Seps        | 7,898   | 7,325   | 8,131   | 7,537   | 8,837   | 939      | 11.9%  |
|                       |                       | Bed<br>days | 13,092  | 12,922  | 13,779  | 12,546  | 17,508  | 4,416    | 33.7%  |
| Total CHS Seps        |                       |             | 8,374   | 7,827   | 8,900   | 7,964   | 9,578   | 1,204    | 14.4%  |
| Total CHS Bed days    |                       |             | 13,569  | 13,435  | 14,551  | 12,974  | 18,259  | 4,690    | 34.6%  |

Table 39: Paediatric Activity for NCH and TCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Organ Procurement, Chemotherapy and Renal Dialysis.

Consultation outlined that paediatric activity occurring in the private sector may potentially be due to limited availability of paediatric surgical short stay and together with projected population growth, there may be an opportunity for a paediatric short-stay inpatient unit to support a degree of paediatric high volume, low-complexity surgery, particularly for non-complex ENT Surgery. This will be further developed as part of ongoing service development work being undertaken by CHS.

## Future Strategies

Noting the projected population growth in ACT North residents aged 0 to 16 years, establishing and strengthening paediatric care capacity and capability delivered at NCH through networked arrangements with TCH paediatric sub-specialities will ensure that these patients receive timely and appropriate care. A 23-hour paediatric inpatient capacity supported by the Paediatric Medicine medical and nursing workforce and integrated with TCH Paediatric Services for discharge planning

and ongoing care is considered essential to managing current and future demand and leading to good clinical outcomes for this cohort.

Opportunities for potentially incorporating a paediatric surgical short-stay model at NCH to care for appropriate surgical same-day non-complex surgical cases have been indicated.

## 9.9 Mental Health

NCH provides mental health inpatient services within the 22-bed Acacia ward for adult acute mental health care and the 20-bed Banksia ward for older persons' mental health. Inpatient wards and the ED at NCH are supported by a Consultant Liaison Service, providing assessment and treatment for a varied cohort of mental health patients, on a short-term basis.

Given the Territory-wide nature of the CHS Division of Mental Health, Justice Health and Alcohol and Drug Services (MHJHADS), patients can access a range of community-based and TCH inpatient services. Consultation outlined that transfer to TCH-based mental health wards for patients with complex mental health conditions and/or presentations occurs regularly. The lack of a Mental Health High Dependency Unit (HDU) at NCH was also noted among clinicians as impeding the care pathway with patients being transferred to the unit at TCH for those services.

NCH also delivers ECT services within the NCH theatre complex, though consultation with clinicians indicated there is limited availability and flexibility for providing this service.

Over the past five years, mental health admitted activity has had an increasing trend, which is consistent with consultation that indicated there is an increasing demand for services and complexity of patients with combined physical and mental health co-morbidities. A reduced LOS has been observed which could be aligned to changing models of care with more care being provided within the community.

| Clinical Grouping             |          | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | Variance | Growth |
|-------------------------------|----------|---------|---------|---------|---------|---------|----------|--------|
| Mental Health                 | Seps     | 524     | 591     | 761     | 571     | 589     | 65       | 12.4%  |
|                               | Bed days | 11,852  | 12,751  | 13,563  | 11,117  | 11,761  | -91      | -0.8%  |
|                               | ALOS     | 23.7    | 23.1    | 20.7    | 20.6    | 20.5    | -3.2     | -13.5% |
| Mental Health Bed Requirement |          | 38      | 41      | 44      | 36      | 38      | 0        | -0.7%  |

Table 40: Mental Health Activity for NCH and TCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Organ Procurement, Chemotherapy and Renal Dialysis. Mental Health care type only. Overnight beds calculated at 365 days at 85% occupancy.

Challenges and operational issues identified through consultation include:

- Ongoing governance and service delivery alignment due to the integration of NCH to CHS.
- Increasing complexity of patients with combined mental health and drug and alcohol concerns.
- Increasing complexity among people presenting with mental health conditions to the ED.
- Shortage of specialised staff and gaps in training, impacting quality of care for complex mental health cases.
- Limited availability for appropriate discharge locations such as nursing homes and community support services, resulting in patients including those no longer requiring acute medical or mental health care, staying in hospital longer.
- Perceived stigmatisation of older persons with mental health concerns.

## Future Strategies

To enhance current and future mental health services, the provision of comprehensive, integrated care across inpatient and community settings needs to continue. This can be achieved by integrating all NCH services into the CHS MHJHADS service, incorporating NCH within Territory-wide service models.



Integration with medical specialties to deliver combined mental and physical health care to manage comorbidities holistically among mental health patients and foster a more seamless healthcare experience for patients.

Expansion of innovative care models, such as community-based programs and Rapid Access Clinics, aimed at managing mental health crises promptly, reducing the need for hospital admissions and supporting patients in their homes, is vital in managing projected demand.

Infrastructure enables that support the specialised needs, including purpose-built spaces designed to ensure safety, patient dignity, and access for related services, will be further explored during facility planning. It will be expected that future service design addresses stigma through patient-centered environments and reduces mental health care segregation from general medical services as key priorities.

Opportunities and future considerations for the mental health service include:

| Type             | Opportunity / Improvements / Future Directions for Consideration                                                                                                                                                                                                                                                                 |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | <ul style="list-style-type: none"> <li>Development of rapid access clinics and specialised outpatient services to prevent hospital admissions and manage mental health crises more effectively</li> </ul>                                                                                                                        |
|                  | <ul style="list-style-type: none"> <li>Expand the role of NCH ED as a designated unit to better care for mental health presentations and support the mental health patient journey.</li> </ul>                                                                                                                                   |
|                  | <ul style="list-style-type: none"> <li>Enhancing capacity and specialisation including expansion of specialised beds (e.g., secure extended care, older persons' mental health).</li> </ul>                                                                                                                                      |
| Models of Care   | <ul style="list-style-type: none"> <li>Adoption of in the home models and other alternatives to traditional inpatient care.</li> </ul>                                                                                                                                                                                           |
|                  | <ul style="list-style-type: none"> <li>Development of an integrative model of care that bridges mental health with medical and surgical subspecialties, addressing the patient needs comprehensively and holistically.</li> </ul>                                                                                                |
|                  | <ul style="list-style-type: none"> <li>Regionalising care so that services such as High Dependency Unit, Low Dependency Unit and discharge planning can be effectively managed in a coordinated effort with NCH and TCH, aimed at streamlining patient care and avoiding unnecessary transfers between the two sites.</li> </ul> |
| Enablers         | <ul style="list-style-type: none"> <li>Expansion of research capabilities by establishing a NCH research office on site to support staff including providing mentorship and guidance to staff interested in research.</li> </ul>                                                                                                 |
|                  | <ul style="list-style-type: none"> <li>Increasing collaboration with local universities to strengthen the attraction, recruitment, retention and training of mental health staff across medical, nursing and allied health disciplines.</li> </ul>                                                                               |
|                  | <ul style="list-style-type: none"> <li>Implementing digital solutions that facilitate better communication and coordination between inpatient and community services.</li> </ul>                                                                                                                                                 |

**Table 41: Strategic Directions for Mental Health Services for NCH**

## 9.10 Drug and Alcohol

There is currently no Drug and Alcohol service provided at NCH. Patients accessing these services at TCH.

A Drug and Alcohol Consultation Liaison service should be established to support NCH with patients with drug and alcohol co-morbidities, linking it to the TCH inpatient unit for complex patients.

CHS Executive consultation indicated that changes at TCH may require the relocation of the 10-bed Detoxification Unit thus providing an opportunity to review the existing model of care and determine the required bed capacity for future service delivery.

## 9.11 Sub-Acute Services

NCH delivers sub-acute inpatient care across various wards, specifically within 5-West and 4-East through the general medical model, and the Older Persons Mental Health ward<sup>75</sup> through the NCH Mental Health Service. There is no inpatient rehabilitation capacity currently. Allied health services are provided to inpatients to minimise functional decline.

A level of integration exists between NCH and TCH which includes shared care arrangements, specialist referral pathways and cross-facility educational sessions. However, it was noted through consultation, a lack of comprehensive outpatient services for older people including memory clinics and falls services.

Inpatient and outpatient rehabilitation services are delivered from UCH. Clinical consultation indicated the need for clearer pathways and coordination for sub-acute and non-acute patients between NCH and UCH.

Clinical consultation consistently outlined the increasing volume of non-acute patients who are waiting for nursing home placement within acute beds. This has contributed to significant increases in ALOS across NCH, impacting efficient patient flow and bed management. This has been observed by the increasing ALOS from 14.3 days in 2018/19 to 16.8 days in 2022/23.

Overall, sub-acute activity within NCH has increased over the past five years by 30.4% representing an annual change of 6.9%, which is more than two times greater than the projected population growth anticipated for ACT North residents aged over 65 years (3.1%). Maintenance separations accounted for highest proportion of NCH sub-activity in 2022/23 and represented an annual growth of 19.0% from 2018/19 to 2022/23. This level of growth is unsustainable in the long term and efforts to better care for non-acute patients across CHS are being explored in collaboration with ACTHD.

| Care Type             | Values   | 2018/19 | 2019/20 | 2020-21 | 2021-22 | 2022-23 | Variance | Growth 2019-2023 | CAGR 2019-2023 |
|-----------------------|----------|---------|---------|---------|---------|---------|----------|------------------|----------------|
| GEM                   | Seps     | 37      | 32      | 39      | 23      | 29      | -8       | -21.6%           | -5.9%          |
|                       | Bed days | 342     | 237     | 385     | 275     | 314     | -28      | -8.2%            | -2.1%          |
|                       | ALOS     | 9.2     | 7.4     | 9.9     | 12.0    | 10.8    | 2        | 17.1%            | 4.0%           |
| Maintenance           | Seps     | 246     | 278     | 426     | 367     | 493     | 247      | 100.4%           | 19.0%          |
|                       | Bed days | 3,515   | 4,470   | 5,537   | 5,973   | 8,265   | 4,750    | 135.1%           | 23.8%          |
|                       | ALOS     | 14.3    | 16.1    | 13.0    | 16.3    | 16.8    | 2.5      | 17.3%            | 4.1%           |
| Palliative Care       | Seps     | 163     | 116     | 128     | 111     | 126     | -37      | -22.7%           | -6.2%          |
|                       | Bed days | 831     | 829     | 642     | 789     | 968     | 137      | 16.5%            | 3.9%           |
|                       | ALOS     | 5.1     | 7.1     | 5.0     | 7.1     | 7.7     | 2.6      | 50.7%            | 10.8%          |
| Psychogeriatric       | Seps     | 3       | -       | 4       | -       | -       | -        | -                | -              |
|                       | Bed days | 25      | -       | 37      | -       | -       | -        | -                | -              |
| Rehabilitation        | Seps     | 48      | -       | -       | -       | -       | -        | -                | -              |
|                       | Bed days | 866     | -       | -       | -       | -       | -        | -                | -              |
| Total NCH Separations |          | 497     | 426     | 597     | 501     | 648     | 151      | 30.4%            | 6.9%           |
| Total NCH Bed days    |          | 5,579   | 5,536   | 6,601   | 7,037   | 9,547   | 3,968    | 71.1%            | 14.4%          |

**Table 42: Sub-Acute Activity for NCH and TCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Organ Procurement, Chemotherapy and Renal Dialysis. Sub-acute type only.**

<sup>75</sup> Older Person mental health activity is captured under the mental health care type, as there was low volumes reported against the psychogeriatric care type.

Acknowledging the challenges outlined above, opportunities and future considerations for sub-acute service delivery include:

| Type             | Opportunity / Improvements / Future Directions for Consideration                                                                                                                    |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | <ul style="list-style-type: none"> <li>Exploring sub-acute inpatient care approaches within NCH, consistent with its future role.</li> </ul>                                        |
| Model of Care    | <ul style="list-style-type: none"> <li>Developing integrated pre-hab and rehab components of care with existing medical and surgical patient pathways.</li> </ul>                   |
| Enablers         | <ul style="list-style-type: none"> <li>Implementing digital tools to support pre-hab and rehab in the home approaches to minimise the need for inpatient rehabilitation.</li> </ul> |

Table 25: Strategic directions for Sub-Acute Services for NCH.

## Palliative Care

Palliative Care Services are delivered across inpatient, outpatient and community settings, through the 27-bed inpatient unit at CHH and a Consultant-Liaison Service to TCH and NCH. The service also delivers community-based multidisciplinary palliative care service to patient's homes including RACFs. CHH is a Territory-wide Service and provides care to Southern NSW LHD residents with inter-facility transfers as required.

Between 2018/19 and 2022/23, there was a 16.9% growth in palliative care separations and 2.8% growth in bed days, demonstrating that demand and access to the service increased during that period. A key challenge is ensuring there is adequate inpatient capacity to continue to serve the community.

Currently, there are no other palliative care beds across the Territory. Given the increasing palliative care bed days at NCH, additional capacity within the acute hospital for symptom management and patient monitoring has been indicated.

| Hospital/<br>Facility | Care Type       | Values   | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Variance | Growth |
|-----------------------|-----------------|----------|---------|---------|---------|---------|---------|----------|--------|
| CHH                   | Palliative Care | Seps     | 394     | 378     | 355     | 337     | 459     | 65       | 16.5%  |
|                       |                 | Bed days | 5,818   | 6,058   | 5,639   | 5,108   | 5,981   | 163      | 2.8%   |
|                       |                 | ALOS     | 14.8    | 16.0    | 15.9    | 15.2    | 13.0    | -1.7     | -11.8% |

Table 43: Palliative Care Activity for NCH and TCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Organ Procurement, Chemotherapy and Renal Dialysis. Sub-acute type only.

Some challenges and issues expressed during the consultation included:

- Delays in patient transport impacting timely patient admissions and in some cases, patients being admitted after-hours.
- Workforce challenges related to recruitment and retention difficulties, burnout and limited appeal for junior staff to work within palliative care services.
- Increasing demand for community home-based palliative care services while remaining responsive to patients' needs and ensuring adequate resourcing to enable access across the Territory.
- Limited paediatric palliative care services across the ACT.



Opportunities and future considerations for the palliative care service include:

| Type             | Opportunity / Improvements / Future Directions for Consideration                                                                                                                                                   |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | <ul style="list-style-type: none"> <li>Expanding palliative care capacity in the acute inpatient setting at NCH.</li> <li>Exploring the feasibility of developing a paediatric palliative care service.</li> </ul> |
| Workforce        | <ul style="list-style-type: none"> <li>Incorporating community palliative care nurses in an integrated way when patients are admitted to improve continuity of care.</li> </ul>                                    |
| Models of Care   | <ul style="list-style-type: none"> <li>Strengthening the outpatient clinic model to enable early access to the service and better support the patient journey.</li> </ul>                                          |

**Table 44: Strategic directions for Palliative Care Services at Clare Holland House and NCH.**

## 9.12 Ambulatory Services – Care Close to Home

Ambulatory services at NCH refer to those non-admitted patients services delivered from NCH or by NCH staff, and include:

- Geriatric Rapid Acute Care Evaluation (GRACE)
- Hospital in the Home (HiTH)
- Zita Mary Clinic infusion service.

GRACE provides a Territory-wide outreach service for RACFs, preventing hospital admissions, and supporting post-discharge follow-ups. This includes acute care support for residents living in RACFs, which account for the majority of referrals for the service. As well as providing education to RACFs to empower RACF staff to better manage aspects of acute care and recognise the deteriorating patient. The GRACE team will also attend to all geriatric patients who have been admitted to North Canberra Hospital, post discharge. The staffing model includes nurses and a Consultant Geriatrician.

HiTH provides inpatient care within the community setting for acute conditions that require ongoing clinical governance, monitoring, treatment and input which would otherwise be provided in a traditional hospital bed. The service provided by nursing and medical staff with access to acute physiotherapy, occupational therapy, pharmacy, nutrition, social work, diagnostic pathology, and radiology services as required. The table below represents the historical trend for HiTH, showing a 14.0% annual increase between 2018/19 and 2022/23, which exceeds the projected population annual growth (2.4%) forecasted to 2041. Despite the increase in HiTH activity, it still only accounts for 4.8% of total NCH separations.

|                      | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Variance | Growth<br>2019-2023 | CAGR<br>2019-2023 |
|----------------------|---------|---------|---------|---------|---------|----------|---------------------|-------------------|
| HiTH Flagged Seps    | 904     | 976     | 1,216   | 1,371   | 1,526   | 622      | 68.8%               | 14.0%             |
| HiTH bed days        | 3,791   | 4,702   | 4,877   | 5,686   | 6,045   | 2,254    | 59.5%               | 12.4%             |
| Calculated HiTH beds | 9       | 12      | 12      | 14      | 15      |          |                     |                   |
| % HiTH of Total Seps | 3.1%    | 3.4%    | 3.6%    | 5.2%    | 4.8%    |          |                     |                   |

**Table 45: HiTH Activity for NCH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Exclude Unqualified Neonates, Organ Procurement, Chemotherapy and Renal Dialysis. All care types. Beds calculated on same day assumption of 240 days and 170% occupancy.**

The Zita Mary Clinic provides infusions and injections, as well as maintaining central venous access devices, including port-a-caths and PICC lines. The staffing model includes registered nurses, pharmacists, doctors and administration staff. The service operates 5 days per week between 9am and 5pm, with occasional extended hours depending on treatment reactions. The service is supported medically by the CMO however there is a reliance on MET for escalation. Clinical consultation indicated that there are long wait times for consecutive treatments and complex patient casemix including those requiring oncology care. Until 2021, this service administered chemotherapy, which was transferred to the Canberra Region Cancer Centre at TCH.

While it is recognised that consolidation of cancer care is aligned to better coordination and patient outcomes, clinical consultation revealed the lack of chemotherapy on-site at NCH has fragmented aspects of the patient journey particularly for breast cancer patients, noting the majority of breast cancer surgery is undertaken at NCH and there is a Breast Care Drop-in Clinical delivered from NCH.

Care Closer to Home Services work closely in a multidisciplinary approach with Allied Health, Pharmacy and the ED. The services work closely with inpatient units to facilitate discharge and maintain the care continuum.

Key challenges outlined during clinical consultation include:

- Limited capacity due to infrastructure constraints and limited staffing.
- Need for increased resources to conduct complex home medicine reviews effectively.
- Inconsistent availability of medical staff, leading to reliance on MET calls for patient issues.
- Long wait times for consecutive treatments, contributing to patient delays.
- Challenges in recruitment and retention of staff, compounded by shortages of primary care providers and education needs.
- Recognise the need for a more efficient transfer mechanism between Northside and Southside services to prevent unnecessary discharges and re-admissions, ensuring continuity of care.

The below table outlines improvements and opportunities that aim to address the key challenges observed and projected future demand, while contributing to bed-saving initiatives.

| Type             | Opportunity / Improvements / Future Directions for Consideration                                                                                                                                          |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | ▪ Exploring the feasibility of operational model changes to all three services including extended operating hours and introducing weekend clinics, to reduce waitlists and manage patient flow.           |
|                  | ▪ Establishing a Rapid Access Team for patients in ED with a risk of long hospital admission due to social and/or physical issues.                                                                        |
|                  | ▪ Exploring re-establishing day chemotherapy for selected conditions.                                                                                                                                     |
| Workforce        | ▪ Enhancing allied health and nursing workforce capacity and capability.                                                                                                                                  |
|                  | ▪ Exploring staffing models to include Nurse Practitioners and Allied Health to enable more comprehensive care.                                                                                           |
| Models of Care   | ▪ Redesigning the model of care to ensure specific patients (e.g., CAP, HAP, Cellulitis, Mastitis and Pyelonephritis) receive automatic referral to HITH to reduce the likelihood of condition worsening. |
|                  | ▪ Increasing networking between the HITH service at TCH.                                                                                                                                                  |
|                  | ▪ Increasing capacity for mobile MDT services as part of HITH.                                                                                                                                            |
| Enablers         | ▪ Exploring telehealth opportunities to enhance service delivery and patient care.                                                                                                                        |
|                  | ▪ Adopting new information technology systems to ensure seamless operation and minimise disruptions.                                                                                                      |
|                  | ▪ Improving partnership and integration with community pharmacies, aged care facilities and community services.                                                                                           |

**Table 46: Strategic directions for Care Close to Home at NCH.**

## Future Strategies

The provision of Care Closer to Home services comes with extensive evidence on patient benefits as well as a reduction in the need to admit patients. Recognising that the current growth across inpatient activity is unsustainable in the long term, these services will be critical in supporting NCH to manage current and future demand requirements. The focus on enabling HiTH to continue to contribute to hospital admission avoidance through early identification and assessment within the ED is key to managing the projected future demand.

The GRACE service will need to be expanded in anticipation of the projected aging population estimated to grow by 56.0% across the Territory by 2041.

Executive and clinical consultation indicated that a Northside Hospital redevelopment provides an opportunity to re-establish a day-chemotherapy service for selected conditions to enable access for ACT North residents to this service close to home while enabling NCH workforce to regain and retain these specialised skills.

### **9.13 Non-Admitted and Outpatient Services**

Clinical consultation outlined that there are minimal outpatient services and clinics available at NCH to deliver care post discharge or as an alternative to admission. Specialist clinics at NCH include:

- Neurology (7-8 clinics per week)
- General Medicine (6 clinics per month)
- Endocrinology (6-7 clinics per week)
- Diabetes Education (2 clinics per week)
- Orthopaedics (Post Operative Only) (2 clinics per month)
- Lymphoedema (1 clinic per month)
- Respiratory (2 clinics per week)
- Renal (2 clinics per month)
- Pain Management (2 clinics per month)
- General Surgery (16 clinics per month)
- Ear, Nose and Throat (ENT)
- Gynaecology (3 clinics per week)
- Cardiology (10 clinics per month)
- Infectious Diseases (1 clinic per week)
- Breast Care Drop-In Clinic. (5 clinics per week)
- Vascular (2 clinics per month)
- Wound Nurse Clinic (10 clinics per week)

Non-admitted healthcare services face several significant challenges. One major concern is the adequacy of current infrastructure where services are expected to be delivered. Aligning facilities and long-term healthcare needs, particularly in expanding critical services, is required.

Disparities in access to care among different socioeconomic and geographic groups further complicate the landscape. Providing equitable healthcare services in the underserved NCH remains a significant challenge and will only continue with the projected population demand. These disparities highlight the need for integrated services planning and resource allocation. Many healthcare services operate in isolated silos, leading to limited coordination between different disciplines. This fragmentation can hinder the delivery of comprehensive care and reduce the efficiency of healthcare services.

Data continues to remain a challenge for non-admitted services, however the implementation of the DHR provides an opportunity to improve the data collection, and inform service design with an evidence based approach. Table 47 shows that there has been an increasing trend in non-admitted activity across key clinical areas.



| Clinical Unit                  | 2018/19 | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | Variance | Growth 2024-2019 | CAGR 2024-2019 |
|--------------------------------|---------|---------|---------|---------|---------|---------|----------|------------------|----------------|
| Geriatric & Rehabilitation     | 2,846   | 6,729   | 8,623   | 1,519   | 6,102   | 6,790   | 3,944    | 138.6%           | 19.0%          |
| Medical                        | 53,401  | 61,284  | 60,080  | 54,338  | 43,484  | 49,632  | -3,769   | -7.1%            | -1.5%          |
| Surgical                       | 10,762  | 5,921   | 7,233   | 6,475   | 9,099   | 14,900  | 4,138    | 38.4%            | 6.7%           |
| Mental Health                  | 698     | 201     | 10      | 72      | 34      | 5       | -693     | -99.2%           | -62.1%         |
| Other                          | 14,067  | 15,884  | 17,253  | 23,176  | 26,209  | 31,941  | 17,874   | 127.1%           | 18%            |
| Total Non-Admitted Patient OOS | 81,774  | 90,019  | 93,199  | 85,580  | 84,928  | 103,268 | 21,494   | 26.3%            | 4.8%           |

Table 47: Non-Admitted Patient Occasions of Service (OOS), NCH, 2018/19-2023/24. Source: Canberra Health Performance Profile Series 1, 2024. Includes COVID-related OOS in 2021/22 and 2022/23. A 85% data quality and completeness confidence indicator has been applied.

## Future Directions

To support non-asset solutions and enhanced virtual care capability for NCH, detailed planning for outpatient, ambulatory and non-admitted patient models is required. This is to understand model options, such as a virtual hospital, centralised ambulatory care centre, colocation with inpatient services, extended operating hours, aligned with the required clinical workforce and associated infrastructure requirements, aligned with future demand and outcomes of operational efficiency strategies for ED and inpatient services.

### 9.14 Medical Imaging

Diagnostic radiology services are provided at NCH and include X-ray, Ultrasound, Cardiac Ultrasound, Computed Tomography (CT) and MRI through a contracted service on-site. The unit services all inpatient units, the ED and theatres. Outpatient services are provided though due to in-hospital demand for radiology, this service has had to be restricted. The Medical Imaging Service also provides services to CHH.

The table below represents the current medical imaging infrastructure at NCH.

| Modality          | Current Available | Commentary                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Xray              | 2                 | <ul style="list-style-type: none"> <li>Includes 1 Phillips Digital Diagnostic and 1 Siemens Hybrid Fluoroscopy/general xray machine.</li> <li>The hybrid limits Xray capabilities, effectively reducing the service to a single room, with demand growth this is proving problematic.</li> <li>Fluoroscopy is almost exclusively used for speech pathology swallow screening.</li> </ul> |
| CT                | 2                 | <ul style="list-style-type: none"> <li>Includes 1 Canon Aquilion One Genesis (stroke, cardiac and interventional scanner) and 1 Canon Prime.</li> <li>The stroke/cardiac and intervention capabilities should not be on the same scanner</li> <li>Stroke capabilities should be on at least two scanners for redundancy.</li> </ul>                                                      |
| Ultrasound        | 4                 | <ul style="list-style-type: none"> <li>Includes 1 GE ultrasound and 3 Canon – High end diagnostic ultrasound machines.</li> <li>Elastography or contrast ultrasound functionality.</li> <li>Services have been affected in 2023/24 by reduced radiologist hours.</li> </ul>                                                                                                              |
| OPG               | 1                 | <ul style="list-style-type: none"> <li>Dental imaging – co located in main xray room due to space constraints.</li> <li>Rarely used as CT offers greater diagnostic capability.</li> </ul>                                                                                                                                                                                               |
| Mobile Xray       | 2                 | <ul style="list-style-type: none"> <li>Includes 1 Siemens Elara Max and 1 Mira Max.</li> </ul>                                                                                                                                                                                                                                                                                           |
| Image intensifier | 2                 | <ul style="list-style-type: none"> <li>Includes 1 Phillips Zenition and 1 Phillips Veradius –</li> <li>Used in theatres and the limited redundancy impacts theatre scheduling when either machine is down for maintenance or repairs.</li> </ul>                                                                                                                                         |

| Modality        | Current Available | Commentary                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Echo Ultrasound | 2                 | <ul style="list-style-type: none"> <li>Includes 1 Phillips Infinity and 1 Phillips Epic US</li> <li>Included phased array probes and paediatric probe.</li> <li>ECG compatible.</li> <li>Insufficient capacity to meet the demand for stress ECHO/TOE in theatre.</li> <li>Shared with Cardiologists and Advance Trainee, limiting ability to provide services across the hospital.</li> <li>No redundancy in this provision.</li> </ul>                                       |
| MRI             | 1                 | <ul style="list-style-type: none"> <li>Includes a 3T machines.</li> <li>Privately contracted service.</li> <li>Future consideration can include having this service as part of the public hospital imaging suite would be advantageous and increase availability.</li> <li>Advances in MRI technology speed, increase in diagnostic capability and lack of radiation dose, this modality is forecasted to surpass CT as an imaging modality over the next 10 years.</li> </ul> |

**Table 48: Current Medical Imaging Infrastructure, NCH. Source: NCH, 2024.**

Clinical consultation consistently indicated that the limited availability of an on-site radiologist, currently available for 4 hours per weekday, has impacted NCH's ability to deliver on interventional radiology services aligned with its role as a RDL-4 service. NCH relies on an off-site radiologist reporting service for medical imaging results. Limited capacity for interventional radiology along with limited radiologist availability has impacted the service delivery as outlined through consultation.

Challenges and issues include:

- The current radiologist staffing model is not meeting the increasing demand for radiology as outlined during the consultation with limited radiologist coverage during business hours impacting support for real time consultation and clinical decision-making.
- Limited ability to provide all required diagnostic procedures due to lack of equipment.
- Limited radiographer and sonographer workforce for specialist diagnostic procedures such as cardiac sonography and interventional radiology.
- Lack of dedicated spaces to undertake pre- and post-procedure care.
- The current model with off-site reporting has indicated delays and inaccuracies in imaging results.

Opportunities and future considerations include:

| Type             | Opportunity / Improvements                                                                                                                                 |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | <ul style="list-style-type: none"> <li>▪ Exploring feasibility for onsite interventional radiology capability and capacity.</li> </ul>                     |
|                  | <ul style="list-style-type: none"> <li>▪ Exploring feasibility for a public MRI at NCH.</li> </ul>                                                         |
|                  | <ul style="list-style-type: none"> <li>▪ Establishing a single diagnostic and interventional department in one location.</li> </ul>                        |
|                  | <ul style="list-style-type: none"> <li>▪ Establishing an outpatient imaging service located outside the hospital to alleviate inpatient demand.</li> </ul> |
|                  | <ul style="list-style-type: none"> <li>▪ Implement extended service hours to manage demand and reduce wait times.</li> </ul>                               |
| Workforce        | <ul style="list-style-type: none"> <li>▪ Consideration for a staff radiologist model.</li> </ul>                                                           |
|                  | <ul style="list-style-type: none"> <li>▪ Enhancing radiographer and sonographer workforce to increase service availability.</li> </ul>                     |
| Models of Care   | <ul style="list-style-type: none"> <li>▪ Improving care pathways for patients requiring radiology at off-site locations such as CHH and UCH.</li> </ul>    |

**Table 49: Strategic directions for Radiology / Medical Imaging Service at NCH.**

## 9.15 Pharmacy

NCH Pharmacy services include the provision of clinical medication management as well as medication dispensing and distribution services for inpatient, outpatient and patients being cared for at home. Pharmacy currently provides comprehensive inpatient services to most clinical areas, including medical, surgical, critical care, maternity, mental health, HITH and palliative care (CHH service). The pharmacy also provides comprehensive outpatient services to the pre-admission clinic, home-based palliative care services, outpatient clinics, HITH and the Zita Mary Clinic. The service also provides medication safety, antimicrobial stewardship, clinical informatics, and managing the digital health record transition. As noted with the transfer of chemotherapy to TCH, the loss of specialised skills was noted through clinical consultation. This has influenced workforce attraction and retention for the Pharmacy service.

Challenges and issues included:

- Balancing clinical work with training, strategic development, and future service needs.
- Difficulty in attracting experienced hospital pharmacists, and the need to rely on junior or community pharmacists with limited hospital experience.
- Infrastructure deficiencies including lack of automation (e.g., robotics, automated dispensing) and outdated infrastructure impacting efficiency.

Opportunities and future considerations include:

| Type             | Opportunity / Improvements / Future Directions for Consideration                                                                                                    |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | ▪ Establishing a pharmacy informatics and data management service.                                                                                                  |
|                  | ▪ Establishing a Compounding Unit with aseptic suites.                                                                                                              |
|                  | ▪ Exploring feasibility for a CHS wide re-packaging pharmacy which includes centralised repacking and unit dose dispensing service.                                 |
|                  | ▪ Exploring feasibility for a CHS centralised procurement service as part of a networked approach to pharmacy services.                                             |
|                  | ▪ Establishing a private PBS-approved pharmacy on site at NCH.                                                                                                      |
|                  | ▪ Establishing pharmacist post-discharge and follow-up clinics.                                                                                                     |
|                  | ▪ Incorporating pharmacy robotics as aligned to the CHS Pharmacy Network Strategy.                                                                                  |
| Workforce        | ▪ Expanding the role of clinical pharmacist specialisation aligned to the medical and surgical disciplines at NCH.                                                  |
|                  | ▪ Exploring remote/offsite work to support skilled staff shortages.                                                                                                 |
|                  | ▪ Exploring feasibility for incorporating medication checking technicians.                                                                                          |
| Enablers         | ▪ Exploring feasibility for robotics and automated distribution methods including Lansom tubes, automated dispensing cabinets and unit dose dispensing/repackaging. |

Table 50: Strategic Directions for Pharmacy Service at NCH.

## 9.16 Pathology

Pathology services are delivered by ACT Pathology, within a hub and spoke model. NCH acts as a branch of the main laboratory located at TCH. It delivers essential diagnostic and testing services in hematology, chemistry, and microbiology to support acute services within NCH. The service operates 24 hours a day, 7 days a week, to manage routine and urgent testing requirements for NCH while more complex tests are transferred to TCH for processing.

There is a Point of Care Service with blood gas analysers and other point of care instruments located within the ED and ICU. The service is supervised by ACT Pathology staff.



ACT Pathology operates exclusively within CHS, providing both hospital-based and community-based pathology services through GP referrals, even for patients with no prior interactions with CHS. The structure supports an integrated tertiary and primary care territory-wide network with ACT Pathology managing referrals that could otherwise go to private labs and runs collection centres in hospitals and community health centres to enhance accessibility. For the ACT North region, the courier system facilitates sample transport from sites at Gungahlin, Belconnen, and UCH to NCH and, if the test is beyond the capacity of NCH, to TCH. The distribution of tests between TCH and NCH is under review to consider increasing capacity at NCH to optimise workload balance.

Key challenges outlined during clinical consultation include:

- Timely transfer for complex tests between NCH and TCH is reliant on a courier service and with anticipated increased demand, this will continue to be challenged.
- Perceived workforce challenges with delivering a 24-hour, 7-day-a-week service particularly as demand for complex testing increases.
- Existing infrastructure is limited with space constraints noted.

### Future strategies

Recognising the increasing demand aligned to the projected population growth of the Northside of ACT, there will be a need to consider the current and future capacity of pathology services at NCH, within the ACT Pathology Network. A key aspect of this includes increased capacity for on-site tests aligned to its RDL, acting as a spoke-site for the TCH hub as well as for dedicated transport capacity for out of hours period. Establishing a phlebotomy service in the ED at NCH is currently under consideration, noting that TCH incorporates this service within ward rounds.

## 9.17 Allied Health Services

Allied health disciplines deliver care across all inpatients within NCH with some services delivering outreach clinics to the community across the ACT.

### Dietetics

The department delivers inpatient services for nutritional assessment including comprehensive evaluations and planning, as well as outpatient services including to the Gestational Diabetes Clinic. The department also ensures compliance of Food Services with dietary needs and menu standards.

### Pastoral and Spiritual Care

The services are delivered primarily to inpatients, providing spiritual and emotional support on a 24-hour 7-day a week model. However, consolidation indicated that current workforce constraints has limited the ability to provide weekend cover.

### Physiotherapy

In collaboration with the Multidisciplinary Team (MDT), physiotherapy services facilitate rapid assessment, management and discharge planning across the inpatient setting and deliver some non-admitted services. Specific service roles include:

- Inpatient services to the Intensive Care Unit, Coronary Care Unit, Surgical Ward, Stroke Unit, Medical Assessment Unit, General Medical Wards, HITH, ED Short Stay Unit, Maternity and Women's Health Unit, Mental Health Wards and Day Surgery Unit and Outpatient cardiac rehabilitation.
- Ambulatory Physiotherapy services include Advanced Musculoskeletal, Women's Health and Infants, Lymphoedema and Advanced Practice Physiotherapy in the ED.
- Education and exercise sessions for individuals and groups in Musculoskeletal, Lymphoedema and Women's and Infants.

## Psychology, Social Work and Aboriginal Liaison Service

This department delivers services to inpatients and outpatients across the three disciplines. The Aboriginal Liaison Service provided cultural support including smoking ceremonies and facilitating family gatherings. It operates currently during weekdays only.

The Psychology service focuses on acute mental health and older persons including people with dementia. The service delivers individual therapy and group programs and has been experiencing workforce challenges.

The Social Work service provides extensive inpatient services including family meetings, case conferences and is involved in legislative processes such as the Health Justice Partnership. It delivers the services 7-days a week in-hours with after hours and weekend cover.

## Speech Pathology

The department delivers an inpatient service including assessment, diagnosis and treatment for people with communication and swallowing difficulties. This includes babies with feeding difficulties.

## Occupational Therapy

Occupational Therapy receives inpatient referrals generally from acute medical wards, or the MAPU, inpatient surgical wards for pre-operative and post-operative care and inpatient mental health units. Other inpatient settings areas of NCH that refer to OT include maternity wards as well as Zita Mary Clinic and HITH.

Across the allied health disciplines, challenges and issues outlined through consultation include:

- Long wait times for outpatient services, exacerbating acute issues and resulting in frequent ED presentations.
- Limited outpatient and community services, with significant gaps in nutrition and rehabilitation services.
- Bed block and delayed discharge due to lack of available rehabilitation services and appropriate discharge planning.
- Increasing demand for patient care, leading to longer waitlists.
- Insufficient physical space for equipment and patient care, particularly for bariatric patients.
- Lack of seamless integration between acute care and community health services.
- Fragmented care due to limited coordination between allied health services and community resources.
- Ongoing workforce challenges across all disciplines to enable inpatient and outpatient service delivery and across the care continuum.
- Infrastructure not fit for purpose to support MDT meetings, teaching and supervision requirements.

Opportunities and improvements for allied health services were noted through clinical consultation with the table below outlining the key areas of focus.

| Type             | Opportunity / Improvements / Future Directions for Considerations                                                                                                                                                                                     |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | <ul style="list-style-type: none"> <li>Exploring hub and spoke model for centralising specialised equipment and expertise in selected hub locations and using satellite locations for less complex care</li> </ul>                                    |
| Models of Care   | <ul style="list-style-type: none"> <li>Expanding the Advanced Practice Models of Care by developing allied health advanced practice roles and specialised clinics to manage complex patient cases across medical and surgical disciplines.</li> </ul> |
|                  | <ul style="list-style-type: none"> <li>Implementing integrated care models that bridge acute care with community and outpatient services.</li> </ul>                                                                                                  |
|                  | <ul style="list-style-type: none"> <li>Enhancing case management and MDT approaches to address complex patient needs.</li> </ul>                                                                                                                      |
| Enablers         | <ul style="list-style-type: none"> <li>Increasing use of telehealth to improve access for patients</li> </ul>                                                                                                                                         |
|                  | <ul style="list-style-type: none"> <li>Developing and adopting comprehensive digital platforms for pre-hab and rehabilitation, including educational videos, personalised monitoring, and automated feedback systems.</li> </ul>                      |
|                  | <ul style="list-style-type: none"> <li>Exploring technology such as Artificial Intelligence to automate administrative functions.</li> </ul>                                                                                                          |
|                  | <ul style="list-style-type: none"> <li>Enhancing the Digital Health Record (DHR) to include more detailed allied health data, such as client demographics and specific conditions.</li> </ul>                                                         |
|                  | <ul style="list-style-type: none"> <li>Promoting public education sessions for chronic conditions among the community.</li> </ul>                                                                                                                     |

Table 51: Strategic directions for Allied Health Service at NCH.

## 9.18 Clinical Support and Corporate Services

### Patient Flow Unit

The NCH Patient Flow Unit includes Patient Flow, After Hours Hospital Management, Nursing and Midwifery Resource Office, Discharge Planning Unit and Patient Support Services. The objective of each service is as follows:

- Patient Flow Unit:** Coordinate system-wide hospital patient flow to ensure the patient receives the right care, in the right place, at the right time. This includes ongoing liaison with ACTAS, which has over time become the predominant patient transport provider for CHS.
  - A key limitation of ACTAS serving as a patient transport service, is that it fulfils the Territory's role for emergency services with priority given to those people within the community requiring urgent medical assistance.
- After Hours Hospital Management:** Coordinate hospital wide operations including emergency staffing solutions, emergency response, oversight of patient flow and operational activity.
- Nursing and Midwifery Resource Office:** Provide recruitment and resourcing solutions for emergent short- and long-term vacancies and provide nursing and midwifery resourcing and recruiting.
- Discharge Planning Unit:** Ensure discharge planning is patient centred, adheres to best practice and facilitates the safe and timely transfer of care.
- Patient Support Services – Ward Service Officers:** Provide support and assistance to clinical and other frontline staff to patient care, manual handling, emergency response and transportation of patients.
- Patient Support Services – Ward Clerks:** Provide general administrative, clerical and support services to clinical areas and assistance with patient flow.



Opportunities and future considerations include:

| Type             | Opportunity / Improvements / Future Directions for Consideration                                                                                                                                                           |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Service delivery | <ul style="list-style-type: none"> <li>Exploring a centrally coordinated patient flow unit through an Operations Centre that has network functionality and integrates with TCH and ACTAS/NSW Ambulance Service.</li> </ul> |
| Workforce        | <ul style="list-style-type: none"> <li>Strengthening and expanding the Ward Service Officer role to have service stream focus for intra-hospital transfers and frontline clinical support services.</li> </ul>             |
| Models of Care   | <ul style="list-style-type: none"> <li>Expanding the Discharge Planning Unit with a focused approach to speciality discharge planning.</li> </ul>                                                                          |
| Enablers         | <ul style="list-style-type: none"> <li>Expanding the Nursing and Midwifery Resource Office to clinical service area's workforce management.</li> </ul>                                                                     |
|                  | <ul style="list-style-type: none"> <li>Implementing a Discharge / Transit Lounge with capacity to care for complex discharges.</li> </ul>                                                                                  |

**Table 52: Strategic directions for Patient Flow Services at NCH.**

## Corporate Services

Corporate Services encompass a range of non-clinical and back of house functions that support the overall operations and management of NCH.

Opportunities and future considerations include:

| Type     | Opportunity / Improvements / Future Directions for Consideration                                                                                                                                                                                 |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enablers | <ul style="list-style-type: none"> <li>Increasing technology integration within clinical spaces including ICT and Bio-Medical Integration.</li> </ul>                                                                                            |
|          | <ul style="list-style-type: none"> <li>Building integrated Education and Training partnerships with universities and academic health centres to enhance training and development on-site.</li> </ul>                                             |
|          | <ul style="list-style-type: none"> <li>Developing a comprehensive digital strategy to enable a digital hospital model with the integration of new technologies, remote services, and robotics to deliver care safely and efficiently.</li> </ul> |
|          | <ul style="list-style-type: none"> <li>Expanding technological support within NCH to enable the delivery of virtual services to community settings.</li> </ul>                                                                                   |

**Table 52: Strategic directions for Corporate Services at NCH.**

## 9.19 Current Infrastructure Table

The table below represents the current built capacity of NCH, noting that this varies slightly from the current funded capacity. Consultation indicated that the hospital is frequently occupied beyond funded capacity, which has implications for clinical service delivery where the workforce required may not be aligned.

|                                                                    | Beds / Spaces                                      | Built Capacity | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------|----------------------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acute Inpatient Units / Beds/ POC</b>                           |                                                    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Intensive Care Unit (ICU)/<br>Coronary Care Unit (CCU)<br>combined | 5 funded<br>5 surge                                | 10 beds        | <ul style="list-style-type: none"> <li>Includes, Close Observation and Palliative Care Beds which are located in proximity to the nurse station.</li> </ul>                                                                                                                                                                                                                                                                                                                                                      |
| Endoscopy                                                          | 0 funded<br>10 surge                               | 10 beds        | <ul style="list-style-type: none"> <li>No funded beds.</li> <li>10 Escalation Surgical Beds – 6 Beds, 4 Chairs</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                        |
| Surgery Ward (6W)                                                  | 28 funded                                          | 28 beds        | <ul style="list-style-type: none"> <li>The Ward provides inpatient care to adults who require surgical services, including general, orthopaedic, urology, breast, colorectal/ gastroenterological, ear nose and throat (ENT), eye, gynaecological surgery, and dental procedures.</li> </ul>                                                                                                                                                                                                                     |
| <b>Medical and Surgical Wards</b>                                  |                                                    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Medical Assessment and Planning<br>Unit (MAPU)                     | 24 funded                                          | 24 beds        | <ul style="list-style-type: none"> <li>The MAPU is a short stay, assessment and planning inpatient ward that provides care to adult patients who require acute medical speciality services such as Cardiology, Neurology, Gerontology, Respiratory, Gastroenterology and General Medicine.</li> </ul>                                                                                                                                                                                                            |
| 5 West                                                             | 24 funded                                          | 24 beds        | <ul style="list-style-type: none"> <li>5 West (5W) provides inpatient care to adult patients who require acute and subacute medical speciality services.</li> <li>There are 4 additional unfunded/surgical beds.</li> </ul>                                                                                                                                                                                                                                                                                      |
| Stroke Unit                                                        | 6 funded                                           | 6 beds         | <ul style="list-style-type: none"> <li>The Stroke Unit (SU) provides inpatient care to adult patients who require acute medical speciality services for Neurology and are part of an existing ward.</li> </ul>                                                                                                                                                                                                                                                                                                   |
| Ward 4 East                                                        | 24 funded<br>6 surge                               | 30 beds        | <ul style="list-style-type: none"> <li>Ward 4 East (4E) provides inpatient care to adult patients who require acute and subacute medical speciality services such as Cardiology, Neurology, Gerontology, Respiratory, Gastroenterology, General Medicine and Palliative Care.</li> </ul>                                                                                                                                                                                                                         |
| Ward 4 West                                                        | 24 funded<br>4 surge                               | 28 beds        | <ul style="list-style-type: none"> <li>Ward 4 West (4W) accepts patients from MAPU as the main source of admissions, the Emergency Department (ED) and direct admissions to the ward.</li> <li>The unit also receives patients stepping down from the Intensive Care Unit (ICU), Coronary Care Unit (CCU) or the Stroke Unit.</li> <li>Other transfers may occur from the acute Mental Health (MH) unit or Surgical Inpatient Ward for patients that require acute medical and nursing interventions.</li> </ul> |
| <b>Mental Health</b>                                               |                                                    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Inpatient Beds Adult MH Unit                                       | 20 funded<br>2 surge                               | 22 beds        | <ul style="list-style-type: none"> <li>Acacia is an adult mental health unit.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Inpatient Beds – Older Persons MH<br>Unit                          | 16 funded<br>4 surge                               | 20 beds        | <ul style="list-style-type: none"> <li>Banksia is a mental health unit for older persons.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Maternity</b>                                                   |                                                    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Maternity and Women's Health Ward                                  | 18 funded<br>3 surge                               | 21 beds        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Maternity Assessment Area                                          | 6 outpatient beds                                  | 6 beds         | <ul style="list-style-type: none"> <li>The Maternity Assessment Area (MAA) is an outpatient service that is currently operating Wednesday to Friday, 11.30am – 9pm.</li> <li>Once the division is fully staffed, the MAA will recommence as a five-day week service.</li> </ul>                                                                                                                                                                                                                                  |
| Special Care Nursery                                               | 11 funded<br>3 surge                               | 14 beds        | <ul style="list-style-type: none"> <li>Neonatal unit.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Birth Centre                                                       | 2 birthing rooms<br>1 assessment<br>room           | 3 beds         | <ul style="list-style-type: none"> <li>The Birth Centre provides Continuity Midwifery which is a low-risk midwifery model of care. It is delivered through the Birth Centre.</li> </ul>                                                                                                                                                                                                                                                                                                                          |
| Birthing Suites                                                    | 6 funded birthing<br>rooms<br>1 assessment<br>room | 7 beds         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Operating Theatres</b>                                          |                                                    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Operating theatre                                                  | 4.5 theatres<br>funded<br>2.5 surge                | 7 theatres     | <ul style="list-style-type: none"> <li>Funded for 4.5 Theatres - 4 all day elective and a 0.5 PM only emergency theatre.</li> <li>Due to a fire in December 2022, theatre activity was</li> </ul>                                                                                                                                                                                                                                                                                                                |

|                                        | Beds / Spaces                                               | Built Capacity | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------|-------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        |                                                             |                | affected until October 2023.                                                                                                                                                                                                                                                                                                                                                                                                               |
| Procedural rooms                       | 1 procedure room funded                                     | 1 room         | <ul style="list-style-type: none"> <li>Utilised for ECT, Cardioversions, PICC lines and occasionally Bronchoscopy and Endoscopy procedures.</li> </ul>                                                                                                                                                                                                                                                                                     |
| Recovery (Stage 1)                     | 8 bays (1-8)                                                | 8 beds         | <ul style="list-style-type: none"> <li>Eight monitored bays.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                    |
| Recovery (Stage 2)                     | 12 bays (9-20)                                              | 12 beds        | <ul style="list-style-type: none"> <li>Bays 9-16 are monitored bays next to stage 1 PACU.</li> <li>Bays 17-20 have 2 fixed monitored bays and 2 mobile monitored bays (predominately used for overflow of Stage 2 and storage of equipment).</li> </ul>                                                                                                                                                                                    |
| Recovery (Stage 3)                     | 10 Chairs                                                   | 10 beds        | <ul style="list-style-type: none"> <li>10 Recliner chairs.</li> <li>Portable observations machine used in this area, no fixed monitoring</li> </ul>                                                                                                                                                                                                                                                                                        |
| <b>Emergency Department</b>            |                                                             |                |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Emergency Department Acute             | 28 beds                                                     | 23 beds/spaces | <ul style="list-style-type: none"> <li>The Emergency Department (ED) Acute provides acute care to complex adults and children.</li> <li>Includes triage assessment area</li> <li>Referral types to ED are ACTAS, NSWAS, GPs, Local Regional Hospitals, Community Services, AFP, VMO Rooms, and members of the public (self-presenting).</li> <li>Additional space for chairs.</li> </ul>                                                   |
| ED Fast track                          | 15 spaces                                                   | 15 spaces      | <ul style="list-style-type: none"> <li>ED Fast Track is a dedicated area in the ED to treat ambulant, non-complex adults and children who are likely to be discharged in two hours.</li> </ul>                                                                                                                                                                                                                                             |
| ED short stay                          | 15 funded                                                   | 15 beds        | <ul style="list-style-type: none"> <li>ED Short Stay Unit (SSU) is a short stay inpatient unit for patients that require observations, specialist assessment and diagnostics. <ul style="list-style-type: none"> <li>The SSU provides care to adults and children with an expected length of stay less than 24 hours.</li> </ul> </li> </ul>                                                                                               |
| Resuscitation bays                     | 2 bays                                                      | 2 bays         |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Procedure Rooms                        | 2 rooms                                                     | 2 rooms        |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Other spaces                           | 1 Class N isolation room<br>1 mental health assessment room | 2 rooms        |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Diagnostic Radiology</b>            |                                                             |                |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Diagnostic – Radiology (X-ray)         | 2 machines                                                  | 2 machines     | <ul style="list-style-type: none"> <li>Includes 1 Phillips Digital Diagnostic and 1 Siemens Hybrid Fluoroscopy/general xray machine.</li> <li>The hybrid limits Xray capabilities, effectively reducing the service to a single room, with demand growth this is proving problematic.</li> <li>Fluoroscopy is almost exclusively used for speech pathology swallow screening.</li> </ul>                                                   |
| Radiology - CT                         | 2 machines                                                  | 2 machines     | <ul style="list-style-type: none"> <li>Includes 1 Canon Aquilion One Genesis (stroke, cardiac and interventional scanner) and 1 Canon Prime.</li> <li>The stroke/cardiac and intervention capabilities should not be on the same scanner</li> <li>Stroke capabilities should be on at least two scanners for redundancy.</li> </ul>                                                                                                        |
| Radiology - Ultrasound                 | 4 machines                                                  | 4 machines     | <ul style="list-style-type: none"> <li>Includes 1 GE ultrasound and 3 Canon – High end diagnostic ultrasound machines.</li> <li>Elastography or contrast ultrasound functionality.</li> <li>Services have been affected in 2023/24 by reduced radiologist hours.</li> </ul>                                                                                                                                                                |
| Radiology – OPG                        | 1 machine                                                   | 1 machine      | <ul style="list-style-type: none"> <li>Dental imaging – co located in main x-ray room due to space constraints.</li> <li>Rarely used as CT offers greater diagnostic capability.</li> </ul>                                                                                                                                                                                                                                                |
| Radiology – Mobile Xray                | 2 machines                                                  | 2 machines     | <ul style="list-style-type: none"> <li>Includes 1 Siemens Elara Max and 1 Mira Max.</li> </ul>                                                                                                                                                                                                                                                                                                                                             |
| Radiology – Image intensifier          | 2 machines                                                  | 2 machines     | <ul style="list-style-type: none"> <li>Includes 1 Phillips Zenition and 1 Phillips Veradius.</li> <li>Used in theatres and the limited redundancy impacts theatre scheduling when either machine is down for maintenance or repairs.</li> </ul>                                                                                                                                                                                            |
| Radiology/Cardiology – Echo Ultrasound | 2 machines                                                  | 2 machines     | <ul style="list-style-type: none"> <li>Includes 1 Phillips Infinity and 1 Phillips Epic US</li> <li>Included phased array probes and paediatric probes.</li> <li>ECG compatible.</li> <li>Insufficient capacity to meet the demand for stress ECHO/TOE in theatre.</li> <li>Shared with Cardiologists and Advance Trainees, limiting ability to provide services across the hospital.</li> <li>No redundancy in this provision.</li> </ul> |
| Radiology - MRI                        | 1 machine                                                   | 1 machine      | <ul style="list-style-type: none"> <li>Includes a 3T machine.</li> <li>Privately contracted service.</li> </ul>                                                                                                                                                                                                                                                                                                                            |



|                               | Beds / Spaces                      | Built Capacity | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------|------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               |                                    |                | <ul style="list-style-type: none"> <li>Future considerations can include having this service as part of the public hospital imaging suite would be advantageous and increase availability.</li> <li>Advances in MRI technology speed, increase in diagnostic capability and lack of radiation dose, this modality is forecasted to surpass CT as an imaging modality over the next 10 years.</li> </ul>                                                                                                                      |
| <b>Diagnostic – Pathology</b> |                                    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Laboratory Service onsite     |                                    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Inpatient collections         | -                                  |                | <ul style="list-style-type: none"> <li>Trolleys to wards.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Outpatient Collection         | 2 chairs                           | 2 chairs       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Non-Admitted Services</b>  |                                    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Outpatients                   | 9 clinic rooms<br>1 treatment room | 10 spaces      | <ul style="list-style-type: none"> <li>Clinic room for a range of general medical outpatient services</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                             |
| Infusion Chairs               | 8 chairs<br>1 bed                  | 9 spaces       | <ul style="list-style-type: none"> <li>This refers to the Zita Mary Clinic</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Gym                           | 1 gym                              | 1 gym          | <ul style="list-style-type: none"> <li>Multipurpose physiotherapy gym used for staff and student education, cardiac rehab, staff meetings and women's health education.</li> </ul>                                                                                                                                                                                                                                                                                                                                           |
| Hospital in the Home /GRACE   | 11 – 16 spaces                     | 16 spaces      | <ul style="list-style-type: none"> <li>Hospital in the Home (HITH) services are provided out of 6E.</li> <li>HITH provides access to healthcare for patients in their own homes.</li> <li>The physical bed space may be considered for inpatient occupancy in times of extreme capacity escalation or external emergencies for up to 16 beds/treatment spaces.</li> <li>The space does not have dedicated physical beds.</li> <li>Ward can capacity to escalate into HITH beds/treatment spaces in times of need.</li> </ul> |
| <b>CHH</b>                    |                                    |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Inpatient Unit                | 20 funded beds<br>4 surge          | 24 beds        | <ul style="list-style-type: none"> <li>Provides tertiary and integrated level palliative care to the community of the ACT and surrounding districts.</li> </ul>                                                                                                                                                                                                                                                                                                                                                              |

**Table 53: Current Bed Table, NCH. Source: NCH, 2024 and informed by NCH executive and clinical stakeholders.**

## 10. Future Service Directions

The future service directions as outlined under the respective services in Section 9, provide for the future state of NCH.

The process for identifying and developing included bringing the insights and experience of over 300 CHS, NCH and TCH executive, clinical and non-clinical stakeholders and services partners through an extensive coordinated consultation, utilising the outcomes of the previous consultation with consumers<sup>76</sup> and presenting proposed strategies and opportunities to key CHS and NCH executive and senior clinical stakeholders. The agreed strategies were presented and endorsed by the Northside Hospital Clinical Services and Facility Planning Project Steering Committee.

A future NCH will include:

- **Delivery of clinical services to the full scope of the RDL-4 capability.**
- An **expanded ED service** to manage current and future demand, in particular to better care for paediatric patients.
- An **integrated Cardiology and CCU service** to enable the whole of patient journey management and consolidate clinical governance arrangements for this cohort.
- **Interventional cardiology capability** with on-site cardiac catheterisation lab aligned to a RDL-4 service.
- **Supporting emergency surgical cases** that present via the ED.
- Becoming a **high-volume low-complexity surgical centre** to build a critical mass for planned General Surgery, Urology, Gynaecology, Ophthalmology, and Endoscopy and be integrated with the TCH surgical workforce model.
- An **integrated and networked Breast Cancer Surgery service** with TCH Cancer Services.
- A **coordinated theatre complex approach** to enable including the CHS networked workforce resourcing and allocation.
- An **expanded Midwifery Continuity of Care** model.
- A **Birthing on Country model** to support Aboriginal and Torres Strait Islander people on their pregnancy journey.
- **Enhanced and coordinated integration of Special Care Nursery service** with TCH Neonatal Services to care for unwell babies.
- A **23-hour paediatric inpatient service**, supported by paediatric medical and nursing expertise and networked with the TCH Paediatric Service.
- An **integrated mental health service** within CHS MHJHADS, incorporating NCH within Territory-wide service models
- A **Drug and Alcohol Consultation Liaison service** to support the care of people with drug and alcohol co-morbidities.
- Establishing **sub-acute inpatient care models** to support the care of Maintenance/non-acute patients and facilitate timely discharge to other care settings.
- **Expanding palliative care capacity** in the acute inpatient setting.
- **Expanding Care Close to Home services** to support hospital avoidance strategies.
- Re-establish a **day-chemotherapy service for selected conditions** to enable access for ACT North residents to this service close to home.
- **Expanded non-admitted and outpatient services and infrastructure** to manage future demand and contribute to ED and hospital avoidance strategies.
- **Integrated virtual care delivery models** to care for people in the home.
- **Advanced Practice service models** to manage complex patient cases across medical and surgical disciplines.

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<sup>76</sup> ACT Government. 2023. Phase 2 – Northside Hospital Consultation Report – Designing ACT health services for a growing population. Accessed from: [https://yoursayconversations.act.gov.au/download\\_file/view/9781/2488](https://yoursayconversations.act.gov.au/download_file/view/9781/2488)

- **On-site interventional radiology capability and capacity** aligned to a RDL-4 service.
- **Enhanced imaging and pathology diagnostic services.**
- **Established clinical service networks** across the CHS for ICU, Cardiology, Neurology, Gastroenterology, Ophthalmology, Gynaecology, Maternity, Special Care Nursery, Older Persons, Mental Health, Cancer Care, Radiology and Pharmacy.

Other initiatives suggested, as part of the development of CSP, that were not progressed are outlined in Appendix 5. It is understood that future investment in implementing the future strategic directions will be subject to further feasibility review.

## Contemporary service delivery

The Northside Hospital Project redevelopment enables CHS to review how services have been and will be delivered. Strategies including addressing current operational challenges, developing and implementing models of care, strengthening care across other settings including virtual care delivery and increasing the bed base to manage future demand, are articulated below. The objective is to deliver optimal patient care and outcomes now and in the future.

- Expand the acute inpatient base to manage projected demand.
- Establish paediatric inpatient capacity and capability to better manage clinically-appropriate paediatric presentations.
- Expand ED services and associated infrastructure including:
  - expanding the role of Nurse Practitioners and Advance-Practice Allied Health Clinicians within the ED and spaces
  - established models for managing care for patients with behaviours of concern and/or mental health conditions
  - expanding its role as a designated mental health service.
  - strengthening the care of paediatric patients.
- Develop integrated care pathways with medical and surgical specialties to streamline the patient journey from ED to inpatient wards.
- Improve transfer arrangements among NCH, TCH and UCH.
- Develop an integrated model of care that combines mental health and physical health disciplines to address patients' needs holistically.
- Explore Allied Health Advance Practice models to enable inpatient care aimed at supported discharge, and outpatient care delivery as alternative options to hospital admission.
- Explore programs to identify and support frequent users of the ED to reduce unnecessary re-presentations aligned to an expanded HITH service.
- Review and redesign models of care across all disciplines to improve access to services locally and virtually.
- Strengthen proactive discharge planning and improve integration with community-based services to ensure reduced readmission.
- Develop a workforce plan to ensure recruitment, retention and succession planning for locally based services.
- Review functional relationships to core services and diagnostic care areas as part of the Northside Hospital redevelopment.
- Establish a culturally appropriate and safe environment for Aboriginal people.



## Flow reversal of clinically appropriate ACT North Residents from TCH

Noting that 34.5% of ACT North Residents presented to the TCH ED and 44.6% were admitted to TCH in 2022/23, a future NCH with contemporary service delivery models, delivering care to the full extent of their RDL-4 services and enhanced capacity, will be equipped to better manage local demand. This will aim to relieve pressure from TCH as the Territory's tertiary centre to manage complex care.

- Identify and care for ACT North resident patient cohorts who can be managed within NCH RDL-4 services across selected medical, surgical and maternity services.

## Clinical sub-specialisation

With projected population estimated for the ACT North region, the aging of the population and increasing complexity among patients, there is a need for NCH to establish a level of clinical sub-specialisation aligned to high volume presentations and evolving needs of the community.

- Expand medical services into sub-specialities aligned to the casemix for NCH for Gastroenterology, Respiratory Medicine and Geriatric Medicine.

## Enhancing surgical and procedural capacity and capability

Efficient and high-quality service delivery is a key strategic objective for CHS. A future NCH will be a key contributor within CHS to enable consolidation of surgical services that allows CHS to realise the associated quality and operational benefits and minimise transfers to TCH for services that can safely be provided for an acute public hospital with RDL-4 services.

- Establish a networked high-volume low-complexity service for the provision of low-complexity procedures for all ACT residents.
- Establish a networked ophthalmology centre to deliver high-volume ophthalmology cases at NCH, while preserving the required casemix at TCH to maintain its status as the ACT's Trauma Centre.
- Establish cardiac catheterisation labs at NCH for the provision of interventional cardiology procedures as aligned to its RDL-4.
- Establish an intervention radiology service aligned to the scope of the RDL-4 Radiology service to minimise transfers to TCH for diagnostic interventional cases.
- Enhance diagnostic and complex endoscopy service.
- Explore feasibility for robotic surgery capability for specialities such as urology and colorectal surgery.
- Review the management of Category 3 patients across CHS so that the waitlist accurately reflects clinical need and progression of disease to enable clinically-appropriate prioritisation.

## Integrated network models

There are opportunities to streamline care processes, establish standardised practice and utilise the workforce within an integrated approach to deliver comprehensive services at the right place and right time.

- Explore a single, coordinated bed and transport management system across CHS.
- Explore the integration of the NCH ICU into the NSW ICU Network and build upon the CHS ICU Network.
- Expand the role of Special Care Nursery to enhance neonatal service capacity across ACT.
- Establish an integrated and networked breast service to enable access to care for breast symptoms, imaging, biopsy for diagnosis, staging and further work-up.
- Establish a networked gynaecology service to enable delivery of sub-specialty care e.g. urogynaecology.

- Establish an integrated gynae-oncology network model utilising TCH and NCH capability and capacity.
- Establish Drug and Alcohol Consultation Liaison Service at NCH, within the CHS MHJHADS.
- Establish a networked Pharmacy model, supported by automation and robotics and a central procurement model.
- Implement a surgical network model with services strategically distributed between NCH and TCH, to enable resource efficiency, patient safety, and high-quality care.
- Strengthen collaboration with TCH to share resources and enhance training opportunities across both sites, to improve patient flow and resource utilisation.
- Review network arrangements with relevant Southern NSW services including patient admission criteria and discharge procedures to facilitate transfer-back for ongoing management and care for Southern NSW residents.

## Care of the older person

Aligned to the ACT Health Services Plan, care will be provided for older people across the care continuum with the required emergency, inpatient and non-admitted patient services. The focus is to support older people in hospital regardless of their admitting speciality, provide supported discharge and incorporate the required follow-up care post admission.

- Enhance inpatient acute and sub-acute care models for older people
- Develop model of care to manage and support complex dementia patients, in collaboration with the Older Persons Mental Health Service.
- Establishing a BPSD unit to support the care and management of people experiencing BPSD Strengthening maternity services
- Establishing clear pathways for improved coordination and transfer between acute care and sub-acute care services within CHS and RACFs.

## Strengthening maternity services

A future NCH will continue to focus on delivering high-quality and holistic care to women and birthing people on the northside of the Territory.

- Expand the Midwifery Continuity of Care model.
- Explore a Birthing on Country model to support Aboriginal and Torres Strait Islander people on their pregnancy journey.
- Establish an Early Pregnancy Assessment Unit for people in early stage or at risk of pregnancy loss.
- Establish separate gynaecology and maternity inpatient and outpatient spaces to enhance the patient experience for the two patient cohorts.

## Expanding non-admitted patient services

By providing timely and effective care in outpatient settings, future non-admitted services at NCH will help to prevent unnecessary hospital admissions, easing the burden on inpatient facilities and delivering integrated healthcare across the care continuum.

- Establish Rapid Access Clinics to support hospital avoidance based on high-volume clinical specialities such as Urology, Gynaecology, Psychiatry, Cardiology, Neurology, Geriatric Medicine and Paediatrics.
- Expand the HITH Service at NCH.
- Reestablish chemotherapy services as part of the Zita Mary Clinic service model.
- Establish separate gynaecology and maternity non-admitted spaces.
- Development of an integrated Ambulatory area with purpose-built clinical and therapeutic areas, modern staff areas, and embedded virtual capabilities.
- Expand screening, prevention and early intervention services.

- Integrate care around priority needs cohorts (children, older people, mental health, chronic disease).
- Explore hospital avoidance and discharge programs and greater integration with existing outreach and community and primary care services to support patients being seen in the right place and at the right time.

### **Integrated allied health inpatient and outpatient services**

Enhancing the coordination and delivery of care by ensuring patients receive comprehensive support and collaboration across various health disciplines to improve overall service efficiency and patient outcomes.

- Establish Rapid Access Clinics with Nurse Practitioners and Advance-Practice Allied Health clinicians to support hospital avoidance.
- Strengthen radiology services to deliver inpatient and outpatient care models including establishing an outpatient imaging service located outside the hospital to alleviate inpatient demand.
- Explore the feasibility of a public MRI at NCH.
- Develop a workforce plan to align hospital expansion with increased projected activity across inpatient and outpatient services.

### **Digitally enabled service**

A future NCH will allow for innovative care models to be designed to enable patients to receive care in the home, support clinicians in their care delivery, avoid hospital admissions through remote monitoring and virtual hospital models and empower patients by promoting proactive health management and early intervention.

- Implement the ACTHD Digital Health Strategy to guide CHS in developing future technologies and models that align with the delivery of care for NCH, including formalised network arrangements to ensure reliable and appropriate support and clinical expertise can be provided to NCH.
- Implement hybrid models of care for heart failure, combining in-person visits with digital monitoring and remote therapeutics.
- Expand and enhance virtual/telemedicine, mobile devices, and remote monitoring technologies that support care management outside the hospital, including appropriate ICT infrastructure.
- Explore increased delivery of virtual health service models to facilitate timely access to specialist services and support care in the hospital, outpatient, community and home environment.
- Establish appropriate environments and safe spaces for privacy and use that support virtual and telehealth delivery.
- Improve connectivity through virtually enabled spaces to improve timely access to specialist and emergency/critical care service.
- Explore a new model of care that incorporates remote patient monitoring to support patients in receiving care closer to home or at home. Including virtually facilitated/assisted models with clinical and non-clinical supports facilitating/assisting in the room, while virtually connecting to specialist services.
- Build a workforce skilled in virtual and telehealth models of care.

## Sustainable infrastructure and healthcare

With the rising costs of healthcare delivery, a future NCH needs to remain at the forefront of care while sustainably operating its services, seeking new ways that deliver care at lower costs, maximising outcomes and developing value-based and intelligent infrastructure<sup>77</sup> solutions.

- Redevelop NCH as part of the Northside Hospital Project to support the provision of integrated, contemporary, safe, and sustainable services and improve patient outcomes and experience, including increased infection control, low stimulation environments, supporting new models of care and virtual models, flexible spaces for paediatrics, mental health, activities of daily living and allied health spaces, and improving the patient experience.
- Expand of virtual health technology and infrastructure, as part of non-asset solution development, to improve access to care.
- Create partnerships to improve patient flow and access to services closer to home.

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<sup>77</sup> Srinivasan, R. and Parlikad, AK. 2020. Value based and intelligent asset management. In: Crespo Márquez, A., Macchi, M., Parlikad, A. (eds) Value Based and Intelligent Asset Management. Springer, Cham. [https://doi.org/10.1007/978-3-030-20704-5\\_6](https://doi.org/10.1007/978-3-030-20704-5_6)



# 11. Forecasted Service Need

To provide the context for the future demand and align this to future forecasted service needs, Figure 7 demonstrates the ACT North projected population by age, against historical and base case projected separations and bed days.

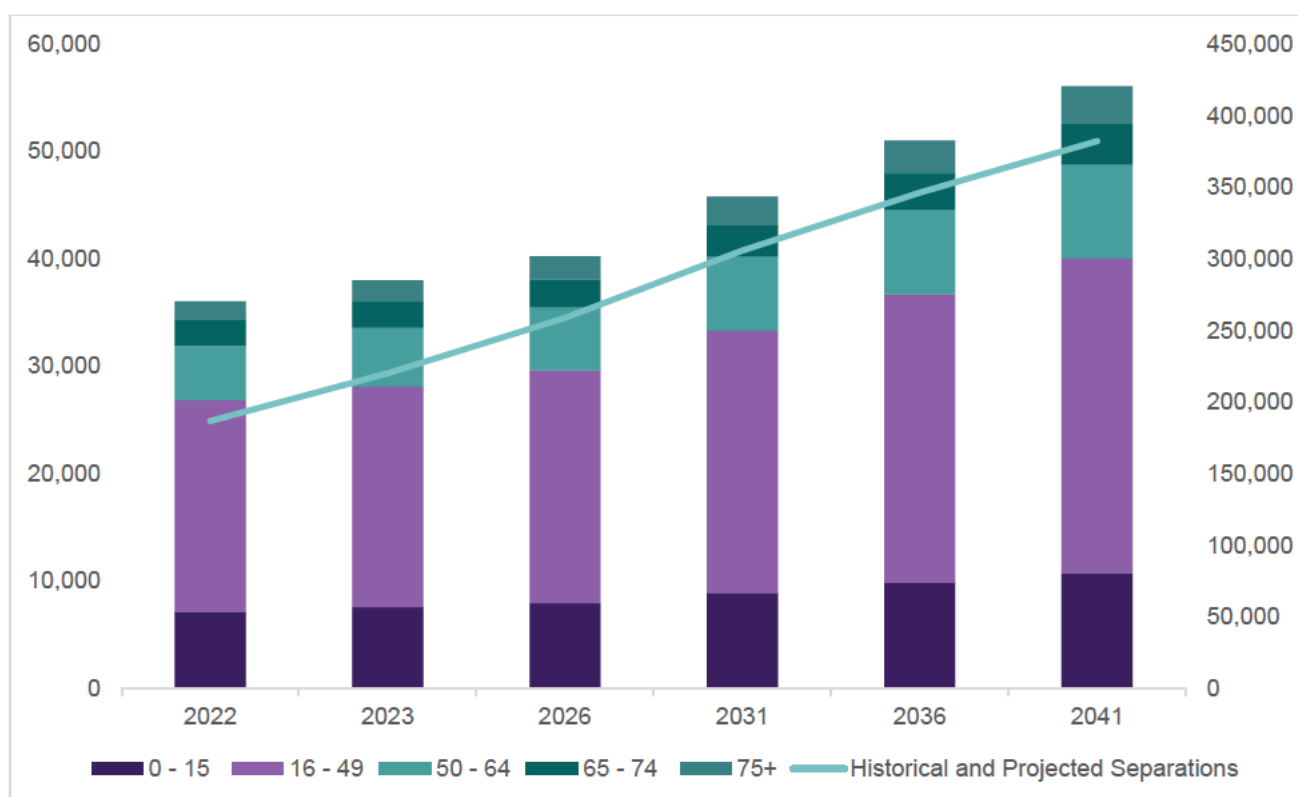


Figure 7: ACT North Population Projections by Age and Historical and Projected Activity Trend. Source: ACT Government, 2023 Latest ACT Population Projections; 2021/22 HPA Base case Projections, ACTHD, 2024. Includes acute care type only.

The above demonstrates that population growth across all age groups is a key driver for the increase in future bed requirements within the base case<sup>78</sup>.

An analysis was undertaken to understand the base case. Furthermore, during the development of the CSP, 2022/23 Projections by consulting firm HPA were developed. These are not yet approved for use however, were provided for comparison. A review of the 2022/23 HPA Projection extract has been undertaken, indicating negligible changes to activity projected to 2041. Once the 2022/23 HPA Projection data is approved for release by ACTHD, a review and update of the base case and scenarios is to be undertaken.

<sup>78</sup> The base case projections represent projected activity on the assumption that current trends in activity will remain relatively the same, with a conservative approach to changing models of care by 2041.

## 11.1 Emergency Department

The table below represents the base case projected activity, with an annual increase of 2.8% to 2041 for all ED presentations. This growth exceeds the current population projection growth for ACT North at 2.4% to 2041. The below included Southern NSW and interstate residents which may be reflected in the elevated growth rate.

| Age Group    | 2019   | 2021   | 2023   | 2026   | 2031   | 2036   | 2041    | Variance | Growth 2021-2041 | CAGR 2021-2041 |
|--------------|--------|--------|--------|--------|--------|--------|---------|----------|------------------|----------------|
| 00-15        | 10,923 | 9,798  | 10,417 | 11,736 | 13,138 | 14,663 | 16,065  | 6,267    | 64.0%            | 2.5%           |
| 16-49        | 29,093 | 31,184 | 31,310 | 35,519 | 40,556 | 45,760 | 50,547  | 19,363   | 62.1%            | 2.4%           |
| 50-64        | 7,440  | 8,102  | 8,020  | 9,083  | 10,647 | 12,066 | 13,303  | 5,201    | 64.2%            | 2.5%           |
| 65-74        | 4,790  | 4,849  | 5,066  | 5,975  | 7,155  | 8,013  | 8,874   | 4,025    | 83.0%            | 3.1%           |
| 75+          | 6,275  | 6,360  | 6,932  | 8,776  | 11,102 | 13,580 | 15,683  | 9,323    | 146.6%           | 4.6%           |
| Total NCH ED | 58,521 | 60,293 | 61,745 | 71,089 | 82,598 | 94,082 | 104,472 | 44,179   | 73.3%            | 2.8%           |

Table 54: Base case ED Projections to 2041. Source: 2020/21 HPA ED Projections, ACTHD, 2024. Rounding has been applied.

To align a scenario of reversing 50% of ACT North Residents from TCH from 2031 to 2041 together with ED avoidance strategies, the ACT North population growth was applied to the current 2022/23 activity, as shown in the table below.

| Age Group    | 2023   | 2026   | 2031   | 2036   | 2041   | Variance | Growth 2021-2041 | CAGR 2023-2041 |
|--------------|--------|--------|--------|--------|--------|----------|------------------|----------------|
| 00-15        | 9,581  | 10,222 | 11,387 | 12,684 | 14,129 | 4,548    | 47.5%            | 2.2%           |
| 16-49        | 27,722 | 29,502 | 32,726 | 36,302 | 40,268 | 12,546   | 45.3%            | 2.1%           |
| 50-64        | 7,546  | 8,225  | 9,495  | 10,961 | 12,653 | 5,107    | 67.7%            | 2.9%           |
| 65-74        | 4,514  | 4,876  | 5,546  | 6,308  | 7,175  | 2,661    | 58.9%            | 2.6%           |
| 75+          | 7,074  | 7,873  | 9,411  | 11,249 | 13,446 | 6,372    | 90.1%            | 3.6%           |
| Total NCH ED | 56,437 | 60,698 | 68,564 | 77,503 | 87,671 | 31,234   | 55.3%            | 2.5%           |

Table 55: Scenario ED Projections to 2041. Source: 2022/23 ABF ED Extract, ACTHD, 2024. Rounding has been applied.

The projected infrastructure requirement based on the scenario indicated a future requirement for 94 ED spaces by 2041.

|                                        | 2021      | 2023      | 2026      | 2031      | 2036      | 2041      |
|----------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Adult Admitted                         | 12        | 11        | 12        | 14        | 16        | 18        |
| Adult Non admitted                     | 24        | 23        | 24        | 28        | 31        | 36        |
| <b>Total Adult ED spaces</b>           | <b>37</b> | <b>34</b> | <b>37</b> | <b>41</b> | <b>47</b> | <b>53</b> |
| Paediatrics Admitted                   | 2         | 2         | 2         | 3         | 3         | 3         |
| Paediatrics Non admitted               | 5         | 5         | 5         | 6         | 6         | 7         |
| <b>Total Paediatrics ED spaces</b>     | <b>7</b>  | <b>7</b>  | <b>7</b>  | <b>8</b>  | <b>9</b>  | <b>10</b> |
| <b>Resus bays</b>                      | <b>4</b>  | <b>4</b>  | <b>4</b>  | <b>5</b>  | <b>5</b>  | <b>6</b>  |
| <b>EDSSU</b>                           | <b>13</b> | <b>12</b> | <b>13</b> | <b>14</b> | <b>16</b> | <b>18</b> |
| <b>Isolation and Other Rooms</b>       | <b>6</b>  | <b>6</b>  | <b>6</b>  | <b>7</b>  | <b>8</b>  | <b>9</b>  |
| <b>Total Projected Bed Requirement</b> | <b>65</b> | <b>61</b> | <b>65</b> | <b>74</b> | <b>83</b> | <b>94</b> |

Table 56: Calculated ED Bed Requirements based on Scenario ED Projections to 2041. Source: 2020/21 HPA ED Projections, ACTHD, 2024.<sup>79</sup> Rounding has been applied.

<sup>79</sup> ED spaces calculated based on NSW Health ED Treatment Space methodology with 18hrs with 25% admission rate and ED KPI Target LOS of 6 hrs for admitted and 4hrs for Non-admitted. ED Short Stay based on 4,000 presentations per bed. Resuscitation Bay based on 15,000 presentations per bed. Isolation Room based on 10,000 presentations per room.

## 11.2 Medical Services

The table below represents the base case projected medical activity, with an annual increase of 3.0% in separations and 2.5% in bed days to 2041 for all medical presentations.

It is important to note that the 3.3% annual increase in Day Only Medical separations indicates a potential issue with how historical day only medical activity has been classified and it is likely to reflect a combination of non-admitted care that was coded as 'admitted' and other erroneous misclassification such as planned chest pain assignment. It is also reflective that the same day activity is including unplanned day medical activity which can be assumed to be ED Short Stay activity. Thus, when facility planning, there may be opportunity to redesign the service, so this activity is occurring within an ambulatory care centre / non-admitted service rather than an acute bed.

By 2041, the base case projected a bed requirement of 182 overnight beds and 49 same day beds, noting it does not differentiate between ICU, CCU, separations with partial or full HITH admission and EDSSU.

| Stay Type                | Values   | 2019   | 2021   | 2023   | 2026   | 2031   | 2036   | 2041   | Variance | Growth 2021-2041 | CAGR 2021-2041 |
|--------------------------|----------|--------|--------|--------|--------|--------|--------|--------|----------|------------------|----------------|
| Overnight                | Seps     | 7,998  | 8,883  | 8,812  | 9,880  | 11,764 | 13,607 | 15,084 | 7,086    | 69.8%            | 2.7%           |
|                          | Bed days | 31,507 | 36,227 | 35,049 | 38,467 | 44,838 | 52,640 | 56,545 | 25,038   | 56.1%            | 2.3%           |
|                          | ALOS     | 3.9    | 4.1    | 4.0    | 3.9    | 3.8    | 3.9    | 3.7    | 0        | -8.1%            | -0.4%          |
| Day Only                 | Seps     | 7,638  | 10,434 | 10,344 | 12,663 | 15,597 | 17,999 | 19,936 | 12,298   | 91.1%            | 3.3%           |
|                          | Bed days | 7,638  | 10,434 | 10,344 | 12,663 | 15,597 | 17,999 | 19,936 | 12,298   | 91.1%            | 3.3%           |
| Total Seps               |          | 15,636 | 19,317 | 19,156 | 22,543 | 27,361 | 31,606 | 35,020 | 19,384   | 81.3%            | 3.0%           |
| Total Bed day            |          | 39,145 | 46,661 | 45,393 | 51,130 | 60,435 | 70,639 | 76,481 | 37,336   | 63.9%            | 2.5%           |
| Overnight Projected Beds |          | 102    | 117    | 113    | 124    | 145    | 170    | 182    | 81       | 56.1%            | 2.3%           |
| Same Day Projected Beds  |          | 19     | 26     | 25     | 31     | 38     | 44     | 49     | 30       | 91.1%            | 3.3%           |
| Total Projected Beds     |          | 120    | 142    | 138    | 155    | 183    | 214    | 231    | 111      | 62.4%            | 2.5%           |

**Table 57: Base case Medical Projections to 2041.** Source: 2020/21 HPA ED Projections, ACTHD, 2024.<sup>80</sup> Includes acute care type, medical partition. Includes acute care type, medical partition and 16 and over. Excludes Chemotherapy, Renal Dialysis, Unqualified Neonates, Qualified Neonates, Perinatology and Obstetrics and 00-15 years. Rounding has been applied.

A scenario to consider reverse-flowing of 50% of ACT North Residents from TCH for selected overnight SRG<sup>81</sup> activity was undertaken. This scenario also includes an adjustment for length of stay, recognising that operational bed management and patient flow challenges will be addressed and adjusting for the same day activity by applying the total ACT North population growth to account for future demand.

The scenario results in a projected bed total of 175 overnight beds and 39 same day beds, which is aligned to future strategies to increase inpatient capacity to manage demand while implementing other demand strategies to manage ALOS and encourage non-admitted activity.

<sup>80</sup> Medical overnight beds calculated at 85% occupancy. Medical same day beds calculated at 170% occupancy for 240 days.

<sup>81</sup> SRGs used in scenario include: 11 Cardiology, 14 Endocrinology, 15 Gastroenterology, 21 Neurology, 24 Respiratory medicine, 27 General medicine, 54 General surgery, 49 Orthopaedics, 25 Rheumatology, 52 Urology, 81 Drug & alcohol, 17 Haematology and 71 Gynaecology.



| Stay Type                | Values   | 2023   | 2026   | 2031   | 2036   | 2041   | Variance | Growth 2023-2041 | CAGR 2023-2041 |
|--------------------------|----------|--------|--------|--------|--------|--------|----------|------------------|----------------|
| Overnight                | Seps     | 8,812  | 9,880  | 13,934 | 16,170 | 18,056 | 9,244    | 104.9%           | 4.1%           |
|                          | Bed days | 35,049 | 29,640 | 41,802 | 48,510 | 54,168 | 19,119   | 54.5%            | 2.4%           |
|                          | ALOS     | 4.0    | 3.0    | 3.0    | 3.0    | 3.0    | -1.0     | -24.6%           | -1.6%          |
| Day Only                 | Seps     | 10,320 | 11,081 | 12,476 | 14,047 | 15,815 | 5,495    | 53.2%            | 2.4%           |
|                          | Bed days | 10,320 | 11,081 | 12,476 | 14,047 | 15,815 | 5,495    | 53.2%            | 2.4%           |
| Total Seps               |          | 19,132 | 24,998 | 26,410 | 30,217 | 33,871 | 14,739   | 77.0%            | 3.2%           |
| Total Bed day            |          | 45,369 | 40,721 | 54,278 | 62,557 | 69,983 | 24,614   | 54.3%            | 2.4%           |
| Overnight Projected Beds |          | 113    | 96     | 135    | 156    | 175    | 62       | 54.5%            | 2.4%           |
| Same Day Projected Beds  |          | 25     | 27     | 31     | 34     | 39     | 13       | 53.2%            | 2.4%           |
| Total Projected Beds     |          | 138    | 123    | 165    | 191    | 213    | 75       | 54.3%            | 2.4%           |

**Table 58: Scenario Medical Activity Projections to 2041.** Source: 2020/21 HPA ED Projections, ACTHD, 2024. Includes acute care type, medical partition and 16 and over. Excludes Chemotherapy, Renal Dialysis, Unqualified Neonates, Qualified Neonates, Perinatology and Obstetrics and 00-15 years. Rounding has been applied.

### 11.3 Surgical Services

The base case projection for surgical activity show that there will be a projected bed requirement for 81 surgical beds (55 overnight and 26 same day) by 2041.

| Stay Type                 | Values   | 2019   | 2021   | 2023   | 2026   | 2031   | 2036   | 2041   | Variance | Growth 2021-2041 | CAGR 2021-2041 |
|---------------------------|----------|--------|--------|--------|--------|--------|--------|--------|----------|------------------|----------------|
| Overnight                 | Seps     | 3,365  | 3,403  | 3,326  | 3,517  | 3,769  | 4,072  | 4,339  | 936      | 27.5%            | 1.2%           |
|                           | Bed days | 11,665 | 10,714 | 11,397 | 12,522 | 14,108 | 15,412 | 17,164 | 6,450    | 60.2%            | 2.4%           |
|                           | ALOS     | 3.5    | 3.1    | 3.4    | 3.6    | 3.7    | 3.8    | 4.0    | 1        | 25.6%            | 1.1%           |
| Day Only                  | Seps     | 5,688  | 6,285  | 6,847  | 7,647  | 8,710  | 9,488  | 10,472 | 4,187    | 66.6%            | 2.6%           |
|                           | Bed days | 5,688  | 6,285  | 6,847  | 7,647  | 8,710  | 9,488  | 10,472 | 4,187    | 66.6%            | 2.6%           |
| Total Separations         |          | 9,053  | 9,688  | 10,173 | 11,164 | 12,479 | 13,560 | 14,811 | 5,123    | 52.9%            | 2.1%           |
| Total Bed Days            |          | 17,353 | 16,999 | 18,244 | 20,169 | 22,818 | 24,900 | 27,636 | 10,637   | 62.6%            | 2.5%           |
| Overnight Calculated Beds |          | 38     | 35     | 37     | 40     | 45     | 50     | 55     | 21       | 60.2%            | 2.3%           |
| Same Day Calculated Beds  |          | 14     | 15     | 17     | 19     | 21     | 23     | 26     | 10       | 66.6%            | 2.8%           |
| Total Calculated Bed      |          | 52     | 50     | 54     | 59     | 67     | 73     | 81     | 31       | 62.2%            | 2.4%           |

**Table 59: Base case Projected Surgical Activity for NCH to 2041.** Source: 2021/22 HPA ED Projections, ACTHD, 2024.<sup>82</sup> Includes acute only, interventional partition and 16 and over. Excludes Chemotherapy, Renal Dialysis, Unqualified Neonates, Qualified Neonates, Perinatology and Obstetrics and 00-15 years. Rounding has been applied.

A scenario was explored that considered the following:

1. Reverse-flow of 50% of ACT North residents at TCH for selected planned surgical services<sup>83</sup>.
2. Establishing a high-volume low-complexity service at NCH for selected procedures for all ACT residents.

The table below shows by reversing 50% of ACT North residents' planned activity from TCH, there will be an additional projected bed requirement of 8 beds by 2041. When combined with the base case and noting this will likely take effect with the commissioning of the new Northside Hospital, anticipated for 2031, the total bed requirement for surgical services will be 67 beds by 2031 and 89 by 2041.

<sup>82</sup> Surgical overnight beds calculated at 85% occupancy. Surgical same day beds calculated at 170% occupancy for 240 days.

<sup>83</sup> SRGs used in scenario include: 16 Diagnostic GI, 43 Colorectal surgery, 48 Ear, nose & throat/head & neck, 49 Orthopaedics, 50 Ophthalmology, 52 Urology, 71 Gynaecology, 54 General surgery, 24 Respiratory medicine and 15 Gastroenterology. All selected with intervention partition.



| Stay Type                 | Values      | 2023   | 2026   | 2031   | 2036   | 2041   | Variance | Growth<br>2023-2041 | CAGR<br>2023-<br>2041 |
|---------------------------|-------------|--------|--------|--------|--------|--------|----------|---------------------|-----------------------|
| Overnight                 | Separations | 3,326  | 3,517  | 4,227  | 4,562  | 4,871  | 1,545    | 46.4%               | 2.1%                  |
|                           | Bed days    | 11,397 | 12,522 | 15,709 | 17,125 | 19,024 | 7,627    | 66.9%               | 2.9%                  |
|                           | ALOS        | 3.4    | 3.6    | 3.7    | 3.8    | 3.9    | 0        | 14.0%               | 0.7%                  |
| Day Only                  | Separations | 6,847  | 7,647  | 9,318  | 10,201 | 11,261 | 4,414    | 64.5%               | 2.8%                  |
|                           | Bed days    | 6,847  | 7,647  | 9,318  | 10,201 | 11,261 | 4,414    | 64.5%               | 2.8%                  |
| Total Separations         |             | 10,173 | 11,164 | 13,545 | 14,762 | 16,132 | 5,959    | 58.6%               | 2.6%                  |
| Total Bed Days            |             | 18,244 | 20,169 | 25,027 | 27,326 | 30,285 | 12,041   | 66.0%               | 2.9%                  |
| Overnight Calculated Beds |             | 37     | 40     | 51     | 55     | 61     | 25       | 66.9%               | 2.9%                  |
| Same Day Calculated Beds  |             | 17     | 19     | 23     | 25     | 28     | 11       | 64.5%               | 2.8%                  |
| Total Calculated Bed      |             | 54     | 59     | 73     | 80     | 89     | 35       | 66.2%               | 2.9%                  |

**Table 60: Scenario Surgical Activity Projections for NCH to 2041 – Flow Reversal of 50% of ACT North Residents from TCH.**  
**Source:** 2021/22 HPA AP Projections, provided by ACTHD, 2024. Includes acute only, interventional partition and 16 and over. Includes selected SRGs only and 00-15 years. Rounding has been applied.

The second scenario below aims to demonstrate the potential bed requirement for a high-volume low-complexity surgical service at NCH for all ACT residents. This resulted in a total bed requirement of 3 additional beds by 2041<sup>84</sup>.

Therefore, when adjusting for ALOS to 3 days to reflect the efficiencies that will be realised by operating a predominately planned surgical service for CHS at NCH and that this could commence ahead of the redevelopment through operational redesign and workforce allocation, the projected bed requirement by 2031 is 67 beds and by 2041, increases to 78 beds.

| Stay Type                 | Values      | 2023   | 2026   | 2031   | 2036   | 2041   | Variance | Growth<br>2023-2041 | CAGR<br>2023-<br>2041 |
|---------------------------|-------------|--------|--------|--------|--------|--------|----------|---------------------|-----------------------|
| Overnight                 | Separations | 3,326  | 3,517  | 4,498  | 4,808  | 5,096  | 1,770    | 53.2%               | 2.4%                  |
|                           | Bed days    | 11,397 | 12,522 | 13,493 | 14,423 | 15,287 | 3,890    | 34.1%               | 1.6%                  |
|                           | ALOS        | 3.4    | 3.6    | 3.0    | 3.0    | 3.0    | 0        | -12.5%              | -0.7%                 |
| Day Only                  | Separations | 6,847  | 7,647  | 9,531  | 10,419 | 11,526 | 4,679    | 68.3%               | 2.9%                  |
|                           | Bed days    | 6,847  | 7,647  | 9,531  | 10,419 | 11,526 | 4,679    | 68.3%               | 2.9%                  |
| Total Separations         |             | 10,173 | 11,164 | 14,029 | 15,226 | 16,622 | 6,449    | 63.4%               | 2.8%                  |
| Total Bed Days            |             | 18,244 | 20,169 | 23,024 | 24,841 | 26,813 | 8,569    | 47.0%               | 2.2%                  |
| Overnight Calculated Beds |             | 37     | 40     | 43     | 46     | 49     | 13       | 34.1%               | 1.6%                  |
| Same Day Calculated Beds  |             | 17     | 19     | 23     | 26     | 28     | 11       | 68.3%               | 2.9%                  |
| Total Calculated Bed      |             | 54     | 59     | 67     | 72     | 78     | 24       | 44.9%               | 2.1%                  |

**Table 61: Scenario for Projected Surgical Activity for NCH to 2041 – High Volume Low Complexity (100% of ACT South Residents).** **Source:** 2021/22 HPA AP Projections, provided by ACTHD, 2024. Includes acute only, interventional partition and 16 and over. Includes selected SRGs only and 00-15 years. Rounding has been applied.

<sup>84</sup> To avoid double-counting of the ACT North residents selected for the high-volume short stay scenario, the scenario is restricted to 100% of ACT South Residents for the selected procedures – See Appendix 5 for list of procedures identified by NCH Surgery Division.

## 11.4 Operating Theatres and Procedural Rooms

To align projected theatre and procedural requirements to the scenario outputs, the proportion of emergency and planned activity was determined over the projected years as 88% for planned and 12% for emergency. This aligns with the future direction for NCH as the predominately planned surgical centre.

The table below shows the projected theatre requirements<sup>85</sup> as aligned to the combined surgical services scenario which considered ACT North resident flow-reversal from TCH and a high-volume low-complexity service.

By 2031, it is estimated that by 2031 this equates to 7.2 theatres and by 2041, it is projected that 8.6 theatres will be required to meet demand.

| Type      | Values      | 2023  | 2026  | 2031   | 2036   | 2041   | Variance | Growth 2023-2041 | CAGR 2023-2041 |
|-----------|-------------|-------|-------|--------|--------|--------|----------|------------------|----------------|
| Planned   | Separations | 8,952 | 9,824 | 12,345 | 13,399 | 14,627 | 5,675    | 63.4%            | 2.8%           |
| Emergency | Separations | 1,221 | 1,340 | 1,683  | 1,827  | 1,995  | 774      | 63.4%            | 2.8%           |
| Planned   | Theatres    | 5.0   | 5.5   | 6.9    | 7.4    | 8.1    | 3.2      | 63.4%            | 2.8%           |
| Emergency | Theatres    | 0.3   | 0.3   | 0.4    | 0.4    | 0.5    | 0.2      | 63.4%            | 2.8%           |
| Total     | Theatres    | 5.3   | 5.8   | 7.2    | 7.9    | 8.6    | 3.3      | 63.4%            | 2.8%           |

Table 62: Projected Theatres to 2041. Source: 2021/22 HPA AP Projections, provided by ACTHD, 2024. Rounding has been applied. Excludes caesarean theatres at 0.31 by 2041.

For recovery spaces<sup>86</sup>, the projected requirements as aligned to the above theatre projections for 2041 include:

- 15 Stage 1 recovery spaces
- 30 Stage 2 recovery spaces.

## Endoscopy

To determine the endoscopy requirement, noting it has been captured above, the table below outlines the potential proposed endoscopy requirement for NCH with an assumption that all ACT North Resident endoscopy at TCH is flow-reversed to NCH.<sup>87</sup> By 2041, there is a projected requirement for 1.4 endoscopy procedural rooms, supported by 2 Stage 1 and 4 Stage 2 recovery spaces.

Noting that non-admitted patient endoscopy models exist, the future delivery approach for NCH is being further developed as part of ongoing service development work associated with the Future Service Framework process.

|                                                     | 2023  | 2026  | 2031  | 2036  | 2041  | Variance | Growth 2023-2041 | CAGR 2023-2041 |
|-----------------------------------------------------|-------|-------|-------|-------|-------|----------|------------------|----------------|
| 15-Diagnostic GI Seps                               | 1,609 | 1,740 | 1,968 | 2,126 | 2,447 | 838      | 52.1%            | 2.4%           |
| Calculated Endoscopy/Procedural Rooms <sup>88</sup> | 0.9   | 1.0   | 1.1   | 1.2   | 1.4   | 0.5      | 52.1%            | 2.4%           |

Table 63: Projected Endoscopy Rooms to 2041. Source: 2021/22 HPA AP Projections, provided by ACTHD, 2024. Rounding has been applied.

<sup>85</sup> Planned theatres based on operating 8 hours per day, 240 days per year with 8 cases at 60 minutes per case. Emergency theatres based on operating 12 hours, 365 days with 60 minutes per case. Rounding has been applied.

<sup>86</sup> Recover bays calculated at 1.5 spaces per OT for Stage 1 and 3 chair spaces per OT for Stage 2, as per AusHFG HPU B.0520-Operating Suite Revision 7.0, October 2024 and AusHFG HPU B.0270-Day Surgery Procedure Unit, Revision 7.0, March 2022.

<sup>87</sup> It is important to note that endoscopy at TCH is undertaken in the non-admitted setting thus admitted endoscopy activity for TCH in both Historical and Base case extracts is relatively low.

<sup>88</sup> Endoscopy/Procedural Rooms based on operating 8 hours per day, 240 days per year with 8 cases at 60 minutes per case.

## Cardiac Catheterisation Labs

A scenario was created to demonstrate the potential projected volume for clinically appropriate interventional cardiology activity at NCH, by applying the overall projected population growth to historical 2022/23 NCH activity including those seps in 2022/23 that were transferred to TCH<sup>89</sup> for interventional cardiology services.

The table below shows that there will be a potential requirement for 0.2 (1) cardiac catheterisation lab.

Clinical and executive consultation expressed that to build redundancy within the system and to account for maintenance and ensure the service can continue to be delivered in the event 1 lab is affected, there is a requirement to plan for 2 cardiac catheterisation labs.

| Values                                     | 2023 | 2026 | 2031 | 2036 | 2041 | Variance | Growth 2023-2041 | CAGR 2023-2041 |
|--------------------------------------------|------|------|------|------|------|----------|------------------|----------------|
| Intervention Cardiology Seps               | 201  | 216  | 243  | 274  | 308  | 107      | 53.2%            | 2.4%           |
| Calculated Cardiac Cath Labs <sup>90</sup> | 0.2  | 0.2  | 0.2  | 0.2  | 0.2  | 0.1      | 53.2%            | 2.4%           |

Table 64: Projected Cardiac Catheterisation Labs to 2041. Source: 2021/22 HPA AP Projections, provided by ACTHD, 2024.

## 11.5 Intensive Care Services

A scenario was created to determine the projected ICU bed requirement by 2041 by applying the overall projected population growth rate to the historical 2021/22 activity and applying an average ICU hours stay of 71.3 and isolating for the ICU flagged activity.

The table below shows that by 2041, there may be a projected requirement for 14 beds.<sup>91</sup>

| Values                            | 2023 | 2026 | 2031 | 2036  | 2041  | Variance | Growth 2023-2041 | CAGR 2023-2041 |
|-----------------------------------|------|------|------|-------|-------|----------|------------------|----------------|
| ICU flagged separations           | 800  | 869  | 997  | 1,145 | 1,315 | 515      | 64.4%            | 2.8%           |
| Calculated ICU beds <sup>92</sup> | 9    | 9    | 11   | 12    | 14    | 5.6      | 64.4%            | 2.8%           |

Table 65: Projected ICU beds to 2041. Source: 2021/22 HPA AP Projections, provided by ACTHD, 2024. Rounding has been applied.

<sup>89</sup> Includes 74 separations undertaken at Calvary Bruce Private Hospital during interim arrangements between August and November 2022.

<sup>90</sup> Cardiac Catheterisation Labs based on operating 8 hours per day, 240 days per years with 5 cases at 90 minutes per case

<sup>91</sup> Note that this activity is also captured under the medical services section.

<sup>92</sup> ICU beds calculated at 75% occupancy.



## 11.6 Maternity Service

The base case for maternity services shows a 1.1% annual change in separations and a declining change in bed days to 2041, which is inconsistent with the projected population growth noted for the Northside regions, particularly with the 39.3% growth in those aged 0 years which can be used as a proxy for births.

By 2041, it is estimated that there will be projected bed requirement for 18 beds, supporting 5 birthing rooms and 0.2 theatre for caesarean deliveries.

| ESRG                                       | Values   | 2019  | 2021  | 2023  | 2026  | 2031  | 2036  | 2041  | Variance | Growth<br>2021-<br>2041 | CAGR<br>2021-<br>2041 |
|--------------------------------------------|----------|-------|-------|-------|-------|-------|-------|-------|----------|-------------------------|-----------------------|
| 721 – Antenatal Admission                  | Seps     | 517   | 578   | 594   | 723   | 774   | 931   | 941   | 363      | 62.8%                   | 2.5%                  |
|                                            | Bed days | 632   | 744   | 701   | 828   | 816   | 1,011 | 1,037 | 293      | 39.4%                   | 1.7%                  |
| 722 – Vaginal Delivery                     | Seps     | 1,112 | 1,103 | 961   | 996   | 1,030 | 1,148 | 1,232 | 129      | 11.7%                   | 0.6%                  |
|                                            | Bed days | 2,428 | 2,316 | 1,925 | 1,979 | 1,884 | 2,127 | 2,212 | -104     | -4.5%                   | -0.2%                 |
| 723 – Caesarean Delivery                   | Seps     | 501   | 660   | 587   | 574   | 601   | 674   | 695   | 35       | 5.3%                    | 0.3%                  |
|                                            | Bed days | 1,660 | 2,171 | 1,767 | 1,616 | 1,484 | 1,632 | 1,682 | -489     | -22.5%                  | -1.3%                 |
| 724 – Postnatal Admission                  | Seps     | 126   | 138   | 127   | 122   | 132   | 127   | 148   | 10       | 7.2%                    | 0.4%                  |
|                                            | Bed days | 277   | 307   | 268   | 223   | 220   | 194   | 221   | -86      | -28.0%                  | -1.6%                 |
| Total Seps                                 |          | 2,256 | 2,479 | 2,269 | 2,415 | 2,537 | 2,880 | 3,016 | 537      | 21.7%                   | 1.0%                  |
| Total Bed days                             |          | 4,997 | 5,538 | 4,661 | 4,646 | 4,404 | 4,964 | 5,152 | -386     | -7.0%                   | -0.4%                 |
| Calculated Beds <sup>93</sup>              |          | 17    | 19    | 16    | 16    | 15    | 17    | 18    | -1       | -7.0%                   | -0.4%                 |
| Calculated Birthing Rooms <sup>94</sup>    |          | 5     | 5     | 4     | 4     | 4     | 5     | 5     | 0.5      | 10.2%                   | 0.5%                  |
| Calculated Caesarean Theatre <sup>95</sup> |          | 0.1   | 0.2   | 0.1   | 0.1   | 0.1   | 0.2   | 0.2   | 0.0      | 5.3%                    | 0.3%                  |
| Caesarean Rate                             |          | 31.1% | 37.4% | 37.9% | 36.6% | 36.8% | 37.0% | 36.1% |          |                         |                       |

**Table 66: Base case Projected Maternity Activity for NCH to 2041.** Source: 2021/22 HPA ED Projections, ACTHD, 2024. Includes acute only, Obstetrics SRG and 16 and over. Excludes Chemotherapy, Renal Dialysis, Unqualified Neonates, Qualified Neonates, Perinatology, all other SRGs and 00-15 years. Rounding has been applied.

A scenario was developed to align to the strategies of supporting NCH Maternity services to deliver services to ACT North birthing residents, increase access to the Continuity of Care Model and reduce the caesarean rate, with a forced change of 50% of caesarean deliveries becoming vaginal deliveries. The annual projected population growth rate for women aged between 16 and 49 (2.0%) and holding ESRG length of stay were applied. This is in recognition that residents Territory-wide requiring complex maternity care aligned to RDL-6 services will continue to access services at TCH.

The table below show that by 2041, there will be a projected requirement for 22 beds with 7 birthing rooms and 0.1 theatres for caesarean deliveries.

<sup>93</sup> Maternity beds calculated at 80% occupancy.

<sup>94</sup> Birthing rooms calculated at 300 deliveries per room with 100% vaginal deliveries and 50% caesarean deliveries accounting for those deliveries that commence in a birthing room and become emergency theatre cases when labour doesn't progress.

<sup>95</sup> Caesarean theatre calculated on emergency theatre requirement.



| ESRG                                       | Values   | 2023  | 2026  | 2031  | 2036  | 2041  | Variance | Growth<br>2023-<br>2041 | CAGR<br>2023-<br>2041 |
|--------------------------------------------|----------|-------|-------|-------|-------|-------|----------|-------------------------|-----------------------|
| 721 – Antenatal Admission                  | Seps     | 490   | 520   | 574   | 634   | 700   | 210      | 42.8%                   | 2.0%                  |
|                                            | Bed days | 588   | 624   | 689   | 760   | 840   | 252      | 42.8%                   | 2.0%                  |
| 722 – Vaginal Delivery                     | Seps     | 1,050 | 1,114 | 1,568 | 1,731 | 1,911 | 861      | 82.0%                   | 3.4%                  |
|                                            | Bed days | 2,142 | 2,229 | 3,188 | 3,519 | 3,886 | 1,744    | 81.4%                   | 3.4%                  |
| 723 – Caesarean Delivery                   | Seps     | 576   | 611   | 337   | 373   | 411   | -165     | -28.6%                  | -1.9%                 |
|                                            | Bed days | 1,869 | 2,017 | 1,104 | 1,219 | 1,346 | -523     | -28.0%                  | -1.8%                 |
| 724 – Postnatal Admission                  | Seps     | 102   | 108   | 120   | 114   | 125   | 23       | 23.0%                   | 1.2%                  |
|                                            | Bed days | 204   | 217   | 239   | 227   | 251   | 47       | 23.0%                   | 1.2%                  |
| Total Seps                                 |          | 2,218 | 2,354 | 2,599 | 2,851 | 3,147 | 930      | 41.9%                   | 2.0%                  |
| Total Bed days                             |          | 4,803 | 5,086 | 5,219 | 5,726 | 6,322 | 1,519    | 31.6%                   | 1.5%                  |
| Calculated Beds <sup>96</sup>              |          | 16    | 17    | 18    | 20    | 22    | 5        | 31.6%                   | 1.5%                  |
| Calculated Birthing Rooms <sup>97</sup>    |          | 4     | 5     | 6     | 6     | 7     | 3        | 58.2%                   | 2.6%                  |
| Calculated Caesarean Theatre <sup>98</sup> |          | 0.1   | 0.1   | 0.1   | 0.1   | 0.1   | 0        | -28.6%                  | -1.9%                 |
| Caesarean Rate                             |          | 35.4% | 35.4% | 17.7% | 17.7% | 17.7% |          |                         |                       |

**Table 67: Scenario for Projected Maternity Activity for NCH to 2041 – Enhanced service to ACT North Residents and Caesarean rate reduction.** Source: 2021/22 HPA ED Projections, ACTHD, 2024. Includes acute only, Obstetrics SRG and 16 and over. Excludes Chemotherapy, Renal Dialysis, Unqualified Neonates, Qualified Neonates, Perinatology, all other SRGs and 00-15 years. Rounding has been applied.

## 11.7 Special Care Nursery

The projected special care nursery requirements have been aligned to the scenario model for maternity services by applying an assumption of 29%<sup>99</sup> of ACT North resident vaginal and caesarean delivery separations at NCH, and holding length of stay to 5 days.

By 2041, there will be a projected requirement for 11 special care nursery beds.

| Values                             | 2023 | 2026 | 2031 | 2036 | 2041 | Variance | Growth<br>2023-<br>2041 | CAGR<br>2023-<br>2041 |
|------------------------------------|------|------|------|------|------|----------|-------------------------|-----------------------|
| Qualified Neonates                 | 413  | 447  | 484  | 534  | 590  | 177      | 42.8%                   | 2.0%                  |
| Calculated SCN beds <sup>100</sup> | 8    | 8    | 9    | 10   | 11   | 3        | 42.8%                   | 2.0%                  |

**Table 68: Projected SCN beds to 2041.** Source: 2021/22 HPA AP Projections, provided by ACTHD, 2024. Rounding has been applied.

## 11.8 Paediatrics Service

Given there is limited inpatient paediatric activity currently undertaken at NCH, a scenario was developed to consider reversing 50% of medical paediatric activity from TCH, to demonstrate the potential projected requirement to care for the local demand of clinically appropriate paediatric presentations to NCH in the future, noting the tertiary paediatric service will remain at TCH.

<sup>96</sup> Maternity beds calculated at 80% occupancy.

<sup>97</sup> Birthing rooms calculated at 300 deliveries per room with 100% vaginal deliveries and 50% caesarean deliveries accounting for those deliveries that commence in a birthing room and become emergency theatre cases when labour doesn't progress.

<sup>98</sup> Caesarean theatre calculated on emergency theatre requirement.

<sup>99</sup> Rate determined from average of ACT North qualified neonates to ACT North vaginal and caesarean deliveries between 2018/19 to 2022/23

<sup>100</sup> Qualified Neonate beds calculated at 75% occupancy.

By 2041, a projected bed requirement of 7 beds is shown.

| Stay Type                                | Values   | 2023 | 2026 | 2031  | 2036  | 2041  |
|------------------------------------------|----------|------|------|-------|-------|-------|
| Overnight                                | Seps     | 66   | 75   | 657   | 721   | 814   |
|                                          | Bed days | 71   | 76   | 739   | 769   | 984   |
|                                          | ALOS     | 1.1  | 1.0  | 1.1   | 1.1   | 1.2   |
| Day Only                                 | Seps     | 444  | 500  | 1,299 | 1,425 | 1,593 |
|                                          | Bed days | 444  | 500  | 1,299 | 1,425 | 1,593 |
| Total Separations                        |          | 510  | 575  | 1,956 | 2,146 | 2,407 |
| Total Bed Days                           |          | 515  | 576  | 2,038 | 2,194 | 2,577 |
| Overnight Calculated Beds <sup>101</sup> |          | 0    | 0    | 2     | 2     | 3     |
| Same Day Calculated Beds                 |          | 1    | 1    | 3     | 3     | 4     |
| Total Calculated Bed                     |          | 1    | 1    | 6     | 6     | 7     |

Table 69: Scenario for Projected Medical Paediatric Activity for NCH to 2041 – Reverse-flow 50% of ACT North Residents from TCH. Source: 2021/22 HPA AP Projections, provided by ACTHD, 2024. Includes acute only, medical partition and 16 and under. Excludes 20-Chemotherapy, 23-Renal Dialysis, 74-Unqualified Neonates, 73-Qualified Neonates, 75-Perinatology, 72-Obstetrics, 16 years and over, age 0 to filter any qualified neonate/perinatology activity not coded under qualified/perinatology. Rounding has been applied.

Another scenario explored included reversing 50% of appropriate paediatric surgical activity from TCH at NCH, aligned with the proposed high-volume low complexity model, noting the activity is predominately for same day procedures not necessitating an overnight stay.

| Stay Type                | Values   | 2023 | 2026 | 2031 | 2036 | 2041 |
|--------------------------|----------|------|------|------|------|------|
| Day Only                 | Seps     | 101  | 429  | 499  | 548  | 632  |
|                          | Bed days | 101  | 429  | 499  | 548  | 632  |
| Same Day Calculated Beds |          | 0    | 0    | 1    | 1    | 2    |

Table 70: Scenario for Projected Surgical Paediatric Activity for NCH to 2041 – Reverse-flow 50% of ACT North Residents from TCH. Source: 2021/22 HPA AP Projections, provided by ACTHD, 2024. Includes acute only, interventional partition and 16 and under. Excludes 20-Chemotherapy, 23-Renal Dialysis, 74-Unqualified Neonates, 73-Qualified Neonates, 75-Perinatology, 72-Obstetrics, 16 years and over. Rounding has been applied.

A further scenario was explored to represent a 5 day a week model for planned care with a focus on workforce planning to ensure sustained weekend cover. Noting that the current planned activity proportion of paediatric activity at NCH is minimal, the base case assumption that 21% of total paediatric activity at NCH for ACT North resident was applied. This resulted in a projected bed requirement by 2041 of 3 beds.

## 11.9 Mental Health

The base case projection for mental health activity at NCH showed an annual growth rate in separations of 3.0% and bed days on 3.3% by 2041. This is above the projected population growth rates observed and doesn't reflect the extensive work undertaken by CHS MHJHDAS in supporting patients within the community.

| Stay Type                      | Values      | 2019   | 2021   | 2023   | 2026   | 2031   | 2036   | 2041   | Variance | Growth 2021-2041 | CAGR 2021-2041 |
|--------------------------------|-------------|--------|--------|--------|--------|--------|--------|--------|----------|------------------|----------------|
| Overnight                      | Separations | 531    | 762    | 748    | 929    | 1,080  | 1,239  | 1,287  | 525      | 68.9%            | 2.7%           |
|                                | Bed days    | 11,948 | 13,660 | 14,215 | 17,654 | 20,523 | 23,544 | 24,456 | 10,796   | 79.0%            | 3.0%           |
|                                | ALOS        | 22.5   | 17.9   | 19.0   | 19.0   | 19.0   | 19.0   | 19.0   | 1.1      | 6.0%             | 0.3%           |
| Calculated Beds <sup>102</sup> |             | 39     | 44     | 46     | 57     | 66     | 76     | 79     | 35       | 79.0%            | 3.0%           |

Table 71: Base case Projected Mental Health Activity for NCH to 2041. Source: 2021/22 HPA ED Projections, ACTHD, 2024.<sup>103</sup> Includes mental health care type only, all ages. Excludes Chemotherapy, Renal Dialysis, Unqualified Neonates, Qualified Neonates, Perinatology and Obstetrics. Rounding has been applied.

<sup>101</sup> Paediatric overnight beds calculated at 85% occupancy.

<sup>102</sup> Mental Health beds calculated at 85% occupancy

<sup>103</sup> Surgical overnight beds calculated at 85% occupancy. Surgical same day beds calculated at 170% occupancy for 240 days.

A scenario was developed to reflect the service delivery changes and improving inpatient care deliver to reduce length of stay. The model below applied the projected population growth by age to the overnight admitted mental health activity<sup>104</sup> at NCH and holding length of stay for each age cohort.<sup>105</sup>

By 2041, there is an estimated bed requirement of 57 mental health beds across adult and older person cohorts.

| Age Group                            | Values      | 2023          | 2026          | 2031          | 2036          | 2041          | Variance     | Growth 2023-2041 | CAGR 2023-2041 |
|--------------------------------------|-------------|---------------|---------------|---------------|---------------|---------------|--------------|------------------|----------------|
| 00-15                                | Separations | 1             | 1             | 1             | 1             | 1             | 0            | 47.5%            | 2.2%           |
|                                      | Bed days    | 1             | 10            | 11            | 12            | 14            | 13           | 1258.0%          | 15.6%          |
| 16-49                                | Separations | 374           | 398           | 442           | 490           | 543           | 169          | 45.3%            | 2.1%           |
|                                      | Bed days    | 5,477         | 5829          | 6466          | 7172          | 7956          | 2,479        | 45.3%            | 2.1%           |
| 50-64                                | Separations | 95            | 104           | 120           | 138           | 159           | 64           | 67.7%            | 2.9%           |
|                                      | Bed days    | 1,912         | 1254          | 1448          | 1671          | 1929          | 17           | 0.9%             | 0.0%           |
| 65-74                                | Separations | 50            | 54            | 61            | 70            | 79            | 29           | 58.9%            | 2.6%           |
|                                      | Bed days    | 2,035         | 2198          | 2500          | 2844          | 3234          | 1,199        | 58.9%            | 2.6%           |
| 75+                                  | Separations | 54            | 60            | 72            | 86            | 103           | 49           | 90.1%            | 3.6%           |
|                                      | Bed days    | 2,321         | 2583          | 3088          | 3691          | 4412          | 2,091        | 90.1%            | 3.6%           |
| <b>Total Seps</b>                    |             | <b>574</b>    | <b>617</b>    | <b>695</b>    | <b>785</b>    | <b>886</b>    | <b>312</b>   | <b>54.4%</b>     | <b>2.4%</b>    |
| <b>Total Bed days</b>                |             | <b>11,746</b> | <b>11,874</b> | <b>13,512</b> | <b>15,390</b> | <b>17,545</b> | <b>5,799</b> | <b>49.4%</b>     | <b>2.3%</b>    |
| <b>Calculated Beds<sup>106</sup></b> |             | <b>38</b>     | <b>38</b>     | <b>44</b>     | <b>50</b>     | <b>57</b>     | <b>19</b>    | <b>49.4%</b>     | <b>2.3%</b>    |

Table 72: Scenario for Projected Mental Health Activity for NCH to 2041. Source: 2022/23 ABF AP Extract, provided by ACTHD, 2024. Includes mental health care type only and all ages. Excludes 20-Chemotherapy, 23-Renal Dialysis, 74-Unqualified Neonates, 73-Qualified Neonates, 75-Perinatology, 72-Obstetrics. Rounding has been applied.

<sup>104</sup> Same day activity was excluded as it was negligible

<sup>105</sup> Applied TCH ALOS for 2022/23 for 00-15 (9.2 days), 50-64 (12.1 days) and applied NCH ALOS for 16-49 (14.6 days), 65-74 (40.7 days) and 75+ (43.0 days)

<sup>106</sup> Mental Health beds calculated at 85% occupancy

## 11.10 Sub-Acute Services

The base case projections for sub activity at NCH show predominately growth in Maintenance and Palliative Care activity. It shows that by 2041, there will be a projected sub-acute bed requirement for 41 beds with 35 of those beds allocated for Maintenance and noting that no rehabilitation beds were projected for NCH based on sub-acute rehabilitation occurring at UCH.

| Care Type                              | Values   | 2019         | 2021         | 2023         | 2026         | 2031         | 2036          | 2041          | Variance     | Growth 2021-2041 | CAGR 2021-2041 |
|----------------------------------------|----------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|--------------|------------------|----------------|
| 87 Maintenance                         | Seps     | 246          | 427          | 398          | 387          | 487          | 639           | 700           | 273          | 63.9%            | 2.5%           |
|                                        | Bed days | 3,484        | 5,446        | 7,015        | 5,796        | 7,158        | 9,861         | 11,375        | 5,929        | 108.9%           | 3.8%           |
| 86 Palliative care                     | Seps     | 163          | 128          | 134          | 178          | 194          | 254           | 257           | 129          | 100.8%           | 3.5%           |
|                                        | Bed days | 831          | 642          | 672          | 1,129        | 1,333        | 1,485         | 1,648         | 1,006        | 156.7%           | 4.8%           |
| 92 Geriatric Management and Evaluation | Seps     | 37           | 39           | 40           | 54           | 70           | 62            | 58            | 19           | 48.7%            | 2.0%           |
|                                        | Bed days | 342          | 385          | 384          | 411          | 588          | 459           | 375           | -10          | -2.6%            | -0.1%          |
| 85 Psychogeriatric care                | Seps     | 3            | 4            | -            | -            | -            | -             | -             | -4           | 100.0%           | 100.0%         |
|                                        | Bed days | 25           | 37           | -            | -            | -            | -             | -             | -37          | 100.0%           | 100.0%         |
| 84 Rehabilitation                      | Seps     | 48           | -            | -            | -            | -            | -             | -             | 0            | -                | 0.0%           |
|                                        | Bed days | 866          | -            | -            | -            | -            | -             | -             | 0            | -                | 0.0%           |
| <b>Total Seps</b>                      |          | <b>497</b>   | <b>598</b>   | <b>572</b>   | <b>619</b>   | <b>751</b>   | <b>955</b>    | <b>1,015</b>  | <b>417</b>   | <b>69.7%</b>     | <b>2.7%</b>    |
| <b>Total Bed days</b>                  |          | <b>5,548</b> | <b>6,510</b> | <b>8,071</b> | <b>7,336</b> | <b>9,079</b> | <b>11,805</b> | <b>13,398</b> | <b>6,888</b> | <b>105.8%</b>    | <b>3.7%</b>    |
| <b>Calculated Beds<sup>107</sup></b>   |          | <b>17</b>    | <b>20</b>    | <b>25</b>    | <b>22</b>    | <b>28</b>    | <b>36</b>     | <b>41</b>     | <b>21</b>    | <b>105.8%</b>    | <b>3.7%</b>    |

Table 73: Base case Projected Sub-Acute Health Activity for NCH to 2041. Source: 2021/22 HPA ED Projections, ACTHD, 2024. Includes subacute care type only, all ages. Excludes Chemotherapy, Renal Dialysis, Unqualified Neonates, Qualified Neonates, Perinatology and Obstetrics. Rounding has been applied.

A scenario was developed to address the current impact of Maintenance patients on acute beds, given that NCH currently does not have designated maintenance/sub-acute beds within the facility. It acknowledges that with an aging population and the projected population growth for those aged over 65 years being 77.5% by 2041, there is a need to account for this patient cohort with a redeveloped NCH. The scenario has applied the aged population growth rate to 2022/23 historical activity and holding current ALOS, to demonstrate a projected sub-acute bed requirement to 2041, if current patient flow and discharge planning issues related to non-acute patients are not addressed.

<sup>107</sup> Sub Acute beds calculated at 90% occupancy



| Care Type                                        | Values          | 2023  | 2026 | 2031  | 2036  | 2041  | Variance | growth<br>2023-<br>2041 | CAGR<br>2023-<br>2041 |
|--------------------------------------------------|-----------------|-------|------|-------|-------|-------|----------|-------------------------|-----------------------|
| 3 - Palliative                                   | Seps            | 126   | 138  | 160   | 187   | 217   | 91       | 72.3%                   | 3.1%                  |
|                                                  | Bed days        | 968   | 1060 | 1233  | 1434  | 1668  | 700      | 72.3%                   | 3.1%                  |
|                                                  | Calculated Beds | 3     | 3    | 4     | 4     | 5     | 2        | 72.3%                   | 3.1%                  |
| 4 - Geriatric<br>evaluation<br>and<br>management | Separations     | 29    | 32   | 37    | 43    | 50    | 21       | 72.3%                   | 3.1%                  |
|                                                  | Bed days        | 314   | 344  | 400   | 465   | 541   | 227      | 72.3%                   | 3.1%                  |
|                                                  | Calculated Beds | 1     | 1    | 1     | 1     | 2     | 1        | 72.3%                   | 3.1%                  |
| 6 -<br>Maintenance                               | Separations     | 493   | 540  | 628   | 730   | 849   | 356      | 72.3%                   | 3.1%                  |
|                                                  | Bed days        | 8,265 | 9049 | 10525 | 12241 | 14238 | 5,973    | 72.3%                   | 3.1%                  |
|                                                  | Calculated Beds | 25    | 28   | 32    | 37    | 43    | 18       | 72.3%                   | 3.1%                  |
| Total<br>Calculated<br>beds                      |                 | 29    | 32   | 37    | 43    | 50    | 21       | 72.3%                   | 3.1%                  |

Table 74: Scenario for Projected Sub-Acute Health Activity for NCH to 2041. Source: 2022/23 ABF AP Extract, ACTHD, 2024. Includes mental health care type only, all ages. Excludes Chemotherapy, Renal Dialysis, Unqualified Neonates, Qualified Neonates, Perinatology and Obstetrics. Rounding has been applied.

Further development is required to determine the extent of sub-acute capacity is feasible within a redeveloped NCH, noting that there is a commitment to address existing non-acute demand within the acute care setting.

### 11.11 Ambulatory Services – Care Close to Home

To understand the infrastructure requirements for the HITH service aligned to achieving a target of over 3,000 separations per annum across CHS<sup>108</sup>, a HITH target of 7% of projected-scenario adult medical and surgical activity has been applied. It shows by 2041, there will be a projected requirement for 46 beds. Noting that this depends on significant workforce and infrastructure requirements to achieve. A conservative scenario has been presented that enables NCH to address projected demand to 2041.

This involves applying the projected population growth rate to historical 2021/22 HITH activity and holding the current length of stay at 4 days. This approach enables NCH to further explore opportunities to expand hospital avoidance strategies and digital health models while allowing for a future infrastructure response to manage demand.

|                                | 2023 | 2026 | 2031 | 2036 | 2041 | Variance | Growth<br>2023-<br>2041 | CAGR<br>2023-<br>2041 |
|--------------------------------|------|------|------|------|------|----------|-------------------------|-----------------------|
| HITH Separations               | 1368 | 1469 | 1654 | 1862 | 2096 | 728      | 53.2%                   | 2.4%                  |
| HITH Bed days                  | 5472 | 5876 | 6615 | 7448 | 8386 | 2,914    | 53.2%                   | 2.4%                  |
| Calculated beds <sup>109</sup> | 18   | 19   | 21   | 24   | 27   | 9        | 53.2%                   | 2.4%                  |

Table 75: Scenario for Projected HITH Activity for NCH to 2041. Source: 2022/23 ABF AP Extract, ACTHD, 2024. Includes mental health care type only, all ages. Excludes Chemotherapy, Renal Dialysis, Unqualified Neonates, Qualified Neonates, Perinatology and Obstetrics. Rounding has been applied.

Infusion data is not readily available or be easily extracted from the existing ABF extracts as this activity is likely within the planned same day medical activity<sup>110</sup>, to reflect the potential projected requirements for the Zita Mary Clinic. Noting the current built bed capacity is 8 chairs and 1 bed, an additional 4 chairs are estimated based on alignment with projected population growth rate.

<sup>108</sup> ACTHD, 2024. 2023-24 ACT Health Directorate Budget Statement. Note: Strategic Indicator 1.2 – Care Close to Home, measuring the Territory-wide activity of LHN funded care close to home as the number of separations with a Hospital in the Home (HITH) component to their stay with an estimated outcome target of separations with a HITH component is greater than 3,000. This is a new indicator in 2023-24.

<sup>109</sup> HITH beds calculated at 85% occupancy

<sup>110</sup> Observed varying trend for planned adult medical same day within the ABF Extract which is consistent with the clinical consultation outlining approximately 500 patients seen per year., as 2022/23 has 611 separations compared to 1,703 for 2019/20.

However, further work is required to align this with operational and demand management strategies such as increased operating hours and workforce capacity.

### 11.12 Non-Admitted and Outpatient Services

To adequately meet future demand, a scenario has been developed by applying the overall projected population growth rate to the NCH NAP 2023/24 activity<sup>111</sup> as a measure of meeting future demand. Utilising the 2021/22 HPA Projection to determine the on- and out of-campus proportion, this was applied to allow NCH to consider infrastructure requirements in order to meet future demand.

By 2041, there is a projected requirement for 72 non-admitted/outpatient spaces. Given the data limitations, it is expected that further definition of the required non-admitted patient room types as well as the establishment of digital health models (e.g. virtual hospital) will occur as part of the ongoing clinical services and facility planning process.

|                                            | 2023   | 2024    | 2026    | 2031    | 2036    | 2041    | Variance<br>2024-<br>2041 | Growth<br>2024-<br>2041 | CAGR<br>2024-<br>2041 |
|--------------------------------------------|--------|---------|---------|---------|---------|---------|---------------------------|-------------------------|-----------------------|
| <b>Total NAP OOS</b>                       | 84,928 | 103,268 | 108,284 | 121,917 | 137,266 | 154,548 | 51,280                    | 49.7%                   | 2.3%                  |
| <b>On-Campus<br/>NAP OOS<sup>112</sup></b> | 61,148 | 74,353  | 77,964  | 87,780  | 98,832  | 111,275 | 36,922                    | 49.7%                   | 2.3%                  |
| <b>Calculated<br/>Rooms<sup>113</sup></b>  | 40     | 48      | 51      | 57      | 64      | 72      | 24                        | 49.7%                   | 2.3%                  |

Table 76: Scenario for Projected NAP Activity for NCH to 2041. Source: Canberra Health Performance Profile Series 1, 2024, CHS, 2024. Rounding has been applied.

### 11.13 Public Activity in Private Hospitals

Recognising that public activity is undertaken in private hospitals to manage demand requirements, the base case shows that for ACT North residents, there will be a projected bed requirement of 83 beds<sup>114</sup> by 2041 with same day separations and bed days aligned to observed projected population growth rates.

| Stay Type                               | Values   | 2021   | 2023   | 2026   | 2031   | 2036   | 2041   | Variance | Growth<br>2021-<br>2041 | CAGR<br>2021-<br>2041 |
|-----------------------------------------|----------|--------|--------|--------|--------|--------|--------|----------|-------------------------|-----------------------|
| <b>Overnight</b>                        | Seps     | 3,859  | 2,713  | 2,996  | 3,321  | 3,882  | 4,323  | 464      | 12.0%                   | 0.6%                  |
|                                         | Bed days | 16,167 | 11,478 | 12,719 | 13,783 | 16,174 | 18,679 | 2,512    | 15.5%                   | 0.7%                  |
|                                         | ALOS     | 4.2    | 4.2    | 4.2    | 4.2    | 4.2    | 4.3    | 0.1      | 3.1%                    | 0.2%                  |
| <b>Day Only</b>                         | Seps     | 5,630  | 4,924  | 5,901  | 7,029  | 8,155  | 9,238  | 3,608    | 64.1%                   | 2.5%                  |
|                                         | Bed days | 5,630  | 4,924  | 5,901  | 7,029  | 8,155  | 9,238  | 3,608    | 64.1%                   | 2.5%                  |
| <b>Calculated ON Beds<sup>115</sup></b> |          | 52     | 37     | 41     | 44     | 52     | 60     | 8        | 15.5%                   | 0.7%                  |
| <b>Calculated SD Beds<sup>116</sup></b> |          | 14     | 12     | 14     | 17     | 20     | 23     | 9        | 64.1%                   | 2.5%                  |
| <b>Calculated Total Beds</b>            |          | 66     | 49     | 55     | 62     | 72     | 83     | 17       | 25.7%                   | 1.2%                  |

Table 77: Base case Public in Private Hospitals Activity for ACT North Residents to 2041. Source: 2021/22 HPA AP Projections, ACTHD, 2024. Includes acute care type only, all ages. Excludes Chemotherapy, Renal Dialysis, Unqualified Neonates. Rounding has been applied.

<sup>111</sup> Provided by CHS, 2024 as part of the Canberra Health Performance Profile Series 1, 2024. A 85% data quality and completeness confidence indicator has been applied. Includes both on and out of campus activity.

<sup>112</sup> Applies an assumption that 72% of total NAP activity occurs on site at the hospital.

<sup>113</sup> NAP/Outpatient rooms based on 1,536 OOS per room at 240 days per year, 8 hours per day, 1hr OOS and 80% occupancy.

<sup>114</sup> Includes planned activity only as emergency separations were negligible.

<sup>115</sup> Overnight beds were calculated at 85% occupancy.

<sup>116</sup> Same day beds were calculated at 240 days and 170% occupancy.

## 11.14 Future Infrastructure Table

The table below represents the projected future bed requirement for NCH as it aligns with supporting the projected demand, changing models of care and future service opportunities for the new Northside Hospital.

For digital health solutions aligned to non-asset solutions, CHS needs to determine the model for the delivery of digital health to identify the required infrastructure solution. This is discussed in Section 3.1.

|                                                           | CHS and ACTHD AGREED ADJUSTMENTS, 2025 |                                                                             |                                                                             |                |                |
|-----------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------|----------------|
|                                                           | NCH<br>2024 Current<br>Build           | NCH<br>2031                                                                 | NCH<br>2041                                                                 | NCH<br>2031    | NCH<br>2041    |
| Multi-Day and Same-Day Acute Beds                         | 150                                    | 235                                                                         | 294                                                                         | nil adjustment | nil adjustment |
| Adult Subacute Beds                                       | 0                                      | 37                                                                          | 50                                                                          | nil adjustment | nil adjustment |
| Paediatric Beds                                           | 0                                      | 9                                                                           | 10                                                                          | nil adjustment | nil adjustment |
| Maternity Beds                                            | 27                                     | 18                                                                          | 22                                                                          | nil adjustment | nil adjustment |
| Adult Psychiatry and Mental Health Beds                   | 42                                     | 44                                                                          | 57                                                                          | nil adjustment | nil adjustment |
| Neonatal Services POC (SCN)                               | 14                                     | 9                                                                           | 11                                                                          | nil adjustment | nil adjustment |
| ICU Beds                                                  | 10                                     | 11                                                                          | 14                                                                          | nil adjustment | nil adjustment |
| Coronary Care Unit                                        | 6                                      | captured within MD and SD beds (not modelled separately)                    | captured within MD and SD beds (not modelled separately)                    | nil adjustment | nil adjustment |
| AOD                                                       | 0                                      | captured within MD and SD beds and Outpatient POC (not modelled separately) | captured within MD and SD beds and Outpatient POC (not modelled separately) | nil adjustment | nil adjustment |
| Operating Rooms inc. caesarean theatre                    | 7                                      | 7.3 (8)                                                                     | 8.7 (9)                                                                     | 8              | 10             |
| Day Surg (inc Endoscopy) / Procedural room                | 1                                      | 1.1 (2)                                                                     | 1.4 (2)                                                                     | 2              | 3              |
| Cath Labs                                                 | 0                                      | 0.2                                                                         | 0.2                                                                         | 2              | 2              |
| Birthing Rooms                                            | 8                                      | 6                                                                           | 7                                                                           | nil adjustment | nil adjustment |
| Recovery spaces                                           | 30                                     | 38                                                                          | 45                                                                          | 45             | 59             |
| ED - Acute Treatment Spaces                               | 23                                     | 49                                                                          | 63                                                                          | nil adjustment | nil adjustment |
| ED - Resuscitation                                        | 2                                      | 5                                                                           | 6                                                                           | nil adjustment | nil adjustment |
| EDSSU                                                     | 15                                     | 14                                                                          | 18                                                                          | nil adjustment | nil adjustment |
| ED-Fast track                                             | 15                                     | captured within ED-Acute Treatment Spaces (not modelled separately)         | captured within ED-Acute Treatment Spaces (not modelled separately)         | nil adjustment | nil adjustment |
| ED Other Rooms (Isolation, MH assessment, procedure room) | 4                                      | 7                                                                           | 9                                                                           | nil adjustment | nil adjustment |
| Outpatient / HiTH / Allied Health / Community Health POC  | 35                                     | 78                                                                          | 99                                                                          | 86             | 109            |
| Total excluding SSU <sup>117</sup> and MI                 | 389                                    | 569                                                                         | 715                                                                         | 585            | 742            |

Table 78: Current and Forecasted Bed Infrastructure Table for NCH, 2024-2041. Note the items is in brackets representing redundancy required to deliver clinical services efficiently. Excludes public in private projected beds. Rounding has been applied.

<sup>117</sup> SSU denotes Sterilising Services Unit

## 12. Enablers

### 12.1 Workforce

A sustainable, skilled and adaptable health workforce is crucial to delivering high-quality healthcare in the changing health landscape and to meet future health and social care challenges of ACT. This will include more flexible use of current staff, greater use of non-medical staff and new digital technologies.

The healthcare workforce is a critical component of effective service delivery, and promoting clinicians to work to the full extent of their scope is essential for optimising patient care and delivering efficient care. This approach involves ensuring that all healthcare workers, including doctors, nurses, allied health professionals, and support staff, are enabled to use their full range of skills and training. By doing so, CHS can improve efficiency, reduce bottlenecks, and enhance patient outcomes. For example, Nurse Practitioners can perform certain diagnostic and treatment procedures that can alleviate the pressure for medical specialists and allow them to deliver the more complex components of care or attend to complex cases. Similarly, allied health professionals, such as physiotherapists and occupational therapists, can take on greater roles in patient rehabilitation and chronic disease management. This has been observed with the establishment of Advance Practice roles and services within NCH to manage demand. It is acknowledged that this requires robust training programs, clear role definitions, and supportive policies that encourage interprofessional collaboration. Additionally, leveraging technology and digital tools can facilitate better communication and coordination among healthcare teams especially as NCH forms part of the CHS Network which can enable a more integrated patient journey between services across campuses.

Noting the limited availability of sub-speciality clinicians across the ACT, especially in the areas of Plastics and Paediatric Medicine, it is essential for future delivery that networked service arrangements are implemented across the CHS Network. This will ensure that NCH has access to the expertise required to deliver optimal care to its patients. This will be further explored and articulated as part of the Future Service Framework project which aims to document the future state of service delivery for clinical services for the Northside Hospital Project and will be utilised to inform the facility planning and commissioning of the new hospital.

### 12.2 Infrastructure

Infrastructure plays a critical role as an enabler for hospital delivery. It provides the physical framework and support necessary to ensure the smooth functioning of the hospital. Future infrastructure needs to be flexible to meet changes in the model of care, but also support the delivery of services across different modalities such as in-person and virtually. To achieve the CSP Strategic Directions, the infrastructure needs to enable the delivery of services with sufficient space and flexibility to ensure that new models of care can be delivered sustainably in the future.

The Northside Hospital Project is a commitment from the ACT Government to build a hospital for the northside region of the ACT, to support the needs and care of Northside residents and create a contemporary environment that enables efficient, safe and high quality service delivery, supported by evidence-based models of care. The development of the new Northside Hospital will continue to involve CHS and NCH executives, clinical and non-clinical stakeholders, as well as consumers through the facility planning, design and delivery processes.

### 12.3 Education, Training and Research

Education and training are pivotal to the future of service delivery at NCH. Clinical consultation indicated a key challenge for consideration for NCH is maintaining medical training accreditation during the Northside Hospital Project redevelopment and addressing training workforce capacity



with clinicians involved in service delivery, training and research. There is a need to focus on integrating training into service models to ensure innovation aligns with CHS requirements. The associated teaching infrastructure must include flexible and multifunctional spaces within clinical environments for bedside teaching.

Digital infrastructure improvements are crucial, as current systems hinder efficient training delivery, however the implementation of DHR and the work being undertaken by CHS to incorporate reporting and analytics, is a critical enabler. Additionally, creating specific handover and teaching spaces near wards will enhance professional collaboration and workflow efficiency. Future training models should balance centralised and on-the-ward teaching spaces, supported by a unified booking system to optimise resource use. Flexibility in education delivery, supported by robust digital platforms, is essential to accommodate both in-person and online learning. Centralised simulation resources and a strategically located educational hub will foster collaboration and ensure the effective use of teaching facilities, ultimately enhancing service delivery quality.

Embedding education as a key performance measure for medical staff can formalise the importance and aid in workforce retention strategies. The new Northside Hospital should prioritise shared, interdisciplinary learning spaces for all healthcare professionals, promoting collaborative learning and improving patient care such as allied health professionals needing more simulation and virtual reality resources.

Recognising that TCH serves as the CHS research and training hub, the integration of NCH as part of a centre of excellence by integrating research, education, and service delivery can attract and retain a skilled workforce. Strengthening partnerships with university and tertiary education providers can enhance interdisciplinary learning and assist in workforce planning and development.

As outlined within the CHS Research Strategy 2021-2025<sup>118</sup>, its goals to ensure research are:

- A core strategic aim of CHS.
- Conducted collaboratively with consumers, carers, community groups and individuals and is embedded to deliver exceptional healthcare.
- Includes academic partnerships co-create exceptional patient care through excellence in collaborative research.

The above will be part of the new Northside Hospital through established governance and processes, a workforce dedicated to quality outcomes and advancing the evidence-base of health care delivery and involves key partnerships with academic and research partners. NCH as part of the CHS Network will be instrumental in creating networked and collaborative research. This includes involvement in Territory-wide Clinical Trials to enable services and patients to have access to latest innovations in treatment and care.

## **12.4 Information, Communication and Technology**

Information, Communications and Technology (ICT) has become a key enabler in the delivery of health services, with all services relying on ICT to provide platforms for secure communication, monitoring, electronic medical records and medication. The role of ICT in delivering health care has been extensively developed since COVID-19. The rapid uptake of virtual/telehealth services seen and experienced is changing how services are delivered.

Digital technologies have transformed the way healthcare is delivered, by providing training and clinical decision support, supporting the standardisation of processes, improving safety, reducing clinical variation, improving access to services, and enhancing self-management. Information

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<sup>118</sup> ACT Government. 2021. CHS Research Strategy 2021-2025. Accessed from: <https://www.canberrahealthservices.act.gov.au/about-us/research>

technology can improve data collection and the ability of CHS to make evidence-informed decisions and provide digital care pathways for NCH to deliver care across the northside region.

It is recognised that the implementation of the DHR has had a significant positive impact on patient care and outcomes. This has included improved information sharing, enhanced patient safety, reduced unnecessary tests and procedures, providing earlier notifications of potential adverse reactions to medications, reduced handover times for nurses during shift changes and contributed to patient empowerment, with patients having access to their own health information through the MyDHR portal. The DHR has also replaced around 40 previous systems with consolidation leading to more consistent and reliable healthcare delivery.<sup>119</sup>

The ability to harness future technologies to enhance service delivery relies on providing adequate and future-proofed infrastructure capable of proactive development and adoption rather than reactive reconfiguration. Underpinning this is the need to ensure thorough long-term planning to ensure that new technologies coming online are compliant with the DHR and enable interoperability. This enables data and information about service delivery to be collated and extracted seamlessly to contribute to future clinical service planning endeavours.

Implementation of virtual technologies, to create opportunities to develop and deliver new care pathways for care closer to home or in the home, improving patient outcomes and enhancing the patient experience, is central for CHS and NCH in maintaining its reputation for providing contemporary health services. These technologies may include:

- Remote Patient Monitoring in the hospital and patient's homes, support the delivery of at-home services as outlined in the future strategies for NCH.
- Strengthen digital and IT infrastructure to enable NCH to build its digital foundation and enable digital models to be part of the care journey.
- Immersive technologies such as augmented reality can set CHS apart as an innovator and pioneering new clinical pathways.

## 12.5 Partnerships

Strong and effective partnerships are the foundation for providing integrated healthcare. CHS has several formal and informal partnerships across health service delivery, government and education partners. In the future, new partnerships must be created to enable the delivery of safe care in and outside the hospital. For example, the GRACE Service is a key example of an effective partnership with RACFs to deliver care to our aging residents while reducing the need for acute hospital admission.

Further developing and establishing new partnerships and networks across ACT will increase access to specialist services and improve care integration to meet the expectations and needs of the community in the future.

Partnerships and collaboration between services will support networks and referral pathways. There will be challenges in developing formal processes that ensure the most appropriate outcome for CHS and, more importantly, patients. Standard, consistent and clear support networks and patient referral pathways to be developed and be understood by both clinicians and the community.

Private hospital providers are key in the delivery of services from a system perspective. Partnerships with the private providers, especially Calvary Health Care, which operates the private hospital on-site, is critical. Ongoing infrastructure and service planning needs to be in consultation with Calvary Health Care to enable access to services across the broader ACT health care system.

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<sup>119</sup> ACT Government. 2023. Digital Health Record makes big impact on health services in first 12 months. Accessed from: [https://www.cmtedd.act.gov.au/open\\_government/inform/act\\_government\\_media\\_releases/rachel-stephen-smith-mla-media-releases/2023/digital-health-record-makes-big-impact-on-health-services-in-first-12-months](https://www.cmtedd.act.gov.au/open_government/inform/act_government_media_releases/rachel-stephen-smith-mla-media-releases/2023/digital-health-record-makes-big-impact-on-health-services-in-first-12-months)

Reforms in the aged care sector and National Disability Insurance Scheme (NDIS) will require greater partnerships and collaboration across the healthcare continuum. The role of the Capital Health Network, general practice and the primary care sector are important in establishing links across the continuum of care. These linkages are required due to increasing demand with more patients with complex, chronic co-morbidities that require multidisciplinary care.

Furthermore, a key partnership for NCH service delivery is and will remain ACTAS as the primary patient transport service for providing out-of-hospital emergency and non-emergency care to the ACT and its surrounding communities. Opportunities to consider a centralised approach that collaborates across facilities, including the ambulance service, to streamline patient flow and manage pressures between NCH and TCH will enable timely access to the right care and at the place for all ACT residents.

### **13. Implementation, Evaluation and Monitoring**

The NCH CSP provides direction and strategies to focus CHS in further developing and implementing new approaches to service delivery as well as informing the Northside Hospital Project. These have been created through data analysis, research and consultation with CHS, NCH and TCH executives, staff and service partners, to ensure they are relevant and achievable.

A strong governance process will be required to oversee the strategies presented within the CSP. Together, CHS and NCH are required to address immediate and short-term operational challenges linked to managing demand and improving patient outcomes. This is to ensure that NCH continues to meet the evolving needs of the region it serves.

As part of the Northside Hospital Project, CHS and NCH will continue to be instrumental in designing and creating a future-focused facility to deliver contemporary and evidence-based health care to the residents of ACT.

## 14. Appendices

### Appendix 1 – Current and Future Role Delineation for ACT Public Hospitals

| Service Area                            | NCH<br>Current | NCH<br>Future | TCH<br>Current | UCH<br>Current |
|-----------------------------------------|----------------|---------------|----------------|----------------|
| <b>Core Services</b>                    |                |               |                |                |
| Anaesthetics and Recovery               | 4              | 4             | 6              | NPS            |
| Operating Suite                         | 4              | 4             | 6              | NPS            |
| Intensive Care Unit                     | 4              | 4             | 6              | NPS            |
| Nuclear Medicine                        | 4              | 4             | 6              | NPS            |
| Radiology and Interventional Radiology  | 5              | 5             | 6              | 3              |
| Pathology                               | 5              | 5             | 6              | 3              |
| Pharmacy                                | 5              | 5             | 6              | 4              |
| <b>Emergency Medicine</b>               |                |               |                |                |
| Emergency Department                    | 4              | 4             | 6              | NPS            |
| <b>Medicine</b>                         |                |               |                |                |
| Acute Stroke Services                   | 4              | 4             | 6              | NPS            |
| Cardiology                              | 4              | 4             | 6              | NPS            |
| Dermatology                             | 3              | 3             | 5              | NPS            |
| Drug and Alcohol Services               | 1              | 1             | 5              | NPS            |
| Endocrinology                           | 3              | 4             | 6              | NPS            |
| Gastroenterology                        | 4              | 4             | 6              | NPS            |
| General and Acute medical               | 4              | 4             | 6              | NPS            |
| Geriatric medicine                      | 4              | 4             | 6              | 5              |
| Haematology                             | 3              | 4             | 6              | NPS            |
| Immunology                              | 4              | 4             | 6              | NPS            |
| Infectious diseases                     | 5              | 5             | 6              | 2              |
| Neurology                               | 4              | 4             | 6              | NPS            |
| Oncology – medical                      | NPS            | 3             | 6              | NPS            |
| Palliative care                         | 2 (CHH 6)      | 2             | 5              | NPS            |
| Rehabilitation Medicine                 | 2              | 2             | 2              | 6              |
| Renal Medicine                          | 2              | 3             | 6              | NPS            |
| Respiratory and Sleep Medicine          | 3              | 4             | 6              | NPS            |
| Rheumatology                            | 2              | 2             | 5              | NPS            |
| Sexual Assault Services                 | 1              | 1             | 4              | NPS            |
| <b>Surgery</b>                          |                |               |                |                |
| Burns                                   | NPS            | 2             | 4              | NPS            |
| ENT Surgery                             | 4              | 4             | 6              | NPS            |
| General Surgery                         | 4              | 4             | 6              | NPS            |
| Gynaecology                             | 4              | 4             | 6              | NPS            |
| Ophthalmology                           | 3              | 4             | 5              | NPS            |
| Orthopaedic Surgery                     | 4              | 4             | 6              | NPS            |
| Plastic Surgery                         | 4              | 4             | 5              | NPS            |
| Urology                                 | 4              | 4             | 6              | NPS            |
| Vascular Surgery                        | 4              | 4             | 6              | NPS            |
| <b>Child and Family Health Services</b> |                |               |                |                |
| Maternity                               | 4              | 4             | 6              | NPS            |
| Neonatal                                | 3              | 3             | 5              | NPS            |
| Paediatric                              | 2              | 2             | 5              | NPS            |
| Surgery for children                    | 2              | 3             | 4              | NPS            |
| <b>Mental Health</b>                    |                |               |                |                |
| Adult Mental Health                     | 2              | 3             | 5              | 2              |
| Older Persons Mental Health             | 4              | 4             | 4              | NPS            |

Table 79: Current and Future Role Delineation for NCH. Source: ACTHD, 2021.



## Appendix 2 – Detailed Private Hospital and Procedural Centres Services Table

| Region    | Name                           | Location | Specialty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Number of Practitioners |
|-----------|--------------------------------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
|           | Calvary Bruce Private Hospital | Bruce    | <ul style="list-style-type: none"> <li>Anaesthetics</li> <li>Bariatric (Obesity) Surgery</li> <li>Breast Surgery</li> <li>Cardiology</li> <li>Colorectal Surgery</li> <li>Endocrinology</li> <li>General Practitioners</li> <li>Gastroenterology</li> <li>General Surgery</li> <li>Geriatric Medicine</li> <li>Gynaecology including IVF</li> <li>Infectious Diseases</li> <li>Laparoscopic Surgery</li> <li>Nephrology</li> <li>Neurology</li> <li>Obstetrics</li> <li>Ophthalmology</li> <li>Orthopaedic Surgery</li> <li>Paediatric Medicine</li> <li>Pain Medicine</li> <li>Palliative Care</li> <li>Plastic Surgery</li> <li>Psychiatry</li> <li>Radiology (via Canberra Imaging Group)</li> <li>Respiratory and Sleep Medicine</li> <li>Rheumatology</li> <li>Upper GI Surgery</li> <li>Urogynaecology</li> <li>Urology</li> <li>Vascular Surgery</li> </ul> | 100                     |
|           | Canberra Surgicentre           | Braddon  | <ul style="list-style-type: none"> <li>Oral and Maxillofacial Surgery</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3                       |
|           | Icon Cancer Centre Canberra    | Bruce    | <ul style="list-style-type: none"> <li>Haematology</li> <li>Medical Oncology</li> <li>Radiation Oncology</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7                       |
| ACT South | ACT Endoscopy                  | Deakin   | <ul style="list-style-type: none"> <li>Gastroenterology</li> <li>Endoscopy</li> <li>General Surgery</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 11                      |
|           | Barton Private Hospital        | Barton   | <ul style="list-style-type: none"> <li>Bariatric (Obesity) Surgery</li> <li>Endoscopy</li> <li>General Surgery</li> <li>Gynaecology including IVF</li> <li>Obstetrics</li> <li>Ophthalmology</li> <li>Orthopaedic Surgery</li> <li>Plastic Surgery</li> <li>Upper GI Surgery</li> <li>Urology</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 13                      |
|           | Brindabella Endoscopy Centre   | Garran   | <ul style="list-style-type: none"> <li>Colorectal Surgery</li> <li>Gastroenterology</li> <li>Endoscopy</li> <li>General Surgery</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 10                      |

| Region | Name                                                       | Location | Specialty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Number of Practitioners |
|--------|------------------------------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
|        | Calvary John James Hospital                                | Deakin   | <ul style="list-style-type: none"> <li>▪ Anaesthetics</li> <li>▪ Bariatric (Obesity) Surgery</li> <li>▪ Breast Surgery</li> <li>▪ Cardiology</li> <li>▪ Dentistry</li> <li>▪ ENT<sup>120</sup> Surgery</li> <li>▪ Endocrinology</li> <li>▪ General Practitioners</li> <li>▪ General Surgery</li> <li>▪ Geriatric Medicine</li> <li>▪ Gynaecology including IVF</li> <li>▪ Infectious Diseases</li> <li>▪ Intensive Care</li> <li>▪ Laparoscopic Surgery</li> <li>▪ Nephrology</li> <li>▪ Nuclear Medicine</li> <li>▪ Obstetrics</li> <li>▪ Oral and Maxillofacial Surgery</li> <li>▪ Orthopaedic Surgery</li> <li>▪ Paediatric Surgery</li> <li>▪ Paediatric Urology</li> <li>▪ Pain Medicine</li> <li>▪ Pathology (Chemical)</li> <li>▪ Plastic Surgery</li> <li>▪ Rehabilitation</li> <li>▪ Respiratory and Sleep Medicine</li> <li>▪ Rheumatology</li> <li>▪ Upper GI Surgery</li> <li>▪ Urogynaecology</li> <li>▪ Urology</li> <li>▪ Vascular Surgery</li> </ul> | 105                     |
|        | Canberra Imaging Group <sup>121</sup> (Flagship in Deakin) | Deakin   | <ul style="list-style-type: none"> <li>▪ Nuclear Medicine</li> <li>▪ Radiology <ul style="list-style-type: none"> <li>○ Interventional Radiology-Angiography, biopsy</li> <li>○ X-ray</li> <li>○ Computed Tomography (CT)</li> <li>○ PET/CT</li> <li>○ SPECT/CT</li> <li>○ DEXA Bone Densitometry</li> <li>○ Magnetic Resonance Imaging (MRI)</li> <li>○ Ultrasound</li> <li>○ Mammography</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | N/A                     |
|        | Canberra Microsurgery                                      | Phillip  | <ul style="list-style-type: none"> <li>▪ Ophthalmology</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 8                       |
|        | Canberra Private Hospital                                  | Deakin   | <ul style="list-style-type: none"> <li>▪ Anaesthetics</li> <li>▪ Bariatric (Obesity) Surgery</li> <li>▪ Breast Surgery</li> <li>▪ ENT Surgery</li> <li>▪ Gastroenterology</li> <li>▪ General Surgery</li> <li>▪ Gynaecology including IVF</li> <li>▪ Obstetrics</li> <li>▪ Ophthalmology</li> <li>▪ Oral and Maxillofacial Surgery</li> <li>▪ Orthopaedic Surgery</li> <li>▪ Pain Medicine</li> <li>▪ Radiation Oncology</li> <li>▪ Rehabilitation</li> <li>▪ Respiratory and Sleep Medicine</li> <li>▪ Upper GI Surgery</li> <li>▪ Urology</li> <li>▪ Vascular Surgery</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                   | 55                      |
|        | Canberra Region Neurology and Pain Centre <sup>122</sup>   | Phillip  | <ul style="list-style-type: none"> <li>▪ Neurology</li> <li>▪ Neurosurgery</li> <li>▪ Pain Medicine</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 4                       |
|        | Genea Canberra                                             | Deakin   | <ul style="list-style-type: none"> <li>▪ Gynaecology including IVF</li> <li>▪ Obstetrics</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4                       |
|        | Mugga Wara Endoscopy Centre <sup>123</sup>                 | Garran   | <ul style="list-style-type: none"> <li>▪ Gastroenterology</li> <li>▪ Endoscopy</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5                       |

<sup>120</sup> Ear, Nose and Throat

<sup>121</sup> Canberra Imaging Group has centres with ACT at Belconnen, Bruce, Deakin, Dickson, Garran, Gungahlin and Wanniasa. It also has established centres at Goulburn and Queanbeyan, within NSW.

<sup>122</sup> Also has a centre at the Ives Complex in Bruce

<sup>123</sup> Located within National Capital Private Hospital

| Region | Name                              | Location | Specialty                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Number of Practitioners |
|--------|-----------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
|        | National Capital Private Hospital | Garran   | <ul style="list-style-type: none"> <li>▪ Anaesthetics</li> <li>▪ Bariatric (Obesity) Surgery</li> <li>▪ Breast Surgery</li> <li>▪ Cardiology</li> <li>▪ Colorectal Surgery</li> <li>▪ ENT<sup>124</sup> Surgery</li> <li>▪ Endocrinology</li> <li>▪ Gastroenterology</li> <li>▪ General Practitioners</li> <li>▪ General Surgery</li> <li>▪ Geriatric Medicine</li> <li>▪ Gynaecology including IVF</li> <li>▪ Haematology</li> <li>▪ Infectious Diseases</li> <li>▪ Laparoscopic Surgery</li> <li>▪ Medical Oncology</li> <li>▪ Nephrology</li> <li>▪ Neurology</li> <li>▪ Neurosurgery Obstetrics</li> <li>▪ Oral and Maxillofacial Surgery</li> <li>▪ Orthopaedic Surgery</li> <li>▪ Plastic Surgery</li> <li>▪ Rehabilitation</li> <li>▪ Respiratory and Sleep Medicine</li> <li>▪ Rheumatology</li> <li>▪ Upper GI Surgery</li> <li>▪ Urogynaecology</li> <li>▪ Urology</li> <li>▪ Vascular Surgery</li> </ul> | 112                     |

Table 80: Private Hospital and Day Procedure Centres within ACT.

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<sup>124</sup> Ear, Nose and Throat

### Appendix 3 – Socioeconomic Indicators for Northside Primary Catchment

| Proportion of Total Population                         | Belconnen |            | Gungahlin |            | Molonglo |            | North Canberra |            | Northside |            | ACT     |            |
|--------------------------------------------------------|-----------|------------|-----------|------------|----------|------------|----------------|------------|-----------|------------|---------|------------|
| Population                                             | No.       | Percentage | No.       | Percentage | No.      | Percentage | No.            | Percentage | No.       | Percentage | No.     | Percentage |
| Total People                                           | 106,061   | -          | 87,682    | -          | 11,435   | -          | 61,188         | -          | 266,366   | -          | 454,499 | -          |
| Male                                                   | 52,533    | 49.53      | 43,701    | 49.84      | 5,610    | 49.06      | 30,179         | 49.32      | 132,023   | 49.56      | 224,361 | 49.36      |
| Female                                                 | 53,530    | 50.47      | 43,981    | 50.16      | 5,828    | 50.97      | 31,002         | 50.67      | 134,341   | 50.43      | 230,140 | 50.64      |
| <b>Aboriginal and Torres Strait Islander Community</b> |           |            |           |            |          |            |                |            |           |            |         |            |
| Population                                             | 2,207     | 2.08       | 1,434     | 1.64       | 123      | 1.08       | 847            | 1.38       | 4,611     | 1.73       | 8,949   | 1.97       |
| Median Age                                             | 24        |            | 24        |            | 24       |            | 26             |            | 24        |            | 24      |            |
| Earning more than \$2,000 gross weekly income          | 184       | 12.02      | 156       | 16.18      | 7        | 7.78       | 118            | 17.15      | 465       | 14.21      | 899     | 14.32      |
| Highest Year of School Attainment (Year 12)            | 871       | 60.82      | 554       | 61.97      | 60       | 68.97      | 448            | 67.98      | 1,933     | 62.92      | 3,422   | 58.66      |
| Highest Non-School Qualification                       | 842       | 55.00      | 543       | 56.33      | 56       | 62.22      | 373            | 54.22      | 1,814     | 55.42      | 3,260   | 51.92      |
| Employed (full time, part time, away from work)        | 1,045     | 93.55      | 663       | 92.73      | 63       | 70.00      | 459            | 93.87      | 2,230     | 92.49      | 4,089   | 92.87      |
| Reported one or more long-term health conditions       | 1,472     | 55.67      | 897       | 52.86      | 92       | 58.60      | 622            | 58.62      | 3,083     | 55.46      | 5,908   | 55.41      |
| <b>Age (years)</b>                                     |           |            |           |            |          |            |                |            |           |            |         |            |
| 0-14                                                   | 19,258    | 18.16      | 20,227    | 0.23       | 2,667    | 23.32      | 7,322          | 11.97      | 49,474    | 18.57      | 82,933  | 18.25      |
| 15-64                                                  | 70,815    | 66.77      | 61,140    | 0.70       | 8,346    | 72.99      | 46,951         | 76.73      | 187,252   | 70.30      | 309,356 | 68.07      |
| 65-84                                                  | 14,319    | 13.50      | 5,933     | 0.07       | 396      | 3.46       | 5,846          | 9.55       | 26,494    | 9.95       | 55,023  | 12.11      |
| 85 +                                                   | 1,667     | 1.57       | 374       | 0.00       | 22       | 0.19       | 1069           | 1.75       | 3,132     | 1.18       | 7181    | 1.58       |
| <b>Households, Housing Tenure and Income</b>           |           |            |           |            |          |            |                |            |           |            |         |            |
| Family households                                      | 27,775    | 70.29      | 23,084    | 77.77      | 3,029    | 72.5       | 13,192         | 55.72      | 67,080    | 69.12      | 117,214 | 69.60      |
| Single (or lone) person                                | 9,792     | 24.78      | 5,450     | 18.36      | 934      | 22.4       | 8,080          | 34.13      | 24,256    | 24.99      | 43,338  | 25.74      |
| Owned outright                                         | 11,325    | 28.66      | 4,926     | 16.59      | 322      | 7.71       | 5,489          | 23.18      | 22,062    | 22.73      | 44,831  | 26.62      |
| Owned with mortgage                                    | 15,498    | 39.22      | 14,394    | 48.49      | 2,707    | 64.79      | 7,106          | 30.01      | 39,705    | 40.91      | 67,754  | 40.23      |
| Rented                                                 | 11,767    | 29.78      | 9,713     | 32.72      | 1,083    | 25.92      | 10,517         | 44.42      | 33,080    | 34.08      | 51,681  | 30.69      |
| Earning less than \$650 gross weekly income            | 26,246    | 30.24      | 18,669    | 27.68      | 1,735    | 19.78      | 15,201         | 28.22      | 61,851    | 28.52      | 103,563 | 27.87      |
| Earning more than \$2,000 gross weekly income          | 15,914    | 18.33      | 14,510    | 21.51      | 2,377    | 27.10      | 12,867         | 23.89      | 45,668    | 21.06      | 82,137  | 22.11      |
| <b>Education</b>                                       |           |            |           |            |          |            |                |            |           |            |         |            |
| Highest Year of School Attainment (Year 12)            | 62,938    | 75.40      | 51,325    | 79.80      | 7,348    | 86.62      | 43,955         | 83.82      | 165,566   | 79.33      | 274,747 | 77.01      |



| Proportion of Total Population                                                             | Belconnen |       | Gungahlin |       | Molonglo |       | North Canberra |       | Northside |       | ACT     |       |
|--------------------------------------------------------------------------------------------|-----------|-------|-----------|-------|----------|-------|----------------|-------|-----------|-------|---------|-------|
| Tertiary - Certificate, Diploma and Advanced Diploma                                       | 21,056    | 34.57 | 16,075    | 33.12 | 764      | 21.15 | 7,008          | 17.53 | 44,903    | 29.34 | 83,379  | 31.43 |
| Tertiary - Postgraduate Degree, Graduate Diploma, Graduate Certificate and Bachelor Degree | 35,055    | 57.56 | 28,941    | 59.62 | 2,608    | 72.18 | 28,862         | 72.20 | 95,466    | 62.38 | 159,549 | 60.15 |
| <b>Socioeconomic Status</b>                                                                |           |       |           |       |          |       |                |       |           |       |         |       |
| Employed (full time, part time, away from work)                                            | 56,414    | 67.42 | 49,565    | 73.48 | 6,984    | 79.6  | 36,571         | 67.90 | 149,534   | 69.95 | 248,601 | 66.91 |
| Unemployed (looking for work)                                                              | 2,488     | 2.97  | 1,947     | 2.89  | 229      | 2.6   | 1,666          | 3.09  | 6,330     | 2.96  | 9,956   | 2.68  |
| Not in labour force                                                                        | 24,766    | 29.60 | 13,691    | 20.30 | 1235     | 14.1  | 12377          | 22.98 | 52,069    | 24.36 | 97,524  | 26.25 |
| <b>Cultural Diversity</b>                                                                  |           |       |           |       |          |       |                |       |           |       |         |       |
| People born in predominantly non-English-speaking countries                                | 24,353    | 22.96 | 29,080    | 33.17 | 4,209    | 36.81 | 15,446         | 25.24 | 73,088    | 27.44 | 104,357 | 22.96 |
| Speaks language other than English at home                                                 | 25,419    | 23.97 | 33,719    | 38.46 | 4,897    | 42.82 | 13,148         | 21.49 | 77,183    | 28.98 | 111,660 | 24.57 |
| <b>Health Status</b>                                                                       |           |       |           |       |          |       |                |       |           |       |         |       |
| Reported one or more long-term health condition(s)                                         | 57,587    | 47.79 | 33660     | 36.10 | 3636     | 30.6  | 23148          | 38.39 | 118031    | 41.28 | 225,434 | 44.85 |

**Table 81: Summary of demographic characteristics of Belconnen, Gungahlin, Molonglo, North Canberra, Northside region and ACT. Sources: ABS, 2021 Census. Accessed August 2024. Note: ABS notes that small random adjustments have been made to all cell values to protect the confidentiality of data. These adjustments may cause the sum of rows or columns to differ by small amounts from table totals.**

## Appendix 4 – Detailed table of Separations and Bed days by Hospital and Care Type

| Hospital           | Care Type               | Stay Type | Values | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Variance | Growth2019-2023 |
|--------------------|-------------------------|-----------|--------|---------|---------|---------|---------|---------|----------|-----------------|
| TCH                | acute                   | Overnight | Seps   | 35,086  | 34,618  | 35,734  | 33,482  | 35,401  | 315      | 0.9%            |
| TCH                | acute                   | Overnight | Beds   | 168,602 | 173,779 | 173,441 | 171,159 | 178,532 | 9,930    | 5.9%            |
| TCH                | acute                   | Same Day  | Seps   | 24,390  | 24,326  | 28,101  | 28,884  | 26,838  | 2,448    | 10.0%           |
| TCH                | acute                   | Same Day  | Beds   | 24,390  | 24,326  | 28,101  | 28,884  | 26,838  | 2,448    | 10.0%           |
| TCH                | Total Acute Seps        |           |        | 59,476  | 58,944  | 63,835  | 62,366  | 62,239  | 2,763    | 4.6%            |
| TCH                | Total Acute Bed days    |           |        | 192,992 | 198,105 | 201,542 | 200,043 | 205,370 | 12,378   | 6.4%            |
| TCH                | subacute                | Overnight | Seps   | 2,581   | 2,219   | 2,708   | 2,442   | 3,272   | 691      | 26.8%           |
| TCH                | subacute                | Overnight | Beds   | 32,581  | 31,132  | 30,082  | 31,946  | 36,141  | 3,560    | 10.9%           |
| TCH                | subacute                | Same Day  | Seps   | 279     | 130     | 91      | 56      | 47      | -232     | -83.2%          |
| TCH                | subacute                | Same Day  | Beds   | 279     | 130     | 91      | 56      | 47      | -232     | -83.2%          |
| TCH                | Total Sub-Acute Seps    |           |        | 2,860   | 2,349   | 2,799   | 2,498   | 3,319   | 459      | 16.0%           |
| TCH                | Total Sub-Acute Bed day |           |        | 32,860  | 31,262  | 30,173  | 32,002  | 36,188  | 3,328    | 10.1%           |
| Total TCH Seps     |                         |           |        | 62,336  | 61,293  | 66,634  | 64,864  | 65,558  | 3,222    | 5.2%            |
| Total TCH Bed days |                         |           |        | 225,852 | 229,367 | 231,715 | 232,045 | 241,558 | 15,706   | 7.0%            |
| NCH                | acute                   | Overnight | Seps   | 13,364  | 13,119  | 14,551  | 12,638  | 13,275  | -89      | -0.7%           |
| NCH                | acute                   | Overnight | Beds   | 49,759  | 52,130  | 53,950  | 54,315  | 58,591  | 8,832    | 17.7%           |
| NCH                | acute                   | Same Day  | Seps   | 13,855  | 13,882  | 17,518  | 12,280  | 16,078  | 2,223    | 16.0%           |
| NCH                | acute                   | Same Day  | Beds   | 13,855  | 13,882  | 17,518  | 12,280  | 16,078  | 2,223    | 16.0%           |
| NCH                | Total Acute Seps        |           |        | 27,219  | 27,001  | 32,069  | 24,918  | 29,353  | 2,134    | 7.8%            |
| NCH                | Total Acute Bed days    |           |        | 63,614  | 66,012  | 71,468  | 66,595  | 74,669  | 11,055   | 17.4%           |
| NCH                | subacute                | Overnight | Seps   | 487     | 418     | 584     | 497     | 641     | 154      | 31.6%           |
| NCH                | subacute                | Overnight | Beds   | 5,569   | 5,528   | 6,588   | 7,033   | 9,540   | 3,971    | 71.3%           |
| NCH                | subacute                | Same Day  | Seps   | 10      | 8       | 13      | 4       | 7       | -3       | -30.0%          |
| NCH                | subacute                | Same Day  | Beds   | 10      | 8       | 13      | 4       | 7       | -3       | -30.0%          |
| NCH                | Total Sub-Acute Seps    |           |        | 497     | 426     | 597     | 501     | 648     | 151      | 30.4%           |
| NCH                | Total Sub-Acute Bed day |           |        | 5,579   | 5,536   | 6,601   | 7,037   | 9,547   | 3,968    | 71.1%           |
| Total NCH Seps     |                         |           |        | 27,716  | 27,427  | 32,666  | 25,419  | 30,001  | 2,285    | 8.2%            |
| Total NCH Bed days |                         |           |        | 69,193  | 71,548  | 78,069  | 73,632  | 84,216  | 15,023   | 21.7%           |
| UCH                | acute                   | Overnight | Seps   | 3       | 38      | 50      | 40      | 52      | 49       | 1633.3%         |
| UCH                | acute                   | Overnight | Beds   | 20      | 278     | 329     | 353     | 512     | 492      | 2460.0%         |
| UCH                | acute                   | Same Day  | Seps   |         | 1       | 4       | 1       | 23      | 23       | #DIV/0!         |
| UCH                | acute                   | Same Day  | Beds   |         | 1       | 4       | 1       | 23      | 23       | #DIV/0!         |
| UCH                | Total Acute Seps        |           |        | 3       | 39      | 54      | 41      | 75      | 72       | 2400.0%         |
| UCH                | Total Acute Bed days    |           |        | 20      | 279     | 333     | 354     | 535     | 515      | 2575.0%         |
| UCH                | subacute                | Overnight | Seps   | 850     | 1,243   | 1,034   | 1,101   | 1,127   | 277      | 32.6%           |
| UCH                | subacute                | Overnight | Beds   | 18,140  | 29,267  | 30,562  | 36,881  | 43,521  | 25,381   | 139.9%          |
| UCH                | subacute                | Same Day  | Seps   | 931     | 783     | 461     | 296     | 210     | -721     | -77.4%          |
| UCH                | subacute                | Same Day  | Beds   | 931     | 783     | 461     | 296     | 210     | -721     | -77.4%          |
| UCH                | Total Sub-Acute Seps    |           |        | 1,781   | 2,026   | 1,495   | 1,397   | 1,337   | -444     | -24.9%          |
| UCH                | Total Sub-Acute Bed day |           |        | 19,071  | 30,050  | 31,023  | 37,177  | 43,731  | 24,660   | 129.3%          |
| Total UCH Seps     |                         |           |        | 1,784   | 2,065   | 1,549   | 1,438   | 1,412   | -372     | -20.9%          |

| Hospital           | Care Type               | Stay Type | Values | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | Variance | Growth2019-2023 |
|--------------------|-------------------------|-----------|--------|---------|---------|---------|---------|---------|----------|-----------------|
| Total UCH Bed days |                         |           |        | 19,091  | 30,329  | 31,356  | 37,531  | 44,266  | 25,175   | 131.9%          |
| CHH                | acute                   | Overnight | Seps   | 3       | 5       | 1       | 5       | 1       | -2       | -66.7%          |
| CHH                | acute                   | Overnight | Beds   | 11      | 32      | 10      | 42      | 2       | -9       | -81.8%          |
| CHH                | acute                   | Same Day  | Seps   |         | 1       |         |         |         | 0        | #DIV/0!         |
| CHH                | acute                   | Same Day  | Beds   |         | 1       |         |         |         | 0        | #DIV/0!         |
| CHH                | Total Acute Seps        |           |        | 3       | 6       | 1       | 5       | 1       | -2       | -66.7%          |
| CHH                | Total Acute Bed days    |           |        | 11      | 33      | 10      | 42      | 2       | -9       | -81.8%          |
| CHH                | subacute                | Overnight | Seps   | 385     | 370     | 341     | 328     | 441     | 56       | 14.5%           |
| CHH                | subacute                | Overnight | Beds   | 5,828   | 6,159   | 5,625   | 5,099   | 5,963   | 135      | 2.3%            |
| CHH                | subacute                | Same Day  | Seps   | 13      | 12      | 14      | 9       | 18      | 5        | 38.5%           |
| CHH                | subacute                | Same Day  | Beds   | 13      | 12      | 14      | 9       | 18      | 5        | 38.5%           |
| CHH                | Total Sub-Acute Seps    |           |        | 398     | 382     | 355     | 337     | 459     | 61       | 15.3%           |
| CHH                | Total Sub-Acute Bed day |           |        | 5,841   | 6,171   | 5,639   | 5,108   | 5,981   | 140      | 2.4%            |
| Total CHH Seps     |                         |           |        | 401     | 388     | 356     | 342     | 460     | 59       | 14.7%           |
| Total CHH Bed days |                         |           |        | 5,852   | 6,204   | 5,649   | 5,150   | 5,983   | 131      | 2.2%            |
| Total CHS Seps     |                         |           |        | 92,237  | 91,173  | 101,205 | 92,063  | 97,431  | 5,194    | 5.6%            |
| Total CHS Bed days |                         |           |        | 319,988 | 337,448 | 346,789 | 348,358 | 376,023 | 56,035   | 17.5%           |

Table 82: Separations and Bed days by Care Type and Stay Type and ACT Public Hospitals and CHH, 2018/19-2022/23. Source: ACTHD Data Extract, 2024. Excludes Unqualified Neonates, Chemotherapy and Renal Dialysis SRGs and Organ Procurement and Unknown Care Types, Antenatal and Postnatal Admissions SRGs.

## Appendix 5 – Other Models and Options Explored

Throughout the CSP's development, several models and/or options were identified through consultation with CHS and NCH internal and external stakeholders. The table below outlines the models and options that were considered and analysed, however not further pursued based on not meeting safety and quality standards, limited critical mass and/or volumes required to maintain competency and safety and/or limited workforce capacity.

It is important to note that existing and future services must meet minimum quality and safety standards to ensure service delivery and care do not lead to adverse outcomes. Patient safety and good clinical outcomes are key drivers in decision-making.

| Model and/or option explored                                                                                       | Commentary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Feasibility for planning for a helipad to facilitate transfer to interstate quaternary services for complex cases. | <ul style="list-style-type: none"> <li>All NCH to TCH transfers by Capital Region Retrieval Service are road only and account for 38 transfers in 2023/24.</li> <li>Total paediatric NCH retrievals to interstate totalled 5 transfers in 2023/24.</li> <li>Total retrievals from NCH to interstate were 1 for 2023/24</li> <li>Total retrieval to NCH by helicopter was 16 for 2023/23.</li> <li>The capital cost associated with helipads and future proofing for a helipad is extensive.</li> </ul>                                                               |
| Establishing a Level 6 Maternity Service at NCH                                                                    | <ul style="list-style-type: none"> <li>This would lead to duplication of TCH's role within the CHS maternity network.</li> <li>While there is an expected 39.3% growth in those aged 0 yrs which can be used as a proxy for births by 2041, projected volumes and assumed complexity does not support two Level 6 services.</li> <li>TCH fulfils the role of the tertiary service within the Tiered Perinatal Network Structure.</li> <li>An additional Level 6 service would not allow TCH to perform at its full RDL capability due to reduced volumes.</li> </ul> |
| Establishing interventional neurology service at NCH                                                               | <ul style="list-style-type: none"> <li>Volumes across ACT are low with relevant seps at 39 for 2022/23.</li> <li>Projected activity for relevant DRGs equate to 347 by 2041.</li> <li>As this requires specialist medical, nursing and allied health workforce, consolidation of this service at TCH is necessary from a workforce perspective.</li> <li>NCH would require minimum core services at RDL-5, which not aligned to the current strategy for the hospital.</li> </ul>                                                                                    |
| Establishing a paediatric palliative care service for CHS                                                          | <ul style="list-style-type: none"> <li>Current volumes and demand for paediatric palliative care are very low.</li> <li>Due to the super-specialist nature of paediatric palliative care, CHS will continue to network with the Sydney Children's Hospital Network, who have capacity to care for this patient cohort.</li> </ul>                                                                                                                                                                                                                                    |

**Table 83: Models and Options Explored by not pursued. As determined by the Northside Hospital Clinical Services and Facility Planning Steering Committee in 2024.**



## Appendix 6 – Planning Assumptions

Historical Activity was provided by ACTHD as the ABF Admitted Patient (AP), Emergency Department (ED) and Non-Admitted Patient (NAP) Extracts and by CHS as the Canberra Health Performance Profile Series 1, 2024.

Admitted Patient, Emergency Department (ED) and Non-Admitted Patient (NAP) base case projections were provided for NCH and TCH by ACTHD. This included admitted mental health separations and bed days. The methodology, developed by Health Policy Analysis (HPA) for the ACT Health Directorate (ACTHD), makes adjustments for population growth, ageing, average length of stay assumptions and existing public and private activity distribution trends.

Data limitations include:

- Changing to coding practices between historical 2020/21 data which the HPA Base case Projections are based, and historical 2022/23 data.
- In 2022/23, there was a substantial increase in antenatal admissions for both TCH and NCH.
  - Where acute and maternity separations are reported, antenatal and postnatal ESRC activity was omitted due to the unrealistic skew of the activity trend between 2018/19 and 2022/23.
- In 2021/22, chemotherapy was moved to TCH from NCH and this is reflected by the nil activity reported for 2021/22 and 2022/23 for chemotherapy SRG for NCH.
  - Also, it is expected that chemotherapy and infusion activity be captured as non-admitted patient activity and would not appear within the admitted patient data extract.
- Endoscopy separations for TCH in low volumes in the ABF AP extract and likely coded as non-admitted patient activity
- Urgency of Admission category seems have recording inconsistencies with 8,203 records recorded with 9-Urgency status Not known/not reported.
- Variability among planned same day medical activity between 2018/19 and 2022/23, which likely captures activity that could otherwise be coded/classified as non-admitted patient activity such as infusions.
- Coding for qualified and unqualified neonates has been varied at NCH over this trended period.
- Implementation of the DHR across ACT in 2021.
- ABF NAP Extract and 2021/22 HPA NAP Base case Projections have a high degree of variability. ACTHD and CHS noted concern utilising the dataset.
- Transfer data between NCH and TCH was not available during CSP development.
- Medical Imaging data was not available during CSP development
- The theatre fires at NCH in 2022, meaning that planned surgical activity was undertaken at TCH and within the private sector.
- The noted influence of COVID between 2019/20 to 2021/22 in changing how people accessed and utilised health services.

Overarching planning assumptions include:

- Maintaining NCH services within a RDL-4.
- ACT North projected population growth by 2041.
- Increasing networking arrangements at the service level with TCH.
- Demand management and operational efficiencies across NCH services to be realised and supported including reducing LOS across service streams.
- Previous planning undertaken for TCH has accounted for a level of ACT North residents accessing services there, meaning there will be a level of redundancy built into the ACT public health system.

Activity Analysis Assumptions are noted below:

- Excludes 20-Chemotherapy, 23-Renal Dialysis and 74-Qualified Neonates
- Excludes Organ Procurement and Unknown Care (37 seps, 307 bed days excluded)
- Care Type Groupings:
  - Acute-Adult includes Acute and 16 years and over
  - Sub-Acute includes Palliative Care, Rehab, GEM, Psychogeriatric and Maintenance and all ages
  - Acute-Paediatrics include Acute and 0 to 15 years, excluding Newborn Care Type
  - Mental Health includes Mental Health, all ages and excludes age equal 0
  - Unqualified Neonates includes ESRG 741, 0 age
  - Qualified Neonates includes ESRG 731, 0 age
- Clinical Groupings:
  - Medical includes Acute and medical partition
  - Surgical includes Acute and surgical partition
  - Paediatric-Medical includes acute, 00-15 years and medical partition
  - Paediatric-Surgical includes acute, 00-15 years and interventional partition
  - Maternity includes acute, all ages and Obstetrics SRG only.
  - Subacute, mental health, qualified neonates and unqualified neonates aligns to care type grouping above
- Urgency of Admission
  - Emergency includes 1-Emergency
  - Planned include 2-Planned and all other urgency of admission categories

SRG and ESRG mapping for ACTHD ABF AP Extract aligns with HPA allocations.

Scenario model assumptions:

- Reversing 50% of ACT North Residents from TCH from 2031 to 2041 together with ED avoidance strategies, the ACT North population growth was applied to current 2022/23 activity.
- Reversing 50% of ACT North Residents from TCH for selected overnight SRG activity adjustment for length of stay at 3 days and adjusting for the same day activity by applying the total ACT North population growth
- Reversing 50% of ACT North residents planned activity from TCH, accounting for a high-volume low-complexity surgical service at NCH for all ACT residents based on the following procedures outlined by the NCH Executive Director Surgery Division and adjusting ALOS to 3 days.
  - Simple Mastectomy: J07Z Minor Interventions for Breast Disorders
  - Wide Local Excision of Breast: J06B Major Interventions for Breast Disorders, Minor Complexity
  - Laparoscopic Hysterectomy: N08Z Endoscopic and Laparoscopic Interventions, Female Reproductive System
  - Vaginal Hysterectomy: N08Z Endoscopic and Laparoscopic Interventions, Female Reproductive System
  - Anterior/Posterior Vaginal Repair: N06B Female Reproductive System Reconstructive Interventions, Minor Complexity
  - Hernia Repair (excluding incisional hernias): G10B - Hernia Interventions, Minor Complexity
  - Laparoscopic Cholecystectomy: G04B - Laparoscopic Cholecystectomy
  - Haemorrhoid/Anal Fissure Surgery: G10Z - Other Digestive System Procedures
  - Laparoscopic Repair of Hiatus Hernia: G05B - Laparoscopic Hiatus Hernia Procedures
  - Anterior Cruciate Ligament Reconstruction: I29Z - Knee Reconstructions, and

#### Revisions of Reconstructions

- Knee Replacement: I04B - Knee Replacement
- Total Hip Replacement: I03B - Hip Replacement
- Therapeutic Shoulder Arthroscopy: I24B - Shoulder Procedures
- Bunion Surgery: I20B - Other Foot Interventions-Minor complexity
- Vitrectomy: C11Z - Eye Procedures
- Tonsillectomy: D11Z - Tonsil and Adenoid Procedures
- Tympanoplasty: D12Z - Ear Procedures
- Septoplasty: D14Z - Nasal Procedures
- Mastoidectomy: D15Z - Mastoid Interventions
- Stapedectomy: D10Z - Major Ear Procedures
- Functional Endoscopic Sinus Surgery (FESS): D06Z - Sinus and Complex Middle Ear Interventions
- Transurethral Resection of Prostate (TURP): L05B: Transurethral Prostatectomy for Urinary Disorder, Minor Complexity
- Transurethral Resection of Bladder (TURBT): L06B/C: Minor Bladder Interventions, Intermediate Complexity
- Laser Destruction of Prostate: M61B Benign Prostatic Hypertrophy, Minor Complexity
- Ureteroscopic Destruction of Calculus in Ureter: L06B/C - Minor Bladder Interventions, Intermediate Complexity / Minor Complexity
- Endoscopic Insertion of Prosthesis into Ureter: L06B/C - Minor Bladder Interventions, Intermediate Complexity / Minor Complexity
- Laparoscopic Cholecystectomy (Emergency): H08A - Laparoscopic Cholecystectomy, Minor Complexity
- Appendectomy: G07B - Appendectomy
- Incision and Drainage of Abscess: J08B/C: Other Skin Grafts and Debridement Interventions, Intermediate Complexity / Minor Complexity
- Removal of Products of Conception from Fallopian Tube (Ectopic Pregnancy): O03Z - Ectopic Pregnancy
- Evacuation of Retained Products of Conception: N10Z Diagnostic Curettage and Diagnostic Hysteroscopy
- Open Reduction and Internal Fixation of Mandible: I17B - Maxillo-Facial Surgery, Minor Complexity
- Open Reduction and Internal Fixation of Wrist : I30Z - Hand Interventions
- Open Reduction and Internal Fixation of Ankle: I13B/C Humerus, Tibia, Fibula and Ankle Interventions, Intermediate Complexity / Minor Complexity
- Management of Ureteric Stones (Laser and Stent): L64B Urinary Stones and Obstruction, Minor Complexity
- Applying the overall projected population growth to historical 2022/23 NCH activity and TCH ACT North residents at TCH for planned same day interventional cardiology including those separations in 2022/23 that were transferred to TCH for interventional cardiology services as per ACTHD advice<sup>125</sup>.
- Applying the overall projected population growth rate to the historical 2021/22 activity and apply an average ICU hours stay of 71.3
- Applying projected population growth rate for women aged between 16 and 49 (2.0%) and holding ESRG length of stay to align to the strategies of supporting NCH Maternity services to deliver services to ACT North birthing residents, increase access to the Continuity of Care

<sup>125</sup> ACTHD, 2022, Review of the temporary arrangement for interventional cardiology between Canberra Health Services, Calvary Public Hospital Bruce and Calvary Bruce Private Hospital.

Model and reduce the caesarean rate to 17.7%.

- For Special Care Nursery, applying an assumption of 29% to ACT North resident vaginal and caesarean delivery activity at NCH and holding length of stay to 5 days.
- Reversing 50% of medical paediatric activity from TCH, reversing 50% of appropriate paediatric surgical activity from TCH and establishing a 5 day a week model for planned care with a focus on workforce planning to ensure sustained weekend cover.
- For Mental Health, applied the projected population growth by age to the overnight admitted mental health activity at NCH and holding length of stay for each age cohort.
- For sub acute, applied the aged population growth rate to 2022/23 historical activity to Maintenance, GEM and Palliative Care, and holding current ALOS for each.
- For HITH, applying the projected population growth rate to historical 2021/22 HITH activity and holding the current length of stay at 4 days.
- For Non-Admitted/ Outpatient services, applying overall projected population growth rate to the NCH NAP 2023/24 activity and utilising the 2021/22 HPA Projection for on-campus proportion.



## Appendix 7 – Northside Hospital Clinical Services Plan – Supplementary Analysis - 2022/23 HPA Base case Projections

### Introduction

Canberra Health Services (CHS) is undertaking the development of a Clinical Services Plan for the North Canberra Hospital (NCH), in preparation of and to support the facility planning for the Northside Hospital Project, being led by Infrastructure Canberra (iCBR). The collaboration also includes ACT Health Directorate (ACTHD), who bring the Territory-wide health services planning context and are the data custodian of the historical and projected activity data required to complete the Clinical Services Plan (CSP).

In July 2024, the CSP for the Northside Hospital commenced. At this time, the current and available activity projections were the Admitted Patient (AP), Emergency Department (ED) and Non-Admitted Patient (NAP) HPA Base case Projections, developed and based on historical data up to and including the 2020/21. This approach was endorsed by the Northside Hospital Clinical Services and Facility Planning Steering Committee.

In September 2024, ACTHD indicated that new base case projections have been developed and are undergoing user acceptance testing (UAT). At this time, the publication and release of the new AP data is not supported. This means that utilising the most recent HPA Base case Projections that incorporate historical data to 2022/23, cannot occur for the CSP at this time. New ED and NAP base case projections are still under development at this time.

The importance of utilising updated and high-quality data to inform clinical services planning is well understood. Consultation revealed that due to the historical trend of 2018/19 to 2022/23 being inclusive of the COVID pandemic years, implementation of the DHR and the NCH theatre fires, each event had an altering effect on activity trends and patterns which impacts the standardised approaches applied to developing projections. The exclusion of the 2023/24 ABF Extract from the historical trend analysis, also deemed not available for release by ACTHD, has been raised as an issue by key stakeholders.

It has been indicated that changes to models such as hospital avoidance, LOS-reducing initiatives, increased care occurring within the community and overall activity increases due to pressures within the primary care sector, limited access to primary care services and bulk-billing GPs, aging of the population and previous planning undertaken for TCH, are to be considered within future activity estimates and can be modelled against the base case.

The three objectives of this review are:

- To understand the variance between the 2020/21 HPA Base case Projections and the newly developed 2022/23 HP Base case Projections.
- To identify and report potential data quality considerations that will need to be addressed to improve projection integrity.
- To provide justification for the use of the applicable data set for completing the CSP.

### Scope

The review covers the unapproved 2022/23 HPA Base case projections, and will examine activity to identify discrepancies across the following variables:

- Urgency of admission
- Care types
- Length of Stay
- Projected annual growth rate trends in separations

The review will exclude episode-level data cleansing and corrections. Identified areas will be collated within this paper and issued to CHS and ACTHD.

## Methodology

ACTHD supplied the unapproved 2022/23 HPA Base case Projections as a pivot excel sheet. This is due to the size of the overall projection tool, limiting its performance within an excel spreadsheet, as the volume of the record-level data is greater than the number for data rows within a standard excel spreadsheet. This further limits the ability to analyse the entire dataset, creating test columns and groupings to identify data that may have been allocated codes that may not be applicable. To mitigate this, a series of tests were performed including overall trending, activity by urgency of admissions, day stay, SRG and ESGR and LOS analysis.

The three sources, provided by ACTHD, utilised to inform this review includes:

- Unapproved 2022/23 HPA Base case Projection Tool (TA)
- Approved 2020/21 HPA Base case Projection Tool (TB)
- Current 2022/23 ABF AP Extract (TC)

This test aimed to identify the trend between 2019 to 2041, noting it is the same period utilised for the historical trend analysis for the CSP.

## Findings

### Overall trend analysis

Variance analysis shows that for historical trends which the projections are based for both 2020/21 and 2022/23 HPA Base case projections, the data and the allocation across acute, mental health and sub-acute care types/streams is consistent. Variations are negligible and can be targeted to individual episode coding and care type allocation at time of patient registration and/or scheduling.

Review of 2021 historical separations by care type and hospital from the three sources shows that there is a consistency in the allocation of activity thus there is a level of confidence with data.

|     |               | 2021  |       |       |       |       |       |
|-----|---------------|-------|-------|-------|-------|-------|-------|
|     |               | TA-TB |       | TB-TC |       | TA-TC |       |
|     | Care Types    | No.   | %     | No.   | %     | No.   | %     |
| TCH | Acute         | 5     | 0.0%  | 146   | 0.2%  | 151   | 0.2%  |
|     | Mental Health | 0     | 0.0%  | 2     | 0.1%  | 2     | 0.1%  |
|     | Sub Acute     | -5    | -0.2% | 4     | 0.1%  | -1    | 0.0%  |
|     | <b>Total</b>  | 0     | 0.0%  | 152   | 0.2%  | 152   | 0.2%  |
| NCH | Acute         | 2     | 0.0%  | -113  | -0.3% | 420   | 1.3%  |
|     | Mental Health | 0     | 0.0%  | 1     | 0.1%  | 1     | 0.1%  |
|     | Sub Acute     | -2    | -0.3% | 1     | 0.2%  | -1    | -0.2% |
|     | <b>Total</b>  | 0     | 0.0%  | -111  | -0.3% | -111  | -0.3% |

Table A: Variance Analysis for 2021 Total Separations by Care Type. Excludes Chemotherapy, Renal Dialysis and Unqualified Neonates.

For historical 2023, variations are noted between the two Base case Projection Tools for NCH for acute and mental health activity demonstrating a significant declining variation between the new 2022/23 and previous 2020/21 Projection Tool.

|            | Care Types    | 2023   |        |        |        |       |       |
|------------|---------------|--------|--------|--------|--------|-------|-------|
|            |               | TA-TB  |        | TB-TC  |        | TA-TC |       |
|            |               | No.    | %      | No.    | %      | No.   | %     |
| <b>TCH</b> | Acute         | 1,047  | 1.6%   | -952   | -1.4%  | 95    | 0.1%  |
|            | Mental Health | 112    | 5.5%   | -70    | -3.3%  | 42    | 2.0%  |
|            | Sub Acute     | 366    | 12.3%  | -350   | -10.5% | 16    | 0.5%  |
|            | <b>Total</b>  | 1,525  | 2.2%   | -1,372 | -1.9%  | 153   | 0.2%  |
| <b>NCH</b> | Acute         | -2,122 | -6.5%  | 2,450  | 8.0%   | -112  | -0.4% |
|            | Mental Health | -149   | -19.9% | 159    | 27.0%  | 10    | 1.7%  |
|            | Sub Acute     | 82     | 14.3%  | -76    | -11.7% | 6     | 0.9%  |
|            | <b>Total</b>  | -2,189 | -6.4%  | 2,093  | 6.6%   | -96   | -0.3% |

Table B: Variance Analysis for 2023 Total Separations by Care Type

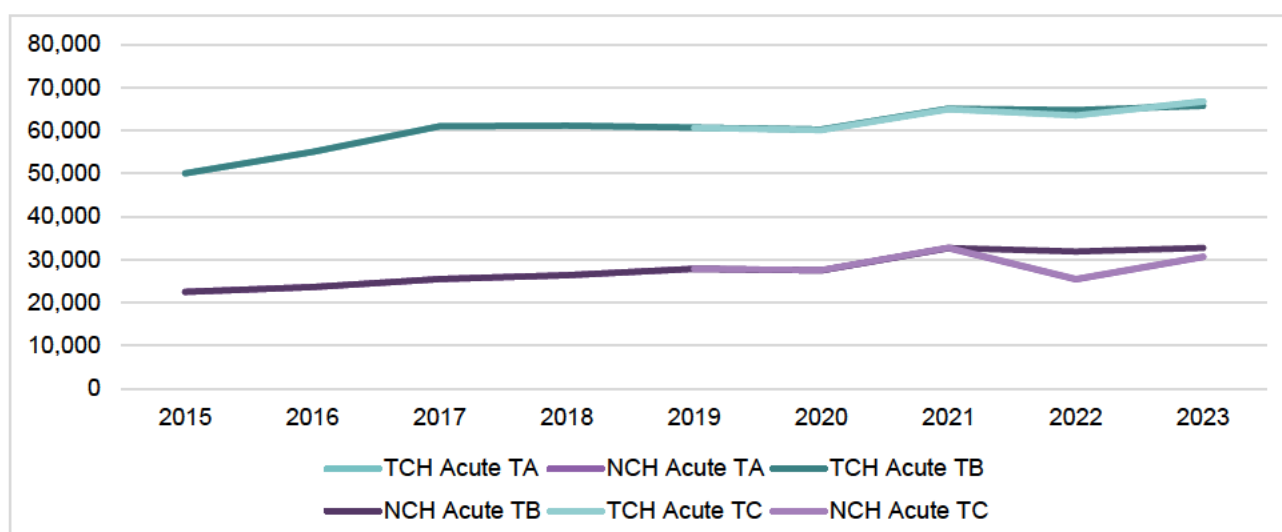


Figure A: Trended Variance Analysis for Total Acute Separations by Projection Methodology

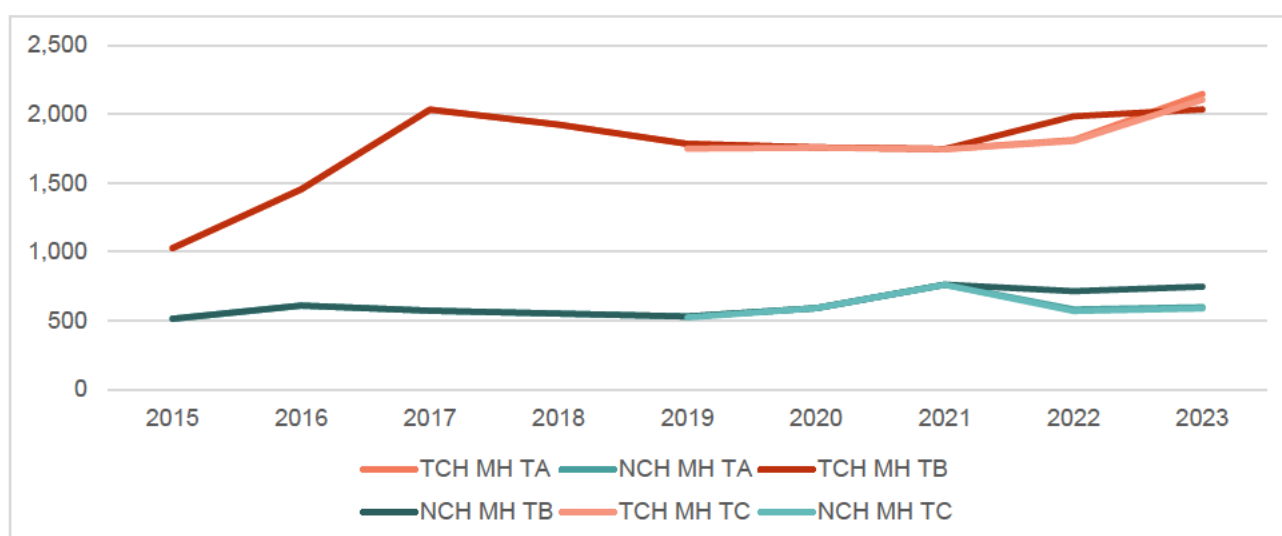


Figure B: Trended Variance Analysis for Total Mental Health Separations by Projection Methodology

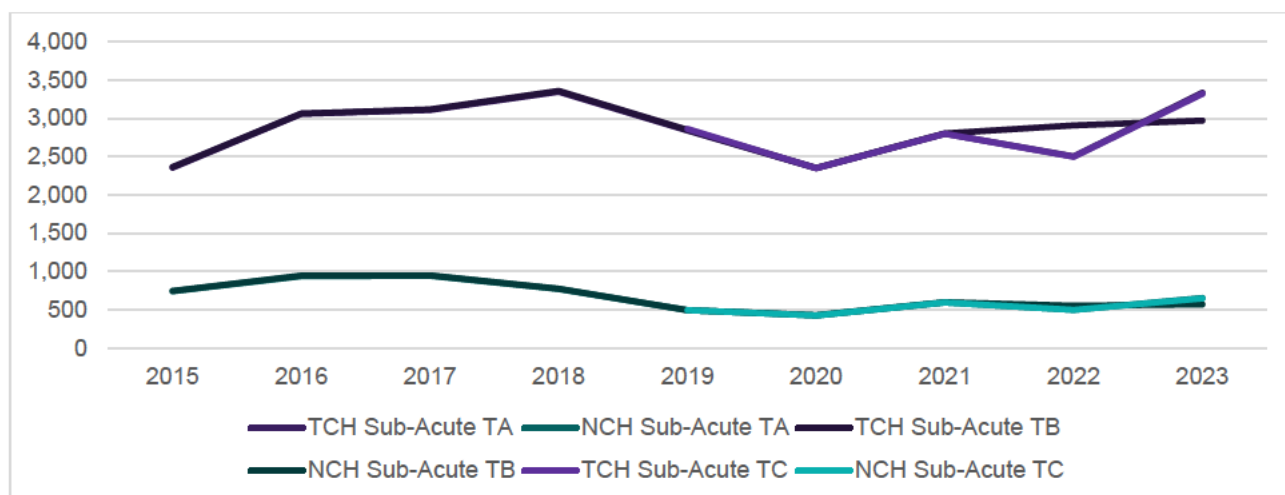


Figure C: Trended Variance Analysis for Total Sub-Acute Separations by Projection Methodology

The cause of this variation will need to be further investigated noting that this reduction in separations, due to COVID and changes in models of care as noted above to care in outpatient and community settings, may influence the growth applied to 2041, leading to overall reduced activity. This notion doesn't specifically align with the current forecasted population growth expected for the ACT North regions, which will be a key driver for increased NCH activity over time, and considered within the CSP.

Furthermore, when comparing the 2023 historical separations with the 2020/21 HPA projected 2023 separations and considering how closely aligned was actual activity to the projection, it can be seen that for TCH, historical/actual separations exceed the projections. For NCH, historical/actual separations did not reach the projected separations noted within the 2020/21 HPA Base case Projections. This could be due operational factors that can be informed by stakeholder consultation.

It is important to note that two significant events occurred across CHS that may have influenced activity levels. Firstly, the implementation of the DHR across the Territory to improve clinical information access, lead to greater transparency of patient information across services and enable better reporting, analysis and interpretation will be a key contributor to future health services planning activities. Secondly, the theatre fires that occurred at NCH that saw the theatre complex non-operational for approximately 9 months, while refurbishment was underway. Consultation as part of the CSP indicated that a majority of planned surgical activity being undertaken at TCH and within ACT private hospitals. Noting that contracted services would likely be assigned to one of the ACT Hospitals for ABF reporting.

### High-level data quality tests

To determine the allocation of activity to inform the clinical service planning data analysis, the following tests were undertaken.

#### Urgency of Admission Analysis for TCH and NCH

Understanding the allocation of emergency and unplanned activity is important in determining potential future infrastructure requirements and future models, particularly as the majority of activity/admissions into a public hospital is through the emergency department. While planned activity influences procedural infrastructure such as operating theatres and procedural rooms including endoscopy.

Noting that current (2022/23) surgical activity has 88% planned and 12% emergency split, the below emergency and planned split is inclusive of all activity including medical, which is likely driving the emergency proportion.



Within the ABF AP extract, 10.4% of TCH separations and 23.6% of NCH separations were allocated to 3-Urgency not assigned and 9-Not known/not reported.

For the historical dataset (TC), this raises the following considerations:

- The majority of 3-Urgency not assigned and 9-Not known/Not reported activity for NCH were for Medical Adult (58%, 4,345), Maternity (24%, 1,799) and Sub-Acute (8%, 613). Thus, raising the validity of utilising the emergency and planned flags to determining assigned activity for scenario modelling.
- Specifically for sub-acute activity which is typically type-changed from acute activity, the unassigned urgency of admission status is influenced by the fact that the activity shows up as unplanned acute before they are type-changed.
- Unallocated Urgency status can potentially also be patients transferring between the two hospitals.

|     | Source                                | TC        |        |  | TC                   |           |        | TB        |        | TA        |        |
|-----|---------------------------------------|-----------|--------|--|----------------------|-----------|--------|-----------|--------|-----------|--------|
|     | Urgency of Admission                  | 2023 Seps | 2023 % |  | Urgency of Admission | 2023 Seps | 2023 % | 2023 Seps | 2023 % | 2023 Seps | 2023 % |
| TCH | 1 - Urgency status assigned emergency | 53,095    | 73.6%  |  | 1- Emergency         | 53,095    | 73.6%  | 55,290    | 76.7%  | 53,251    | 73.8%  |
|     | 2 - Urgency status assigned elective  | 11,555    | 16.0%  |  | 9-Planned            | 19,037    | 26.4%  | 15,437    | 21.4%  | 19,001    | 26.3%  |
|     | 3 - Urgency status not assigned       | 4,312     | 6.0%   |  |                      |           |        |           |        |           |        |
|     | 9 - Not known/not reported            | 3,170     | 4.4%   |  |                      |           |        |           |        |           |        |
|     | Total                                 | 72,132    | 100.0% |  | Total                | 72,132    |        | 70,727    |        | 72,252    |        |
| NCH | 1 - Urgency status assigned emergency | 15,905    | 49.8%  |  | 1- Emergency         | 15,905    | 49.8%  | 18,049    | 56.5%  | 15,908    | 49.8%  |
|     | 2 - Urgency status assigned elective  | 8,495     | 26.6%  |  | 9-Planned            | 16,043    | 50.2%  | 15,991    | 50.1%  | 15,943    | 49.9%  |
|     | 3 - Urgency status not assigned       | 3,226     | 10.1%  |  |                      |           |        |           |        |           |        |
|     | 9 - Not known/not reported            | 4,322     | 13.5%  |  |                      |           |        |           |        |           |        |
|     | Total                                 | 31,948    | 100.0% |  | Total                | 31,948    |        | 34,040    |        | 31,851    |        |

Table C: Variance Analysis for separations by Urgency of Admission, 2023

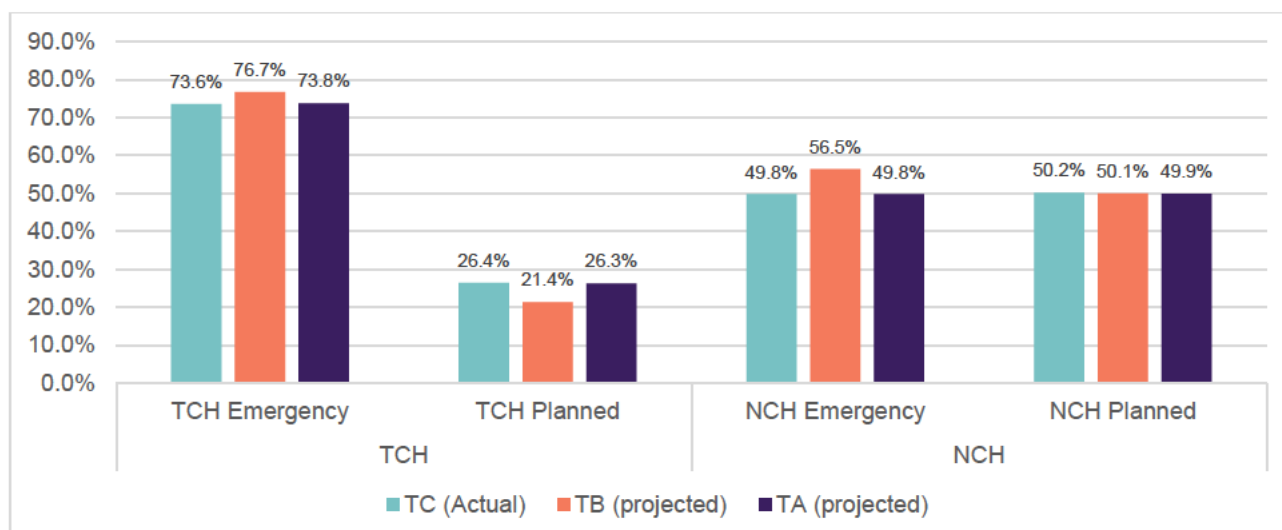


Figure D: Variance Analysis for 2023 Emergency and Planned Separations by Projection Methodology

For the 2020/21 HPA Base case Projection (TB) and 2022/23 HPA Base case Projections Tools (TA), ACTHD confirmed that HPA allocated all emergency separations to 1 – Emergency and allocated planned, urgency not assigned and not known/not reported to 9-Planned. There appears to be a correction within the projection tools as the projected years in the respective tools shows a change with more emergency activity than planned activity.

| Source | Urgency of Admission | 2021   | 2023   | 2026   | 2031   | 2036   | 2041   |
|--------|----------------------|--------|--------|--------|--------|--------|--------|
| TA     | TCH 1-Emergency      | 54,261 | 53,251 | 59,129 | 68,869 | 75,586 | 80,697 |
|        | 9-Planned            | 15,370 | 19,001 | 18,453 | 21,108 | 23,032 | 24,810 |
|        | NCH 1-Emergency      | 18,916 | 15,908 | 18,889 | 24,183 | 28,009 | 31,156 |
|        | 9-Planned            | 15,116 | 15,943 | 17,215 | 20,318 | 22,491 | 24,852 |
| TB     | TCH 1-Emergency      | 54,261 | 55,290 | 62,053 | 69,936 | 75,861 | 81,198 |
|        | 9-Planned            | 15,370 | 15,437 | 17,104 | 18,882 | 20,577 | 21,959 |
|        | NCH 1-Emergency      | 18,916 | 18,049 | 21,034 | 25,460 | 29,340 | 32,478 |
|        | 9-Planned            | 15,116 | 15,991 | 17,831 | 20,045 | 22,307 | 24,223 |

Table D: Base case Projection Tool Comparison for separations by Urgency of Admission. Note: For TB, 2023 represents projected activity and for TA, 2023 is historical activity.

### Clinical Stream Analysis

To assist in understanding the clinical activity undertaken at a hospital, clinical groupings are applied to the activity to enable the analysis of separations and bed days by medical, surgical, maternity, mental health, qualified neonates and sub-acute activity. Each of these clinical groupings utilise resources and infrastructure in different ways and for clinical service planning purposes, allows for the tailored analysis.

For the ABF AP Extract, this involved considerable review of patient-level data to enable assignment, as per the table below. While the table below excludes Chemotherapy, Renal Dialysis and Unqualified Neonates SRG, the presence of extremely small volumes of unqualified neonate separations indicates that separations with an age of 0 have been allocated to other SRGs. This further demonstrates the complexity of DRG and SRG allocation overall as aligned to ABF Care Types, and in this instance, the activity is negligible so would be excluded.

| Hospital | Clinical Grouping    | 2019          | 2020          | 2021          | 2022          | 2023          |
|----------|----------------------|---------------|---------------|---------------|---------------|---------------|
| TCH      | Medical-Adult        | 30,867        | 30,240        | 32,799        | 33,006        | 31,670        |
|          | Surgical-Adult       | 16,382        | 17,100        | 18,620        | 17,540        | 17,665        |
|          | Acute-Paediatrics    | 7,898         | 7,325         | 8,131         | 7,537         | 8,837         |
|          | Maternity            | 4,589         | 4,629         | 4,528         | 4,606         | 7,727         |
|          | Sub-Acute            | 2,863         | 2,349         | 2,799         | 2,498         | 3,319         |
|          | Mental Health        | 1,749         | 1,757         | 1,744         | 1,806         | 2,104         |
|          | Qualified Neonates   | 878           | 796           | 858           | 825           | 771           |
|          | Unknown              | 1             | -             | -             | -             | 24            |
|          | Organ Procurement    | -             | -             | 9             | 8             | 9             |
|          | Unqualified Neonates | -             | -             | -             | -             | 6             |
|          | <b>TCH Total</b>     | <b>65,227</b> | <b>64,196</b> | <b>69,488</b> | <b>67,826</b> | <b>72,132</b> |
| NCH      | Medical-Adult        | 15,696        | 15,946        | 19,319        | 13,299        | 18,810        |
|          | Surgical-Adult       | 9,000         | 8,438         | 9,688         | 8,905         | 7,739         |
|          | Maternity            | 2,257         | 2,223         | 2,478         | 2,343         | 2,982         |
|          | Acute-Paediatrics    | 476           | 502           | 769           | 427           | 741           |
|          | Sub-Acute            | 497           | 426           | 597           | 501           | 648           |
|          | Mental Health        | 524           | 591           | 761           | 571           | 589           |
|          | Qualified Neonates   | 432           | 491           | 531           | 530           | 438           |
|          | Unknown              | -             | -             | -             | -             | 1             |
|          | Unqualified Neonates | 1             | 2             | -             | -             | -             |
|          | Organ Procurement    | -             | -             | 2             | -             | -             |
|          | <b>NCH Total</b>     | <b>28,883</b> | <b>28,619</b> | <b>34,145</b> | <b>26,576</b> | <b>31,948</b> |

Table E: 2022/23 ABF AP ACTHD Extract (TA) for Separations by Clinical Grouping.

The same approach is applied to the 2020/21 HPA Base case Projection (TB) and 2022/23 HPA Base case Projections Tools (TA), however there is even more nuanced as only three care type categories are utilised acute, mental health and sub-acute. In this instance, the newborn care type is combined with acute, making extractions difficult when utilising age, SCN and NICU flags alone. Furthermore, no access to the raw patient-level data set to enable manual creation of a Clinical Grouping field also impacts service/discipline-level services planning.

Also, the pre-determined age groupings where separations with age=16 are included in paediatric grouping of 5 to 16, also impacts the ability to extract that activity into the same age groupings utilised for paediatric and adult groups as per the CSP.

Overarchingly as observed in Table A and Table B, the alignment of activity by the care types demonstrates small variances between the three key clinical groupings of acute, mental health and subacute, thus more nuanced analysis that features within the clinical service plan have enabled alignment to the current-state/historical clinical groupings.

A cross-comparison analysis has been undertaken by ACTHD comparing the 2022/23 HPA Base case Projections, showing changes between TA and TB for ACT.

| Hospitals                  | 2022 | 2023 | 2024 | 2025 | 2026 | 2031 | 2036 | 2041 |
|----------------------------|------|------|------|------|------|------|------|------|
| 810000082 - TCH            | 0%   | 2%   | 2%   | 1%   | 0%   | 3%   | 4%   | 4%   |
| 810000083 - NCH            | -19% | -6%  | -5%  | -5%  | -6%  | -2%  | -2%  | -1%  |
| 810000087 - UCH            | -24% | -26% | -17% | -22% | -22% | -16% | -6%  | -8%  |
| 810000083_CHH              | -8%  | 16%  | 8%   | 13%  | -1%  | 10%  | 7%   | 4%   |
| Interstate Patients        | -28% | -27% | -24% | -26% | -27% | -25% | -25% | -22% |
| Public in Private Activity | -3%  | 2%   | 0%   | -1%  | -1%  | 0%   | -1%  | -1%  |

Table F: Variation Comparison across ACT. Source: ACTHD, 2024.

### Length of Stay Analysis

The table below shows the overnight ALOS for acute activity across the three sources. There are minimal variances among the three indicating at a high-level that the projections have accounted for historical trends with minimal change over time. It is expected that base case projections will reflect a degree of improved length of stay consistent with historic trends which, account for model of care changes or reduction in separations redistribution of acute activity to non-admitted activity.

However, it is recognised that non-admitted activity projections are complex, given that underlying



data quality issues within historical non-admitted activity so a direct reconciliation between admitted and non-admitted projections is not possible at this stage.

| Source | 2019 | 2020 | 2021 | 2022 | 2023 | 2026 | 2031 | 2036 | 2041 |
|--------|------|------|------|------|------|------|------|------|------|
| TA     |      |      | 3.7  | 4.3  | 4.4  | 4.0  | 4.1  | 3.9  | 4.0  |
| TB     |      |      | 3.7  | 3.7  | 3.7  | 3.7  | 3.6  | 3.7  | 3.7  |
| TC     | 3.6  | 3.8  | 3.6  | 4.1  | 4.2  |      |      |      |      |

Table G: Length of Stay Analysis (days) for NCH

#### Antenatal and postnatal admissions increased activity in historical 2022/23 for TCH and NCH

In the ABF AP Extract, there was a significant increase in separations for TCH and NCH in ESRG 721-Antenatal admission and ESRG 724-Postnatal admissions from 2021/22 to 2022/23. This activity is commonly captured as non-admitted activity, thus it likely there has been a coding practice changes contributing to this increase.

As shown, as the 2020/21 HPA Base case Projection Tool (TB) projected from the 2021 base year for this activity, the projection better reflects the trend for this type of activity, and this has been used for the CSP.

| Source | ESRG v6                 | TC   |       | TA   |       | TB   |      |
|--------|-------------------------|------|-------|------|-------|------|------|
|        |                         | 2022 | 2023  | 2022 | 2023  | 2022 | 2023 |
| TCH    | 721 Antenatal admission | 962  | 4,092 | 961  | 4,089 | 945  | 919  |
|        | 724 Postnatal admission | 191  | 349   | 187  | 347   | 224  | 213  |
| NCH    | 721 Antenatal admission | 485  | 1,066 | 485  | 1,066 | 567  | 594  |
|        | 724 Postnatal admission | 105  | 293   | 101  | 291   | 126  | 127  |

Table H: Variance Analysis for 2022 and 2023 Antenatal and Postnatal Admission ESRG Separations

| ESRG v6 |                         | 2022 | 2023  | 2026  | 2031  | 2036  | 2041  |
|---------|-------------------------|------|-------|-------|-------|-------|-------|
| TCH     | 721 Antenatal admission | 961  | 4,089 | 3,613 | 3,948 | 4,091 | 4,272 |
|         | 724 Postnatal admission | 187  | 347   | 354   | 403   | 436   | 438   |
| NCH     | 721 Antenatal admission | 485  | 1,066 | 1,375 | 1,545 | 1,782 | 1,885 |
|         | 724 Postnatal admission | 101  | 291   | 287   | 315   | 322   | 371   |

Table I: 2022/23 HPA Base case Projections for Antenatal and Postnatal Admission ESRG Separations, 2022-2041

As observed in Table D, the proposed 2022/23 HPA Base case Projections have maintained the same high-volume trend for these ESRGs, which is very unlikely to persist into the future.

#### ICU Flags and Hours for NCH

In the ABF AP Extract for NCH, ICU data was not supplied. The CSP utilised the 2020/21 HPA Base case Projection Tool (TB) to understand the historical trend from 2019 to 2021, as shown below.

|     |              | 2019   | 2021   | 2023   | 2026   | 2031   | 2036   | 2041   |
|-----|--------------|--------|--------|--------|--------|--------|--------|--------|
| NCH | ICU Flag = 1 | 786    | 743    | 672    | 813    | 907    | 987    | 1,154  |
|     | ICU Hours    | 55,242 | 49,394 | 46,271 | 58,894 | 64,649 | 70,632 | 89,174 |

Table J: 2020/21 HPA Base case Projection for ICU Activity

In the 2022/23 HPA Base case Projection Tool (TA), represents the following trend for ICU-flagged separations and hours, showing that by 2041, ICU-flagged separations are to have an annual change of 1.1% and ICU hours to have a 2.2% annual change from 2023.

|     |              | 2019   | 2021   | 2022   | 2023   | 2026   | 2031   | 2036   | 2041   |
|-----|--------------|--------|--------|--------|--------|--------|--------|--------|--------|
| NCH | ICU Flag = 1 | 786    | 743    | 610    | 622    | 552    | 630    | 703    | 756    |
|     | ICU Hours    | 55,242 | 49,394 | 49,220 | 50,082 | 53,416 | 68,757 | 65,685 | 73,709 |

Table K: 2022/23 HPA Base case Projection Tool for ICU Activity



## Endoscopy Activity at TCH

In the ABF AP Extract for TCH, there appears to be an under-representation of endoscopy activity assigned to TCH, which would typically be allocated to SRG 16 Diagnostic GI. Given the historical volumes, it is assumed that this activity for TCH may be captured within the non-admitted stream. The main impact of this occurred for surgical services scenario modelling to reflect the role of NCH becoming the high-volume low-complexity surgical centre for the ACT.

Between the ABF AP Extract (TC) and 2022/23 HPA Base case Projection Tool (TA), for NCH, there is a considerable variance in separations of 473, meaning the projection tool underreported the 2023 historical activity for endoscopy.

|            | Source           | TC    |       | TB    |       | TA    |       | TC-TA<br>Variance |
|------------|------------------|-------|-------|-------|-------|-------|-------|-------------------|
|            | SRG v6           | 2021  | 2023  | 2021  | 2023  | 2021  | 2023  | 2023              |
| <b>TCH</b> | 16 Diagnostic GI | 841   | 615   | 785   | 670   | 785   | 543   | 72                |
| <b>NCH</b> | 16 Diagnostic GI | 2,013 | 1,751 | 1,560 | 1,756 | 1,560 | 1,278 | 473               |

Table L: Variance analysis for SRG 16-Diagnostic GI separations. Note: all care types selected

| Source    | 2021  | 2023  | 2026  | 2031  | 2036  | 2041  | CARG<br>2021-2041 |
|-----------|-------|-------|-------|-------|-------|-------|-------------------|
| <b>TA</b> | 1,560 | 1,278 | 1,693 | 1,922 | 2,351 | 2,582 | 2.6%              |
| <b>TB</b> | 1,560 | 1,756 | 1,909 | 2,097 | 2,274 | 2,602 | 2.6%              |

Table M: SRG16-Diagnostic GI separations for NCH

## Summary

Based on the objectives outlined in the Introduction, this data review and analysis has indicated the following:

- The variation between the current 2020/21 HPA Projections and unapproved 2022/23 HPA Projections is minimal.
- LOS variance is minimal and is reflective of current activity trends, which shows increasing LOS. Overall, LOS will be addressed within the CSP for specific areas, where improvement is anticipated in the coming years.
- Ongoing work to refine data capture and coding practices may address variances observed across antenatal activity and endoscopy.
- Review of the CSP within 18 to 24 months to enable the trended analysis involving 2023/24, 2024/25 and 2025/26.

## Appendix 8 – Canberra Health Services Operating Theatre Requirements Analysis

### Introduction

On 5<sup>th</sup> December 2024, the Northside Hospital Clinical Service Plan (CSP) was presented at the Northside Hospital Clinical Services and Facility Planning Project Steering Committee and endorsed by CHS. On 19<sup>th</sup> December 2024, the CSP was presented to the Project Board for noting, where it was requested that a Territory-wide review of operating theatre requirements to 2041 be undertaken.

The purpose of the review was to determine if there be adequate theatre capacity to meet the needs of CHS by 2041, specifically considering the theatre infrastructure requirements for Northside Hospital to satisfy this.

In January 2025, CHS issued three location-based theatre data extracts for North Canberra Hospital (NCH) and The Canberra Hospital (TCH). The following were provided to Linéaire Projects:

- ACTPAS for The Canberra Hospital (TCH) for 1/01/2019 to 10/11/2022 (72,525 records)
- IPM for North Canberra Hospital (NCH) for 1/07/2019 to 10/11/2022 (36,205 records)
- DHR for TCH and NCH for 12/11/2022 to 9/01/2025 (71,347 records)

A data cleanse activity was undertaken to consolidate the three data sets into a single modified data set. Table 1 outlines the outcomes of the data cleanse activity to produce the single data set that formed the basis of the analysis.

| Data cleanse activity                                                                          | Record Number  |
|------------------------------------------------------------------------------------------------|----------------|
| <b>Total Records</b>                                                                           | <b>180,077</b> |
| Step 1 – Missing variables, duplications, other data quality issues in ACTPAS and DHR excluded | 8,393          |
| <b>Combined three extracts to create new single extract</b>                                    | <b>171,684</b> |
| Step 2 – Records with nil surgery end time excluded                                            | 3,571          |
| Step 3 – Records with surgery start time later than surgery end time                           | 554            |
| <b>Records retained for analysis</b>                                                           | <b>167,559</b> |
| <i>Total unique records excluded</i>                                                           | <i>12,518</i>  |

**Table 1: Data Cleanse Activity.** Sources: ACTPA, IPM and DHR provided by CHS Decision Support Unit (DSU), 2025.

### Limitations and Clarifications

The following limitations and clarifications were noted for the analysis:

- Data provided is location-based i.e. activity undertaken at TCH or NCH.
- Place of residence data was not available within the three source data sets.
  - This limits the ability to distinguish between place of residence. The analysis utilised the CSP proportion of ACT North and ACT South residents at the respective hospitals to test the CSP Theatre Scenario Model.
- Financial class data noted as unreliable as translation between public and insured/private patients was not possible within current data extracts.
- Specialities across the three data sources are varied and was not adjusted.
  - The analysis focused on all surgery and procedures irrespective of speciality for this reason.
- Due to variability of the data elements, the following key elements have informed the analysis:
  - Age
  - Urgency Of Admission
  - Procedure Start Date and Time
  - Procedure End Date and Time

- Due to the NCH Theatre Fires that occurred in December 2022, theatre activity was undertaken at TCH and in private hospitals till October 2023, when the NCH theatre suite refurbishment was completed.
  - The analysis revealed 379 records of NCH activity undertaken in a private hospital, which was allocated to NCH for the analysis.
  - After the initial analysis, CHS DSU provided an extract for planned surgical activity including contracted care activity.
- Inconsistency with Check In Date and Time resulted in its exclusion from analysis.
- As Wheels In (wi) and Wheels Out (wo) Times were not available in the three source data sets, surgery start and surgery end date time was utilised to determine average case time per year and used in the analysis.
- Due to the difficulty in identifying endoscopy data within the three source data sets, a separate operational activity report for scope procedures was provided by CHS DSU, to aid analysis.

## Initial Analysis

The current state of theatres across the CHS represented in Table 2. This was confirmed by consultation with CHS and NCH as part of the CSP development and during this analysis.

Clarifications include:

- Building 5 has 16 general theatres, 4 hybrid theatres and 2 Interventional Radiology suites.
- Building 12 theatres are for unplanned caesarean cases only. No planned work undertaken.
- The remaining Building 12 theatres will be decommissioned in the future to allow for 6 endoscopy rooms.
- NCH has 4 planned theatres and 0.5 theatre for unplanned cases.

| Facility                          | Theatre Type       | Theatre Location        | Current (2024) |        |
|-----------------------------------|--------------------|-------------------------|----------------|--------|
|                                   |                    |                         | Available      | Built  |
| TCH                               | Operating Theatres | Building 5              | 11(+2)         | 20(+2) |
|                                   |                    | Building 12             | 2              | 2      |
|                                   | Procedural Rooms   | Endoscopy (Building 1)  | 2              | 3      |
|                                   |                    | Neurostim (Building 25) | 1              | 1      |
| TCH Total excluding IR, Neurostim |                    |                         | 15             | 25     |
| NCH                               | Operating Theatres | Theatre Suite           | 4.5 (5)        | 7      |
|                                   | Procedural Rooms   | Theatre Suite           | 1              | 1      |
| NCH Total                         |                    |                         | 5.5            | 8      |

Table 2: Current Available and Built Theatres, NCH and TCH. Source: CHS, 2024.

Table 3 presents the total cases and calculated average case time by unplanned and planned urgency of admission. Between 2019/20 to 2023/24:

- Theatre activity at NCH shows a reducing trend overall, while TCH theatre activity had an increasing trend particularly for planned cases.
- NCH had a higher proportion of planned cases compared to unplanned cases, while this is reverse for TCH with a greater proportion of unplanned cases compared to unplanned cases.
- For NCH, the average case time for unplanned cases ranged from 43.3 minutes in 2019/20 to 51.1 minutes in 2023/24. While planned cases ranged from 33.5 minutes to 42/7 minutes for the same period.
- While for TCH, average case time for planned cases remained relatively stable at 77.3 minutes in 2023/24. While unplanned average case time increased from 49.9 minutes in 2019/20 to 60.2 minutes in 2023/24.

| Facility        | Urgency of Admission        | 2019/20 | 2020/21 | 2021/22 | 2022/23 | 2023/24 | 2023/24 Proportion | Variance  | Growth  | CAGR 2020-2024 |
|-----------------|-----------------------------|---------|---------|---------|---------|---------|--------------------|-----------|---------|----------------|
| NCH             | Unplanned Cases             | 1,881   | 2,040   | 2,044   | 1,477   | 1,525   | 20.0%              | (356.0)   | (18.9)% | (5.1)%         |
|                 | Unplanned Average Case Time | 43.3    | 44.1    | 41.7    | 45.6    | 51.1    |                    | 7.8       | 18.0%   | 4.2%           |
| NCH             | Planned Cases               | 8,111   | 9,547   | 8,726   | 5,504   | 6,093   | 80.0%              | (2,018.0) | (24.9)% | (6.9)%         |
|                 | Planned Average Case Time   | 33.5    | 35.5    | 36.1    | 38.9    | 42.7    |                    | 9.2       | 27.6%   | 6.3%           |
| NCH Total Cases |                             | 9,992   | 11,587  | 10,770  | 6,981   | 7,618   |                    | (2,374.0) | (23.8)% | (6.6)%         |
| TCH             | Unplanned Cases             | 12,194  | 12,602  | 12,107  | 11,367  | 12,349  | 61.2%              | 155.0     | 1.3%    | 0.3%           |
|                 | Unplanned Average Case Time | 49.9    | 49.9    | 51.0    | 58.5    | 60.2    |                    | 10.3      | 20.5%   | 4.8%           |
| TCH             | Planned Cases               | 6,491   | 6,963   | 6,364   | 7,056   | 7,825   | 38.8%              | 1,334.0   | 20.6%   | 4.8%           |
|                 | Planned Average Case Time   | 77.5    | 76.1    | 75.3    | 76.9    | 77.3    |                    | (0.2)     | (0.3)%  | (0.1)%         |
| TCH Total Cases |                             | 18,685  | 19,565  | 18,471  | 18,423  | 20,174  |                    | 1,489.0   | 8.0%    | 1.9%           |
| CHS             |                             | 28,677  | 31,152  | 29,241  | 25,404  | 27,792  |                    | (885.0)   | (3.1)%  | (0.8)%         |

Table 3: Theatre Cases and Average Case Time, NCH and TCH. Sources: ACTPA, IPM and DHR provided by CHS Decision Support Unit (DSU), 2025. Excludes NULL values. Includes all ages, all specialities.

### Modified Base Case Analysis

A modified base case projection exercise was undertaken, which includes applying the age-specific population growth rates for ACT North for NCH to reflect that NCH will provide services predominately to its local catchment (ACT North suburbs). For TCH, the age-specific population growth rates were applied to reflect that some residents from ACT North will continue to go to TCH into the future. This exercise does not any patient flow changes between the two hospitals.

Table 4 shows that by 2031, NCH is estimated to perform 9,166 unplanned and planned cases and TCH is estimated to perform 22,660 cases. This estimates a growth of 20.3% for NCH and 12.3% for TCH between 2024 and 2031.



By 2041, it is estimated that NCH will have a 49.1% growth in total theatre cases with TCH having a 28.4% growth rate.

| Facility               | Age          | Urgency of Admission | 2024          | 2025          | 2026          | 2031          | 2036          | 2041          | CAGR 2024-2031 | CAGR 2024-2041 |
|------------------------|--------------|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| <b>NCH</b>             | 00-15        | Unplanned            | 1             | 1             | 1             | 1             | 1             | 1             | 2.2%           | 2.2%           |
|                        | 16-49        | Unplanned            | 1,096         | 1,119         | 1,142         | 1,267         | 1,406         | 1,559         | 2.1%           | 2.1%           |
|                        | 50-64        | Unplanned            | 180           | 185           | 191           | 220           | 254           | 293           | 2.9%           | 2.9%           |
|                        | 65-74        | Unplanned            | 119           | 122           | 125           | 142           | 162           | 184           | 2.6%           | 2.6%           |
|                        | 75+          | Unplanned            | 129           | 134           | 139           | 166           | 198           | 237           | 3.6%           | 3.6%           |
|                        | <b>Total</b> | <b>Unplanned</b>     | <b>1,525</b>  | <b>1,561</b>  | <b>1,598</b>  | <b>1,797</b>  | <b>2,021</b>  | <b>2,275</b>  | <b>2.4%</b>    | <b>2.4%</b>    |
|                        | 00-15        | Planned              | 83            | 85            | 87            | 97            | 108           | 120           | 2.2%           | 2.2%           |
|                        | 16-49        | Planned              | 1,933         | 1,974         | 2,015         | 2,235         | 2,479         | 2,750         | 2.1%           | 2.1%           |
|                        | 50-64        | Planned              | 1,367         | 1,407         | 1,448         | 1,671         | 1,929         | 2,227         | 2.9%           | 2.9%           |
|                        | 65-74        | Planned              | 1,305         | 1,339         | 1,374         | 1,563         | 1,777         | 2,021         | 2.6%           | 2.6%           |
|                        | 75+          | Planned              | 1,405         | 1,456         | 1,509         | 1,804         | 2,156         | 2,577         | 3.6%           | 3.6%           |
|                        | <b>Total</b> | <b>Planned</b>       | <b>6,093</b>  | <b>6,260</b>  | <b>6,432</b>  | <b>7,369</b>  | <b>8,449</b>  | <b>9,696</b>  | <b>2.8%</b>    | <b>2.8%</b>    |
| <b>Total NCH Cases</b> |              |                      | <b>7,618</b>  | <b>7,821</b>  | <b>8,030</b>  | <b>9,166</b>  | <b>10,471</b> | <b>11,971</b> | <b>2.7%</b>    | <b>2.7%</b>    |
| <b>TCH</b>             | 00-15        | Unplanned            | 1,560         | 1,584         | 1,608         | 1,736         | 1,874         | 2,023         | 1.5%           | 1.5%           |
|                        | 16-49        | Unplanned            | 5,576         | 5,664         | 5,753         | 6,221         | 6,726         | 7,273         | 1.6%           | 1.6%           |
|                        | 50-64        | Unplanned            | 2,063         | 2,097         | 2,131         | 2,313         | 2,510         | 2,723         | 1.6%           | 1.6%           |
|                        | 65-74        | Unplanned            | 1,387         | 1,405         | 1,423         | 1,518         | 1,619         | 1,727         | 1.3%           | 1.3%           |
|                        | 75+          | Unplanned            | 1,763         | 1,805         | 1,847         | 2,077         | 2,334         | 2,624         | 2.4%           | 2.4%           |
|                        | <b>Total</b> | <b>Unplanned</b>     | <b>12,349</b> | <b>12,555</b> | <b>12,764</b> | <b>13,864</b> | <b>15,063</b> | <b>16,369</b> | <b>1.7%</b>    | <b>1.7%</b>    |
|                        | 00-15        | Planned              | 1,027         | 1,043         | 1,059         | 1,143         | 1,234         | 1,332         | 1.5%           | 1.5%           |
|                        | 16-49        | Planned              | 2,406         | 2,444         | 2,482         | 2,684         | 2,902         | 3,138         | 1.6%           | 1.6%           |
|                        | 50-64        | Planned              | 1,576         | 1,602         | 1,628         | 1,767         | 1,917         | 2,080         | 1.6%           | 1.6%           |
|                        | 65-74        | Planned              | 1,373         | 1,391         | 1,409         | 1,503         | 1,603         | 1,709         | 1.3%           | 1.3%           |
|                        | 75+          | Planned              | 1,443         | 1,477         | 1,512         | 1,700         | 1,911         | 2,148         | 2.4%           | 2.4%           |
|                        | <b>Total</b> | <b>Planned</b>       | <b>7,825</b>  | <b>7,957</b>  | <b>8,091</b>  | <b>8,796</b>  | <b>9,566</b>  | <b>10,407</b> | <b>1.7%</b>    | <b>1.7%</b>    |
| <b>Total TCH Cases</b> |              |                      | <b>20,174</b> | <b>20,511</b> | <b>20,854</b> | <b>22,660</b> | <b>24,629</b> | <b>26,776</b> | <b>1.7%</b>    | <b>1.7%</b>    |
| <b>Total CHS</b>       |              |                      | <b>27,792</b> | <b>28,332</b> | <b>28,884</b> | <b>31,826</b> | <b>35,100</b> | <b>38,747</b> | <b>2.0%</b>    | <b>2.0%</b>    |

Table 4: Modified Base case Theatre Cases to 2041, NCH and TCH. Sources: ACTPA, IPM and DHR provided by CHS Decision Support Unit (DSU), 2025; ACT Population Projections, CMTEDD, 2022. Excludes NULL values. Includes all ages, all specialities. Rounding has been applied.

## Scenario Model

To replicate the CSP scenario model undertaken for theatres, the following assumptions to the modified base case output were applied:

- 50% of ACT North Residents from TCH flow back to NCH for planned low complex surgery from 2026.
- 50% of ACT South Residents from TCH flow back to NCH for planned low complex surgery from 2031.
- 50% of ACT North Residents from TCH flow back to NCH for unplanned surgery from 2031.

Table 5 shows the output of the scenario model for NCH and TCH from 2024 to 2041. It shows the redistribution of cases from TCH to NCH, aligned to the strategic directions of CHS for surgery across the Territory.

| Facility               | Age          | Urgency of Admission | 2024          | 2025          | 2026          | 2031          | 2036          | 2041          | CAGR 2024-2031 | CAGR 2024-2041 |
|------------------------|--------------|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| NCH                    | 00-15        | Unplanned            | 1             | 1             | 1             | 1             | 1             | 1             | 2.2%           | 2.2%           |
|                        | 16-49        | Unplanned            | 1,096         | 1,119         | 1,142         | 1,849         | 2,035         | 2,240         | 7.8%           | 4.3%           |
|                        | 50-64        | Unplanned            | 180           | 185           | 191           | 437           | 489           | 548           | 13.5%          | 6.8%           |
|                        | 65-74        | Unplanned            | 119           | 122           | 125           | 285           | 314           | 346           | 13.3%          | 6.5%           |
|                        | 75+          | Unplanned            | 129           | 134           | 139           | 360           | 416           | 482           | 15.8%          | 8.1%           |
|                        | <b>Total</b> | <b>Unplanned</b>     | <b>1,525</b>  | <b>1,561</b>  | <b>1,598</b>  | <b>2,932</b>  | <b>3,256</b>  | <b>3,618</b>  | <b>9.8%</b>    | <b>5.2%</b>    |
|                        | 00-15        | Planned              | 83            | 85            | 87            | 97            | 108           | 120           | 2.2%           | 2.2%           |
|                        | 16-49        | Planned              | 1,933         | 1,974         | 2,178         | 2,578         | 2,850         | 3,151         | 4.2%           | 2.9%           |
|                        | 50-64        | Planned              | 1,367         | 1,407         | 1,555         | 1,897         | 2,174         | 2,493         | 4.8%           | 3.6%           |
|                        | 65-74        | Planned              | 1,305         | 1,339         | 1,467         | 1,754         | 1,982         | 2,240         | 4.3%           | 3.2%           |
|                        | 75+          | Planned              | 1,405         | 1,456         | 1,609         | 2,021         | 2,400         | 2,851         | 5.3%           | 4.3%           |
|                        | <b>Total</b> | <b>Planned</b>       | <b>6,093</b>  | <b>6,260</b>  | <b>6,896</b>  | <b>8,346</b>  | <b>9,513</b>  | <b>10,854</b> | <b>4.6%</b>    | <b>3.5%</b>    |
| <b>Total NCH Cases</b> |              |                      | <b>7,618</b>  | <b>7,821</b>  | <b>8,494</b>  | <b>11,278</b> | <b>12,769</b> | <b>14,472</b> | <b>5.8%</b>    | <b>3.8%</b>    |
| TCH                    | 00-15        | Unplanned            | 1,560         | 1,584         | 1,608         | 1,736         | 1,874         | 2,023         | 1.5%           | 1.5%           |
|                        | 16-49        | Unplanned            | 5,576         | 5,664         | 5,753         | 5,638         | 6,097         | 6,592         | 0.2%           | 1.0%           |
|                        | 50-64        | Unplanned            | 2,063         | 2,097         | 2,131         | 2,096         | 2,275         | 2,468         | 0.2%           | 1.1%           |
|                        | 65-74        | Unplanned            | 1,387         | 1,405         | 1,423         | 1,376         | 1,468         | 1,565         | -0.1%          | 0.7%           |
|                        | 75+          | Unplanned            | 1,763         | 1,805         | 1,847         | 1,882         | 2,116         | 2,379         | 0.9%           | 1.8%           |
|                        | <b>Total</b> | <b>Unplanned</b>     | <b>12,349</b> | <b>12,555</b> | <b>12,764</b> | <b>12,729</b> | <b>13,829</b> | <b>15,027</b> | <b>0.4%</b>    | <b>1.2%</b>    |
|                        | 00-15        | Planned              | 1,027         | 1,043         | 1,059         | 1,143         | 1,234         | 1,332         | 1.5%           | 1.5%           |
|                        | 16-49        | Planned              | 2,406         | 2,444         | 2,319         | 2,342         | 2,532         | 2,738         | -0.4%          | 0.8%           |
|                        | 50-64        | Planned              | 1,576         | 1,602         | 1,521         | 1,541         | 1,672         | 1,815         | -0.3%          | 0.8%           |
|                        | 65-74        | Planned              | 1,373         | 1,391         | 1,316         | 1,311         | 1,398         | 1,491         | -0.7%          | 0.5%           |
|                        | 75+          | Planned              | 1,443         | 1,477         | 1,412         | 1,483         | 1,667         | 1,874         | 0.4%           | 1.5%           |
|                        | <b>Total</b> | <b>Planned</b>       | <b>7,825</b>  | <b>7,957</b>  | <b>7,627</b>  | <b>7,819</b>  | <b>8,503</b>  | <b>9,249</b>  | <b>0.0%</b>    | <b>1.0%</b>    |
| <b>Total TCH Cases</b> |              |                      | <b>20,174</b> | <b>20,511</b> | <b>20,391</b> | <b>20,548</b> | <b>22,331</b> | <b>24,275</b> | <b>0.3%</b>    | <b>1.1%</b>    |
| <b>Total CHS</b>       |              |                      | <b>27,792</b> | <b>28,332</b> | <b>28,884</b> | <b>31,826</b> | <b>35,100</b> | <b>38,747</b> | <b>2.0%</b>    | <b>2.0%</b>    |

Table 5: Scenario Theatre Cases to 2041, NCH and TCH. Sources: ACTPA, IPM and DHR provided by CHS Decision Support Unit (DSU), 2025; ACT Population Projections, CMTEDD, 2022. Excludes NULL values. Includes all ages, all specialities. Rounding has been applied.

To determine the theatre requirements based on the scenario model, the following assumptions were applied and approved following consultation with CHS:

- Assuming that theatres are available for 8 hours per day.
- Unplanned occupancy set at 50% to reflect the nature of emergency cases presenting over a day, maintenance periods, cleaning between cases and preparing the theatre.
- Planned occupancy set at 80%, reflecting the scheduled nature of cases, maintenance periods, cleaning between cases and preparing the theatre.
- Unplanned average case time for NCH of 51.1 minutes based on 2023/24 data.
- Planned average case time for NCH of 42.7 minutes based on 2023/24 data.
- Unplanned average case time for TCH of 60.2 minutes based on 2023/24 data.
- Planned average case time for NCH of 77.3 minutes based on 2023/24 data.
- A 15% adjustment was applied to capture the proportion of unplanned cases that occur out of normal hours.
- A 20% adjustment was applied to reflect the proportion of cases that have a wheels in and wheels out time greater than surgery start and surgery end time. This was to capture time that couldn't be determined due to the datasets' limitations.

- Stage 1 recovery spaces calculated at 1.5 spaces per theatre and procedure room requirement.
- Stage 2/3 recovery spaces calculated at 3 spaces per theatre and procedure room requirement.

Table 6 shows that by 2031, NCH has a calculated requirement of 7.1 (8) theatres and 9.1 (10) theatres by 2041.

| NCH                                            | 2024       | 2025       | 2026       | 2031       | 2036       | 2041       |
|------------------------------------------------|------------|------------|------------|------------|------------|------------|
| Unplanned                                      | 1.1        | 1.1        | 1.1        | 2.0        | 2.3        | 2.5        |
| Planned                                        | 2.8        | 2.9        | 3.2        | 3.9        | 4.4        | 5.0        |
| <b>Total Theatres</b>                          | <b>3.9</b> | <b>4.0</b> | <b>4.3</b> | <b>5.9</b> | <b>6.7</b> | <b>7.6</b> |
| Total Recovery Spaces                          | 17         | 18         | 19         | 27         | 30         | 34         |
| <i>Adjustment if wi/wo &gt; start-end time</i> | 20%        | 20%        | 20%        | 20%        | 20%        | 20%        |
| Adjusted theatres - Unplanned                  | 1.3        | 1.3        | 1.3        | 2.5        | 2.7        | 3.0        |
| Adjusted theatres - Planned                    | 3.4        | 3.5        | 3.8        | 4.6        | 5.3        | 6.0        |
| <b>Adjusted theatres - Total</b>               | <b>4.7</b> | <b>4.8</b> | <b>5.2</b> | <b>7.1</b> | <b>8.0</b> | <b>9.1</b> |
| Adjusted Recovery Spaces - Total               | 21         | 22         | 23         | 32         | 36         | 41         |

Table 6: Scenario Theatre Requirements to 2041, NCH. Sources: ACTPA, IPM and DHR provided by CHS Decision Support Unit (DSU), 2025; ACT Population Projections, CMTEDD, 2022. Excludes NULL values. Includes all ages, all specialities. Rounding has been applied.

Table 7 shows that by 2031, TCH has a calculated requirement of 20.4 (21) theatres and 24.1 (25) theatres by 2041.

| TCH                                            | 2024        | 2025        | 2026        | 2031        | 2036        | 2041        |
|------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Unplanned                                      | 10.1        | 10.3        | 10.5        | 10.4        | 11.3        | 12.3        |
| Planned                                        | 6.6         | 6.7         | 6.4         | 6.6         | 7.1         | 7.8         |
| <b>Total Theatres</b>                          | <b>16.7</b> | <b>17.0</b> | <b>16.9</b> | <b>17.0</b> | <b>18.5</b> | <b>20.1</b> |
| Total Recovery Spaces                          | 75          | 76          | 76          | 76          | 83          | 90          |
| <i>Adjustment if wi/wo &gt; start-end time</i> | 20%         | 20%         | 20%         | 20%         | 20%         | 20%         |
| Adjusted theatres - Unplanned                  | 12.1        | 12.4        | 12.6        | 12.5        | 13.6        | 14.8        |
| Adjusted theatres - Planned                    | 7.9         | 8.0         | 7.7         | 7.9         | 8.6         | 9.3         |
| <b>Adjusted theatres - Total</b>               | <b>20.0</b> | <b>20.4</b> | <b>20.2</b> | <b>20.4</b> | <b>22.2</b> | <b>24.1</b> |
| Adjusted Recovery Spaces - Total               | 90          | 92          | 91          | 92          | 100         | 108         |

Table 7: Scenario Theatre Requirements to 2041, TCH. Sources: ACTPA, IPM and DHR provided by CHS Decision Support Unit (DSU), 2025; ACT Population Projections, CMTEDD, 2022. Excludes NULL values. Includes all ages, all specialities. Rounding has been applied.

## Additional Analysis

Understanding that there are inherent data limitations with the datasets provided, CHS DSU supplied additional summary data for elective surgery which included contracted care data at NCH and TCH.

The same modified base case exercise and scenario was applied at a high level to test the theatre requirement outputs. Also, age-specific population growth rates could not be applied due to the summary nature of the data provided. Thus, the high-level test applied the overall population annual growth rate for the ACT North region of 2.4% for NCH and the overall population annual growth rate for the whole ACT of 1.6% for TCH.



Table 8 reflects the outputs from this test, where by 2041, NCH is projected to perform 14,862 cases and TCH is estimated to perform 24,720 cases. The difference between Table 5 outputs and Table 8 outputs is approximately an additional 400 cases for NCH and 500 cases for TCH, a variance of 2.7% and 1.8% respectively.

| Facility  | Age      | Urgency of Admission | 2024   | 2025   | 2026   | 2031   | 2036   | 2041   | CAGR 2024-2031 | CAGR 2024-2041 |
|-----------|----------|----------------------|--------|--------|--------|--------|--------|--------|----------------|----------------|
| NCH       | All ages | Unplanned            | 1,525  | 1,562  | 1,599  | 3,092  | 3,425  | 3,796  | 10.6%          | 5.5%           |
|           | All ages | Planned              | 6,411  | 6,565  | 7,321  | 8,825  | 9,881  | 11,066 | 4.7%           | 3.3%           |
| NCH       | All ages | Total                | 7,936  | 8,126  | 8,920  | 11,917 | 13,307 | 14,862 | 6.0%           | 3.8%           |
| TCH       | All ages | Unplanned            | 12,349 | 12,547 | 12,747 | 12,509 | 13,542 | 14,660 | 0.2%           | 1.0%           |
|           | All ages | Planned              | 8,804  | 8,945  | 8,489  | 8,583  | 9,292  | 10,059 | (0.4%)         | 0.8%           |
| TCH       | All ages | Total                | 21,153 | 21,491 | 21,236 | 21,092 | 22,834 | 24,720 | 0.0%           | 0.9%           |
| Total CHS |          |                      | 29,089 | 29,618 | 30,157 | 33,008 | 36,140 | 39,582 | 1.8%           | 1.8%           |

Table 8: High-level Test Scenario Theatre Cases to 2041, NCH and TCH. Sources: Elective Surgery Summary Data Table provided by CHS Decision Support Unit (DSU), 2025; ACT Population Projections, CMTEDD, 2022. Excludes NULL values. Includes all ages, all specialities. Rounding has been applied.

Table 9 shows the projected theatres requirements from this high-level test, with NCH projecting a requirement of 7.5 (8) by 2031 and 9.3 (10) by 2041.

| NCH                                  | 2024       | 2025       | 2026       | 2031       | 2036       | 2041       |
|--------------------------------------|------------|------------|------------|------------|------------|------------|
| Unplanned                            | 1.1        | 1.1        | 1.1        | 2.2        | 2.4        | 2.6        |
| Planned                              | 3.0        | 3.0        | 3.4        | 4.1        | 4.6        | 5.1        |
| <b>Total Theatres</b>                | <b>4.0</b> | <b>4.1</b> | <b>4.5</b> | <b>6.2</b> | <b>7.0</b> | <b>7.8</b> |
| Total Recovery Spaces                | 18         | 19         | 20         | 28         | 31         | 35         |
| Adjustment if wi/wo > start-end time | 20%        | 20%        | 20%        | 20%        | 20%        | 20%        |
| Adjusted theatres - Unplanned        | 1.3        | 1.3        | 1.3        | 2.6        | 2.9        | 3.2        |
| Adjusted theatres - Planned          | 3.6        | 3.7        | 4.1        | 4.9        | 5.5        | 6.2        |
| <b>Adjusted theatres - Total</b>     | <b>4.8</b> | <b>5.0</b> | <b>5.4</b> | <b>7.5</b> | <b>8.4</b> | <b>9.3</b> |
| Adjusted Recovery Spaces - Total     | 22         | 22         | 24         | 34         | 38         | 42         |

Table 9: High-level Test Scenario Theatre Requirements to 2041, NCH. Sources: Elective Surgery Summary Data Table provided by CHS Decision Support Unit (DSU), 2025; ACT Population Projections, CMTEDD, 2022. Excludes NULL values. Includes all ages, all specialities. Rounding has been applied.

Table 10 shows that by 2031, TCH has a calculated requirement of 20.9 (21) theatres and 24.5 (25) theatres by 2041.

| TCH                                  | 2024        | 2025        | 2026        | 2031        | 2036        | 2041        |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Unplanned                            | 10.1        | 10.3        | 10.5        | 10.3        | 11.1        | 12.0        |
| Planned                              | 7.4         | 7.5         | 7.1         | 7.2         | 7.8         | 8.4         |
| <b>Total Theatres</b>                | <b>17.5</b> | <b>17.8</b> | <b>17.6</b> | <b>17.5</b> | <b>18.9</b> | <b>20.5</b> |
| Total Recovery Spaces                | 79          | 80          | 79          | 79          | 85          | 92          |
| Adjustment if wi/wo > start-end time | 20%         | 20%         | 20%         | 20%         | 20%         | 20%         |
| Adjusted theatres - Unplanned        | 12.1        | 12.3        | 12.5        | 12.3        | 13.3        | 14.4        |
| Adjusted theatres - Planned          | 8.9         | 9.0         | 8.5         | 8.6         | 9.4         | 10.1        |
| <b>Adjusted theatres - Total</b>     | <b>21.0</b> | <b>21.3</b> | <b>21.1</b> | <b>20.9</b> | <b>22.7</b> | <b>24.5</b> |
| Adjusted Recovery Spaces - Total     | 95          | 96          | 95          | 94          | 102         | 110         |

Table 10: High-level Test Scenario Theatre Requirements to 2041, NCH. Sources: Elective Surgery Summary Data Table provided by CHS Decision Support Unit (DSU), 2025; ACT Population Projections, CMTEDD, 2022. Excludes NULL values. Includes all ages, all specialities. Rounding has been applied.

CHS DSU also supplied a separate operational activity report for scope procedures, which allowed for an understanding of endoscopy room requirements specifically. The same methodology as the High-level Test for planned activity was applied, noting the limitations with the Initial Analysis underrepresenting endoscopy activity though some was included. Therefore, it is recognised that some double-counting has occurred.



Table 11 shows the potential endoscopy and other scopes procedure room requirements for NCH of 2.5 (3) and TCH of 5.3 (6) by 2041.

| Facility |                                      | 2024 | 2025 | 2026 | 2031 | 2036 | 2041 |
|----------|--------------------------------------|------|------|------|------|------|------|
| NCH      | Endoscopy room requirement           | 1.4  | 1.4  | 1.6  | 2.0  | 2.2  | 2.5  |
|          | Endoscopy recovery space requirement | 6    | 6    | 7    | 9    | 10   | 11   |
| TCH      | Endoscopy room requirement           | 4.6  | 4.7  | 4.5  | 4.5  | 4.9  | 5.3  |
|          | Endoscopy recovery space requirement | 21   | 21   | 20   | 20   | 22   | 24   |

**Table 11: High-level Test Scenario Endoscopy Room Requirements to 2041, NCH.** Sources: CHS GEHU Endoscopy Operational Activity Dashboard provided by CHS Decision Support Unit (DSU), 2025; ACT Population Projections, CMTEDD, 2022. Rounding has been applied.

## Consultation

Consultation with CHS and ACT Health Directorate (ACTHD) on 3<sup>rd</sup> February 2025 noted confidence with this analysis as well as an alignment between the aforementioned methodology undertaken by Linéaire Projects, and a separate analysis undertaken by ACTHD. The following points were noted:

- Ten (10) theatres at NCH to reflect that there is no further planned theatre infrastructure at TCH to 2041
- The Territory-wide requirement of nine (9) endoscopy rooms is satisfied by the future building of six (6) endoscopy rooms at TCH, and three (3) endoscopy rooms planned for NCH as part of the Northside Hospital Project.

The above was presented and endorsed at the Northside Hospital Clinical Services and Facility Planning Project Steering Committee on 6<sup>th</sup> February 2025.

## Summary

Based on the purpose of this review outlined in the Introduction, this data review and analysis indicated that to meet the future theatre requirements for the Territory, the following theatre requirements are indicated for NCH/Northside Hospital:

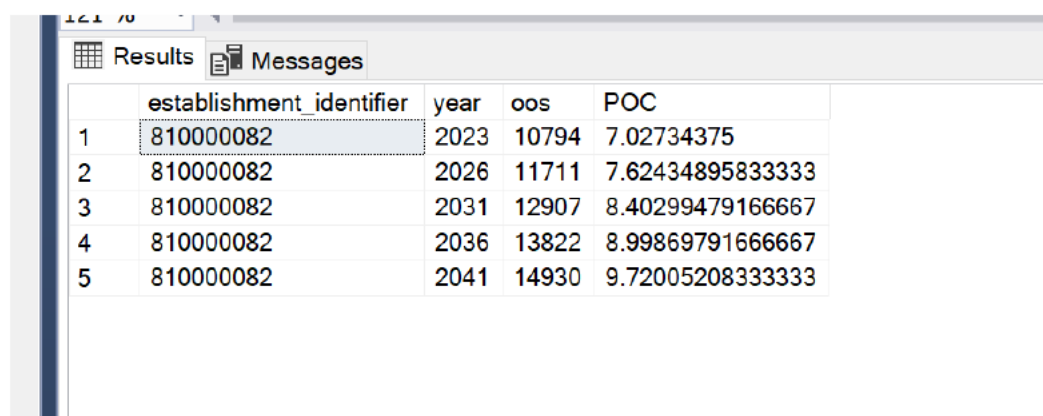
- By 2031, there is a projected theatre requirement of 8 theatres and 2 endoscopy rooms.
- By 2031, there is a projected recovery requirement of a total of 45 recovery spaces based on projected theatres and endoscopy rooms.
- By 2041, there is a projected theatre requirement of 10 theatres and 3 endoscopy rooms.
- By 2041, there is a projected recovery requirement of a total of 59 recovery spaces based on projected theatres and endoscopy rooms.

This has been endorsed by the Northside Hospital Clinical Services and Facility Planning Project Steering Committee.

## Appendix 9 – Canberra Health Services Ambulatory Care Analysis

ACTHD undertook an analysis of ambulatory care requirements, with the analysis outlined below, to accommodate the transfer of ophthalmology services from The Canberra Hospital to the North Canberra Hospital.

ACTHD provided the outcomes of the analysis on 3<sup>rd</sup> February and 7<sup>th</sup> February 2025 respectively. Figure 1 provides the data source for the analysis.



|   | establishment_identifier | year | oos   | POC              |
|---|--------------------------|------|-------|------------------|
| 1 | 810000082                | 2023 | 10794 | 7.02734375       |
| 2 | 810000082                | 2026 | 11711 | 7.62434895833333 |
| 3 | 810000082                | 2031 | 12907 | 8.40299479166667 |
| 4 | 810000082                | 2036 | 13822 | 8.99869791666667 |
| 5 | 810000082                | 2041 | 14930 | 9.72005208333333 |

Figure 1: ACTHD Extract from HPA NAP forecasting version 20241105, hospital-based ophthalmology (tier 2: 20.17) occasions of service, with CSP-aligned non-admitted throughput of 1,536 OOS per room per year. Issued via email on 3/02/2025.

The approach outlined by ACTHD includes a Demand Transfer Adjustments, using FY 2022–23 as the base year, transfer all future OOS increases at The Canberra Hospital to Northside Hospital, and keeping the University of Canberra forecasting unchanged.

Through the CSP Steering Committee, CHS and ACTHD agreed upon an increase in ambulatory services by 10 points of care (POC), to accommodate this transfer. This is an additional 10 spaces to the 2041 ambulatory and non-admitted care requirement outlined within the CSP of 99. This takes the total Outpatient/HITH/Allied Health/Community Health POC to 109. (Table1)

|                                       | NCH Current<br>Built 2024 | NCH CSP 2031<br>Projected | NCH CSP 2041<br>Projected | CHS and ACTHD<br>Agreed Amendment |
|---------------------------------------|---------------------------|---------------------------|---------------------------|-----------------------------------|
| Outpatient<br>Rooms/Spaces            | 19                        | 57                        | 72                        | 82                                |
| HITH spaces                           | 16                        | 21                        | 27                        | 27                                |
| <b>Total NAP Spaces incl<br/>HITH</b> | <b>35</b>                 | <b>78</b>                 | <b>99</b>                 | <b>109</b>                        |

Table 1: CHS and ACTHD Agreed Amendment to Total Outpatient/HITH/Allied Health/Community Health POC. Sources: Canberra Health Performance Profile Series 1, 2024, CHS, 2024; HPA NAP forecasting version 20241105. Rounding has been applied.

