Guideline for Planning Non-Admitted Patient Services

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The Guideline for Planning Non-Admitted Patient Services - Outpatients was written by Strategic Reform and Planning Branch

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1. INTRODUCTION

The Guideline for Planning Non-Admitted Patient (NAP) Services (the Guideline) and accompanying Excel Tool have been designed to assist Health Service Planners within Local Health Districts (LHDs) and Specialty Health Networks (SHNs) to plan for NAP services in various settings with a focus on establishing robust activity projections and facility requirements.

It is recognised that NAP planning is a complex activity likely to involve detailed processes reviewing a wide range of NAP services. Each service will require a considered approach in consultation with providers to establish a well-rounded understanding of the service, and the Guideline will not be suitable to apply to all NAP service types. The Guideline does not provide guidance on service specific models of care.

It is recognised that while this Guideline provides a general reference for the planning of NAP services, each LHD and SHN will have local and specific contexts that will need to be considered. Documentation of these is critical to understanding the outputs and outcomes of the respective NAP service planning exercise.

Figure 1 outlines the applicability of this Guideline to the service streams commonly considered for a NAP service planning exercise.

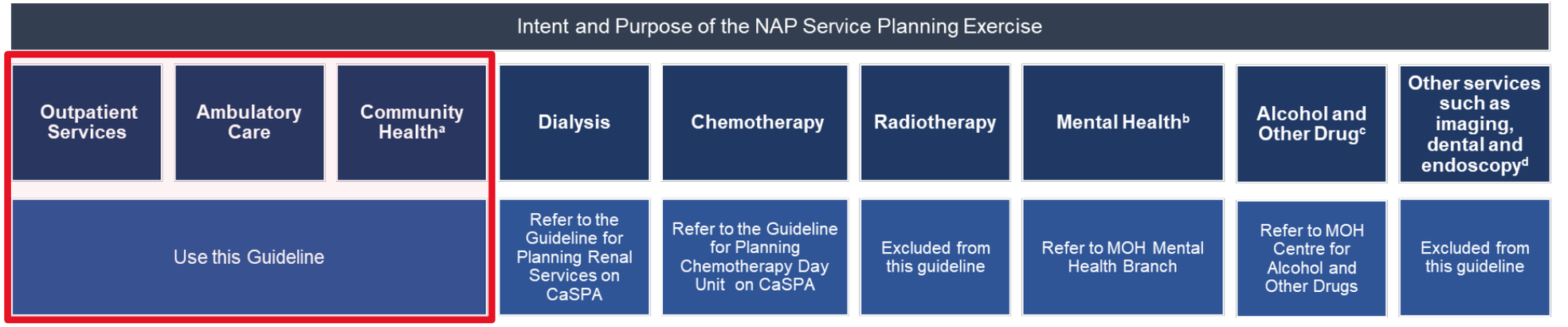


Figure 1: Applicability of the Guideline by Service Stream

[a] Where historical data trends can be used and mapped to appropriate growth rates (e.g. Service Related Groups (SRGs) or population) and aligned to patient cohort and service delivery models, this Guideline may be applied for community health services.

[b] Activity classed as "Specialist Mental Health Services" under the Tier 2 classification is reported in the CHAMB (Community Health Mental Health Ambulatory) data collection, are excluded from this guideline. Liaise with NSW Ministry of Health (MOH) Mental Health Branch to support NAP service planning exercises that may involve specialist and general mental health services.

[c] Where historical data trends can be used and mapped to appropriate growth rates (e.g. SRGs or population) and aligned to patient cohort and service delivery models, this Guideline may be applied for Alcohol and Other Drug services. Liaise with the NSW MOH Centre for Alcohol and other Drugs to support the respective NAP service planning exercise.

[d] Imaging services which may include interventional, angiography, general imaging, MRI, CT, nuclear medicine, PET, and mammography are usually provided in different physical locations and are modelled using different methodologies. Dental services are modelled separately and located in separate physical locations. Endoscopy services that are recorded as either non-admitted or admitted are projected using separate methodologies. Planning should consider functional relationships between NAP services and support services such as those mentioned above, however, for planning of specific other services, there is likely to be different data sources, methodologies and considerations required.

1.1 Purpose of the Guideline

This Guideline builds on previous versions (first published in 2018) and has been developed to support health service planners to:

- Establish and generate the data needed to plan for NAP activity;
- Estimate future activity demand for NAP services;
- Consult with relevant stakeholders;
- Make suitable recommendations to inform capital and recurrent investment decisions; and
- Apply a consistent state-wide projection methodology to estimate NAP activity for clinical service plans.

The Guideline aims to provide a common approach to NAP service planning. This includes approaches and methodologies to undertake activity projections and determine service capacity and functional spaces for NAP services, particularly those delivered in hospital outpatient departments or ambulatory care centres.

This information can be used to inform exercises such as, but not limited to, local service business cases, clinical services plans, operational improvement projects and capital projects.

While the Guideline is not specifically designed for estimating workforce requirements or completing Financial Impact Statements, the outputs can be adapted for these purposes.

1.2 Strategic Context

Over the past few years, there have been various developments in the strategic, policy, data and service delivery landscape in which NAP services operate. These include but are not limited to:

- The updated NSW Health State Plan[1];
- Increasing uptake of virtual care;
- Changes to the NAP Minimum Core Data Set (MDS) and related data set extensions (including Allied Health, Violence Abuse and Neglect (VAN), Drug and Alcohol, Sexually Transmissible Infections (STI) and Human Immunodeficiency Virus (HIV))[2];
- Implementation of state-wide and local NAP data collections and the ongoing migration to electronic clinical information systems across all LHDs and SHNs;
- Increased focus in delivering high-quality care in lower-cost settings such as outpatient settings, outside the hospital and/or in patient's homes; and
- Expansion of multidisciplinary team (MDT) services delivered in the NAP environment.

Planning for NAP services continues to remain a specific and detailed process. The need to assess, review, explain and understand the way NAP services operate now and how they will operate into the future is important. It forms the basis for understanding current activity and estimating future activity and, in most cases, the related infrastructure requirements.

This version of the Guideline was updated through extensive consultation with health service planners, subject matter experts within the NSW Ministry of Health and other jurisdictions. The process involved a substantial number of interview and workshop processes. Appendix X includes a list of consultations/people consulted.

[1] The release date of the new NSW Health State Plan Future Health Strategy is yet to be determined.
[2] Drug and Alcohol, VAN, STI and Allied Health historically had their own separate data collections containing more service-specific data. These datasets were not all collected/monitored by MOH centrally but should be accessible within LHDs. From 1/7/21, these data collections were turned into NAP dataset extensions (apart from data elements already in the NAP Data Collection). It is anticipated there will be a period to enable the data in those extensions to flow centrally and for data quality to be reliable.

1.3 Important Definitions

Non-Admitted Care

Non-admitted care encompasses services provided to patients who do not undergo a formal hospital admission process.[3]

A non-admitted care clinic or non-admitted service unit is a recognised clinical team of one or more healthcare providers within a hospital, multi-purpose or community health setting that provides non-admitted patient services and/or non-admitted patient support activities.[4,5]

Service

In this Guideline, the term 'service' is aligned to the definition of 'service unit'.

A service unit is a health professional or group of health providers who work in co-operation and share common facilities or resources to provide services to patients for the assessment, diagnosis and treatment of a specific set of health-related conditions in a hospital (within an outpatient setting or as outreach) or community location.[6]

For this Guideline, services can include those delivered via virtual modalities such as tele- and video-conferencing.

Outpatient Care

Outpatient care is defined as an examination, consultation, treatment or other service provided in an outpatient setting in a specialty unit or under an organisational arrangement administered by a hospital.[7]

The context for this definition refers to the non-admitted patient service activity, excluding the emergency department and does not include services provided through community settings (such as community and child health centre).

For services provided in community settings, refer to the "Community Health Services" Definition below.

It is important to note that outpatient services have historically been delivered from hospital sites. However, some new and emerging models of care provide services in community settings, which may need to be considered. Alternatively, this can also apply to community health services provided from a hospital outpatient setting, which may occur in smaller hospitals or rural settings.

Ambulatory Care

Ambulatory care is defined as care provided to patients who are not admitted to the hospital, such as patients of emergency departments and outpatient clinics. The term can also refer to care provided to patients of community-based (non-hospital) healthcare services.[8]

For this Guideline, patients of emergency departments are excluded from NAP planning methodologies. The emergency department activity is covered under the dedicated emergency department projection methodology and tool found on CaSPA.

Community Health Services

A community health service can be defined as those services delivered by an LHD or SHN from a community-based centre, within a hospital location, preschool, school, residential aged care facility (RACFs) or in the home.

The definition of community health services is less defined and commonly associated with the definition of outpatient and ambulatory care. From a clinical care perspective, it is acknowledged that community health services can range from general nursing assessment to specialist multidisciplinary teams and minor

[3] Activity Based Management. 2020. NSW Casemix Classifications Handbook 2020-21. Health System Support Group NSW Health.
[4] Independent Hospital Pricing Authority. 2021. Tier 2 Non-Admitted Services 2020-21.
[5] NSW Ministry of Health. 2019. Outpatient Services Framework (GL2019_011).
[6] NSW ministry of Health. 2017. Non-Admitted Patient Reporting Rules (GL2017_017).
[7] AIHW. 2018. Outpatient Care.
[8] AIHW. 2020. Ambulatory Care.

procedures. It features a community based (non-hospital) setting rather than a specifically defined type of service.

Occasion of Service (OOS)

A NAP OOS is a NAP service or a NAP supported activity reported for each provider type and service type combination on each occasion a service is provided to the patient. [9]

One or more non-admitted patient OOS make up a service event.[10]

This Guideline refers to OOS as the primary unit used in NAP service planning exercises for assessing current activity and estimating future requirements.

Service Event

A NAP service event is an interaction between one or more health care providers with one non-admitted patient, containing therapeutic or clinical content and a dated entry in the patient's medical record.[11]

While it is important for health service planners to understand the concept of a service event, this unit of measure is primarily used for Activity Based Funding (ABF) purposes and Financial Impact Statements for major capital developments.

Additional Definitions

The Non-Admitted Patient Classification Principles Guideline provides rules for determining what constitutes a non-admitted patient service unit and how to classify it to the appropriate Establishment Type.

The Information Bulletin Non-Admitted Patient and Supplementary Services Data Collection: Core Minimum Data Set and the Health Information Resources Directory (HIRD) can provide direction on data element definitions and value sets.

1.4 Guideline Inclusions and Exclusions

The approach outlined in this Guideline does not apply to all NAP services. There is a range of NAP services where service specific guidelines or methodologies are already available, including dialysis and chemotherapy (see Figure 1 above and Table 1 below).

For some NAP services, such as community health services, there is currently no prescribed methodology. Health service planners should continue to use their judgement in consultation with the service providers about whether the approach in this Guideline is applicable and where other methods should be applied.

In many service planning exercises, services not be covered within this Guideline or under any other prescribed tool or methodology may still need to be considered in the broader NAP service planning exercise to inform activity, infrastructure, and workforce outputs. These will require a customised approach which in some cases may leverage this Guideline and the various other tools and methodologies available to some extent. Service planners are encouraged to engage with the Strategic Reform and Planning Branch at the NSW Ministry of Health early in the development and application of customised methodologies.

[9] Activity Based Management. 2020. NSW Casemix Classifications Handbook 2020-21. Health System Support Group NSW Health.
[10] For more information on non-admitted patient OOS or service event, please refer to section 9 of the NSW Casemix Classifications Handbook 2020-21.
[11] AIHW. 2017. non-admitted patient service event.

Services covered by the Guideline[12]	Services covered by other methodologies not specified within this Guideline[13]	Services not recommended for this Guideline[14]
General and specialist outpatient services delivered from any health setting and/or via virtual care modalities	Dialysis	Day only surgical and procedural services such as endoscopy and bronchoscopy
Clinical measurement services	Chemotherapy services	Mental health services[15]
General and specialist services involving infusion services	Radiotherapy services	Alcohol and other drugs (AOD) services[16]
Services delivered in community-based settings, including outreach of a hospital-based outpatient or ambulatory care service.		Dental services
		Diagnostic services, including imaging and pathology
		Hospital in the Home[17]

Table 1: NAP services applicable to this Guideline

[12] Applies to adult and paediatric services. Unless local context indicates services belong to another service stream for example, admitted.
[13] These services may need to be considered as part of a holistic approach to a NAP service planning, despite the guideline not offering a specific approach for these services.
[14] As above. These services may still need to be considered as part of a NAP service planning for understanding current and future activity, infrastructure requirements and/or workforce planning.
[15] Specialist community ambulatory mental health, and AOD services are excluded. However, the Guideline may be suitable for some mental health and AOD services delivered in the outpatient setting and included the NAP Data Collection.
[16] As above.
[17] While HiTH is an admitted service and not covered by this Guideline, when planning for ambulatory care and outpatient services, health service planners should consider the need to accommodate collocated HiTH services, and in some cases the same or similar methodologies may be useful to project activity and space requirements.

2. NAP SERVICE PLANNING APPROACH

2.1 Drivers for Change that Influence NAP Service Planning

Non-admitted services complement many components of admitted care and cannot be considered in isolation from comprehensive clinical services planning. For example, changing admitted models of care may impact non-admitted services, as many contemporary models of care are increasingly relying on non-admitted pathways and care processes. Understanding the local service context in which the NAP service planning exercise is being undertaken is essential.

There are numerous key drivers for change that influence NAP services and need to be considered as part of any planning exercise. These include but are not limited to:

- Population growth and ageing;
- Epidemiological factors such as changes in the rate of specific conditions or risk factors within the population of interest;
- Linkages between NAP and other services including proposed changes to clinical management and models of care;
- Alignment between baseline (existing) activity and population demand, including local access challenges for hard to reach populations;
- Referral pathways into the NAP service, for example, from primary care or the emergency department;
- Availability of alternate service providers (e.g. primary care and medical specialist services in the community);
- The strategic and policy context that influences service models and delivery, such as value-based care programs, integrated care initiatives and expansion in delivering care in settings outside the hospital; and
- Technological drivers such as virtual care delivery and remote patient monitoring.

2.2 Data limitations to NAP Service Planning

Historically, constraints in NAP data capture and quality have been a substantial limitation in NAP service planning. There has been significant work in NSW to improve the NAP data management and collection and policies exist that define the ABF reporting framework for NAP services or activity. The Ministry, Independent Hospital Pricing Authority and LHDs/SHNs are strengthening consistent reporting and coding of NAP activity[18]. This will support the improvement of existing data sets and allow for consistent trends and benchmarking to be used as an input into estimating future activity. While data capture and quality has improved markedly in recent years, there are still limitations that can reduce the ability to analyse trends, benchmark similar NAP services and model patient flows which planners should be aware of when using historical NAP data.

Limitations in data collection and quality can be due to several factors such as:

- Inconsistent data coding, definitions, and recording both between and within LHDs and over time;
- Incomplete data sets;
- Data collection is currently service provider based and lacks details on diagnosis and reason for attendance;
- The model and practice of reporting summary data only; and
- Multiple data collection systems and sources, including some that are paper-based.

[18] It should be noted that the IHPA Tier 2 Classification are predominately relevant to traditional outpatient and ambulatory care services. Ongoing work is being undertaken to address data classifications and collections among other NAP services such as community health services, mental health and AOD.

Incomplete historical data sets mean that common statistical approaches that rely on medium to long term trends to generate future activity estimates can be unreliable. This can be compounded by historical variation (and proposed future changes) in the delivery approaches and range of NAP services provided in different LHD and SHNs.

Further, there is an underlying assumption that current NAP activity, in terms of volume, configuration and service delivery models, meets the existing community's needs. However, this should not be assumed in all cases and requires consultation and consideration of other indicators (e.g. wait list data, unplanned readmissions and patient outcomes) and factors (e.g. alternate provider availability).

2.3 NAP Service Planning Approach

Extensive stakeholder consultation and literature review identified that there is no single method for undertaking a NAP service planning exercise.

The intent of a NAP service planning exercise may include:

- A capital redevelopment;
- Local service improvement and development initiatives;
- Service level clinical redesign;
- Model of care development; or
- LHD or SHN-wide clinical service planning.

The primary intent and setting will guide the consultation approach, data and modelling required, and assumptions applied. Initial assumptions should be identified during consultation and will likely be revisited following the development of base case and subsequent scenarios.

Figure 2 outlines the broad NAP service planning approach that can be applied to a NAP service planning exercise.

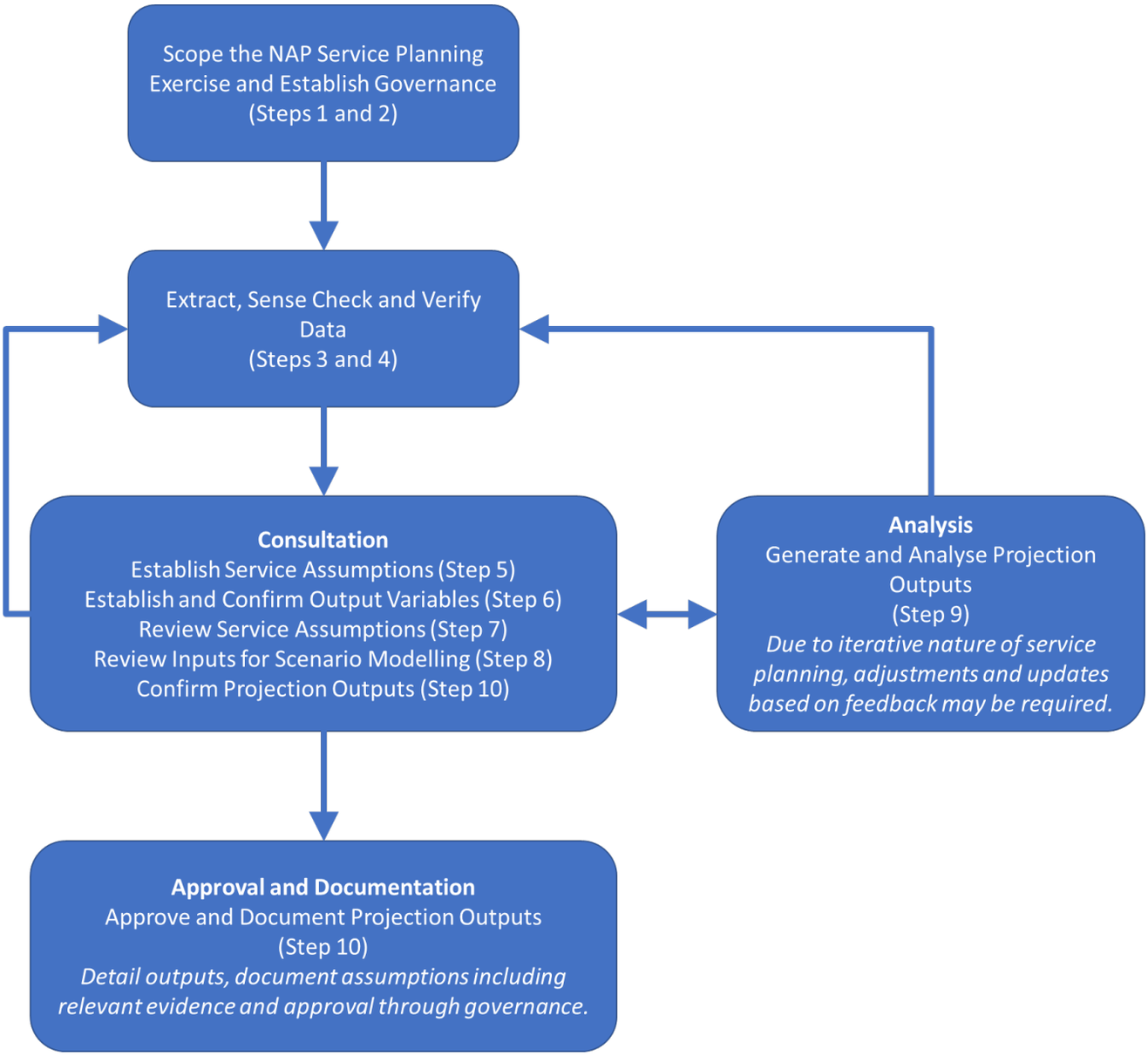


Figure 2: NAP Service Planning Approach.

It is recognised that NAP service planning is not a strictly linear process, and there may be a need to revisit and repeat previous steps. This ensures a robust, comprehensive, and inclusive planning approach has been undertaken to best support the outputs and outcomes of a particular NAP service planning exercise.

Step 1 – Scope the NAP Service Planning Exercise

Decide and agree on the project scope of the NAP service planning exercise, including the project's goals and services, timeframe, services within the scope, which services apply to this Guideline and which require different methodologies.

Considerations include:

- Understanding the intent of the exercise is critical to align the data requests and extracts that will follow.
    - Is it for a service redesign?
    - Is it for a capital redevelopment or related infrastructure project?
    - Is it for deciding current and proposed infrastructure requirements?
    - Is it to support associated workforce planning?
- Determining the level of detail required for the planning exercise to inform decisions about service modelling.
    - Is it a short-term detailed piece of work to inform service model changes?
    - Is it a new service, or are there new technology components?
    - Is it a long-term planning to inform master planning?
- Identifying key stakeholders to be consulted to enhance the validation process of the data. Stakeholders may include service and/or clinical managers involved in managing and analysing data for the respective services. They may also be involved in establishing governance and provide context to the developed data set for the respective NAP service planning exercise;
- Understanding how the NAP service planning exercise aligns to NSW Health and Government policy, priorities, and strategic directions. This will build the scope of the exercise and support the prioritisation of services that may be in and out of scope.
- Deciding on what is in and out of scope before commencing any modelling. There will generally be various activities captured in NAP data sets that need further consideration to inform future activity and infrastructure requirements. These would include:
    - Services considered not to have a face to face interaction with a patient/client, however, contribute to patient care in some way, such as but not limited to virtual consultations, case planning and management, care coordination and navigation;
    - Services delivered in a community, school, preschool, RACF, home or non-hospital based setting are often out of scope for capital redevelopment and health infrastructure projects. However, should be considered for estimating future associated financial and workforce implications; and
    - Services provided at a tertiary and/or quaternary level should be considered to estimate future activity, workforce, teaching and research, financial and infrastructure implications.
- The inclusion or exclusion of services not being recorded in the NAP Data Collection, as they do not meet the NSW Health NAP definition. These may have service activity, infrastructure, financial and/or workforce implications.
    - Will services delivered by a Visiting Medical Officer (VMO) or external community-managed organisation that currently use, or in the future will use space in LHD-owned and/or leased facilities be in or out of scope for the NAP service planning exercise?
- Agreement of the planning timeframe (for example, 3, 5 or 10-year horizon) is vital. The timeframe influences the way future service models, technology and other drivers are considered.

Step 2 – Establish Governance

Seek consensus from the Project Sponsor about the scope and create a governance framework to support decision making associated with the scope and outputs of the respective NAP service planning exercise.

Considerations include:

- Determining who will serve as the Project Sponsor to encourage the participation of service providers in consultations and have decision-making authority on the outputs of the NAP service planning exercise;
- Determining key stakeholders who have delegation concerning the services that are in scope for the NAP service planning exercise to ensure approval of proposed outputs;
- Identifying clinicians, operational and service unit managers that operate within and can influence the current and future service models of care and delivery;
- Identifying what services are in scope (whether they are existing or new) requires consultation to obtain sufficient information and understand the nature of the service, identify improvements, infrastructure and workforce requirements;
- Establishing the governance framework, for example, will this be a steering committee that meets on many occasions?; and
- Consensus on the services to be included in the scope of the NAP service planning exercise.

Step 3 – Extract Relevant Data

Identify and use available data sources and, if required, local electronic and paper-based data systems.

Considerations include:

- The initial data extract for the NAP service planning exercise will be informed by consultation with relevant clinical stakeholders identified in Steps 1 and 2.
- Liaising with the LHD or SHN NAP Data Co-ordinator or Performance Unit before extracting the data. They can highlight data concerns on quality, variability, reliability, and changes to data and/or missing data. There are ongoing changes to NAP Data Collection, and it is important to understand the impact of any changes on the projection model;
    - The table in Appendix 1 will guide the selection of the required data fields to inform the data request. Not all of these fields will be necessary for the inputs in the projection methodology. However, extracting these fields will allow detailed analysis if required and provide contextual information that may be useful during consultations; and
- Extracting all required NAP data[19] from the Enterprise Data Warehouse for Analysis, Reporting and Decision Support (EDWARD) and other systems (if NAP data exists outside of EDWARD) for the previous three (3) years. If there are data limitations, it is recommended that the latest completed financial year be used;[20]
- A framework is in place to achieve 100 per cent collection of patient-level non-admitted data for all LHDs and SHNs. Noting some services may not have access to patient-level data to allow detailed analysis. Health service planners will be required to analyse aggregate-level data for those services. Consider alternative methodologies such as utilising past stable trends and applying them to the base year, reviewing locally held datasets that include patient-level data, or applying assumptions based on consultation.

[19] See Appendix 1 for additional information on commonly used data elements used in NAP data requests.
[20] For NAP service planning exercises that include data from 2019/20 and 2020/21, review of complete 2017/18 and/or 2018/19 financial years is recommended due to the implications of COVID-19 on service delivery and utilisation.

Step 4 – Sense Check and Verify Data

Consider and verify that the data extracted is correct, complete and reliable. Health service planners may undertake an extensive quality review of the data to prepare for the NAP service planning exercise. Limitations and outstanding data quality issues need to be documented, including advice from local Performance Units on data concerns.

Considerations include:

- Assessing and reviewing the data extract to identify anomalies such as:
    - Missing fields;
    - Missing months, including but not limited to, no reported data for a particular month(s);
    - No data assigned to service contact mode that is used in the delivery of the service; and
    - Other aspects of the data extract that don't reflect the service, such as if a variable with multiple values are assigned, but only one value is reported.
- Comparing the data extract with other local service and/or performance reports to address anomalies in service activity levels and explore discrepancies;
- Consulting with the local LHD Performance Unit to understand any limitations to the recording of NAP activity that may influence the NAP service planning exercise;
- Health Service Planners may be required to "clean" the data, if this has not been completed, to determine 'null' fields and address data quality issues associated with the data extract, and
- Data changed due to known and/or unforeseen circumstances that can impact service delivery, such as long-term leave arrangements, study leave, secondments, catastrophic environmental events (i.e., floods, fires, etc.) or pandemics.

Step 5 – Undertake Consultation and Establish Service Assumptions

Work with service managers and clinicians to describe the current state of services, intended future models, patient journeys, drivers for change, infrastructure requirements, workforce planning considerations, and validate current data inputs.

It is important to note that formal consultation may continue throughout Steps 5 to 10. In some instances, following the completion of this step, health service planners may be required to revisit Step 3.

Considerations include:

- Identifying the reporting and operational framework, for example, where NAP services report to (i.e., department, clinical stream), will inform the stakeholders to be consulted;
- Undertaking consultations involving clinicians from the range of services identified for the NAP service planning exercise. This will provide a comprehensive overview of the NAP services, current and future models, associated growth and constraint factors. Consultation combined with data analysis enables assessment of demand influences for future NAP services;

- Questions for generating a description of NAP services include, but are not limited to:
    - The **primary purpose**(s) of the NAP service, such as, is it a rapid specialist assessment service? Is it an acute follow up service? Is it a general non-urgent specialist service?
    - Understanding the **referral and discharge pathways** as well as eligibility may assist with understanding potential flows and volume-centric change drivers;
    - Describing the **current and future model of care, including operational arrangements**. For example, is the service usually a one-off visit with a referral back to the GP? Is the service a time/visit limited service? Is the service offering ongoing treatment/maintenance with no specific discharge criteria? Is the service offering a multidisciplinary team approach? Can services shift to increase virtual care delivery from in-person/face to face modalities? What are the operating days and hours of the service? Is the service intended to be delivered on weekends in the future? Will the service need to be accessed at all times?
    - Explore **future service approaches and influences.** For example, what services will be delivered virtually? What services are delivered in the admitted setting that can be delivered as a NAP stream? Will these services occur in outpatient services on a hospital site or provided in a community-based setting? Can this service cease entirely? Are there duplicate or similar services within the local catchment or broader LHD or SHN? Will there be any significant changes to the way services are being delivered or organised (i.e., introducing a multidisciplinary approach)? Will there be developments in strategy and/or policy? Will there be new funding arrangements? If so, estimate the impact on future NAP services;
    - Explore the **alignment between baseline (existing) activity and population demand,** including **current and potential future constraints** on a service that could limit **utilisation, efficiency**, and capacity requirements[21]. If so, estimate the impact on future NAP services.
    - Constraint drivers include but are not limited to:
        - Funding;
        - Physical infrastructure and design;
        - Workforce;
        - Equipment needed to deliver clinical care;
        - The technology needed to enable virtual care delivery;
        - Limitations on the scope of service. For example, registrar-led services that are required for teaching purposes; or
        - Any new services planned or expected to increase in demand significantly.
    - Are the limitations identified in the data extract reflected in the operations and/or description of the service? For example, an incomplete data set may reflect the leave arrangements for a particular service. Or that the service may only operate once a month. NAP data can also be verified with the clinicians and/or service managers; and

[21] Refer to Appendix 2 for further information related to utilisation, efficiency and capacity

- Where data is missing over a time period, it is recommended the available data be presented to clinicians and discussed broadly to understand and confirm the following:
    - Clinic frequency;
    - How many patients (clients) are seen on average per clinic?;
    - Length of appointments may vary among different services, influencing averages, this needs to be considered for infrastructure planning; and
    - Note for rural services, this information may be difficult to quantify and contextualise. The occupancy rate (or throughput) observed by a rural or metropolitan service should be assessed within the local context and documented accordingly. A simple comparison may not reflect local circumstances.

Step 6 – Establish and Confirm Output Variables

Use both quantitative (i.e., statistical and programming techniques) and qualitative (i.e., consultation) approaches to inform initial outputs required for the activity projections.

Refer to Appendix 1 and 3 for further detail on data fields that will inform the development of base case, scenario and/or service planning tool inputs.

Considerations include:

- Developing and analysing a meaningful set of tables. For example, analysing in the context of outpatient services, at a minimum, tables with total annual OOS separated by IHPA Tier 2 Classification, Service Unit Establishment Type, Local Clinic Name, Service Contact Mode and Setting Type will assist discussions. Age, LHD of Residence, new/review (/follow-up) appointment, appointment duration and service events should also be included in a table to provide further context;
- Defining what is in-scope and out of scope for the data modelling. For example, identifying the separate data elements of the services that will require a different projection approach or have implications for infrastructure. Be clear and record all assumptions and changes made to inclusion and exclusion criteria, as well as calculations used to develop the tables;
    - Note that all future NAP activity will need to inform ABF for recurrent funding exercises or a Financial Impact Statement associated with a redevelopment project; and
    - OOS are used to determine infrastructure requirements, service events are required for the Financial Impact Statement. Therefore, requesting an extract that incorporates both OOS and service events is beneficial.

Step 7 – Review Service Assumptions

Document and confirm assumptions that will be used to estimate future activity. This should be established during consultation (Step 5) and verified as part of the data analysis (Step 6). This step includes preparing and developing scenario models for the NAP service planning exercise.

If the NAP service planning exercise is part of clinical service planning for a capital redevelopment or infrastructure project, the Ministry and Health Infrastructure will expect assumptions to be detailed in the clinical service plans.

Considerations related to assumptions that may influence the scenario modelling include:

- Documenting the information that may be required to inform the projections (see Section 2.4 for specific approaches/methodologies);
    - Using of either Establishment Types, IHPA Tier 2 Classification or Local Clinic Name for mapping purposes. The selected approach from a NAP service planning exercise is to align current NAP activity to admitted services growth. This is dependent on the local context and how well reflected the NAP services are represented by the classification type selected; and
    - Determining the average minutes per new and review appointments for each clinic type in consultation with key clinical leaders. This can be done by extracting the appointment duration

or evidencing existing operational practice for appointment bookings that should detail booking durations and the number of consultations per session.

- Utilising the information from consultations and reviewing the models of care for the in-scope NAP services for the NAP service planning exercise reflect contemporary practice. Health service planners need to consider that future services and assumptions are consistent with the goals of the services and alignment to the preferred direction for the LHD or SHN and the Ministry.

Step 8 – Review Inputs for Scenario Modelling

Review and confirm the inputs based on the qualitative and quantitative analysis undertaken. These inputs will be used in the Tool.

This may require approval by the NAP service planning exercise governance and/or LHD/SHN executives.

Considerations include:

- Reviewing models of care for further detail that can be used in estimating future service requirements. For example, a single OOS may require multiple physical rooms where a clinician will take an assessment in one space, then see a patient in another space such as a consultation room. Finalisation of the inputs that influence the estimated outputs is required. These inputs may include the following:
    - Changing new to review ratios for specific services (especially when undertaking outpatient and/or ambulatory care services planning);
    - Adding estimated volumes for new services in the projected year (applicable for any NAP service where this Guideline applies);
    - Adjusting the average minutes per new and review clinic (to be used where appropriate for the NAP service being reviewed and planned);
- Increasing or decreasing annual growth rates for specific services. These assumptions and confirmation of the growth rates will need to occur with the NAP service planning exercise governance and/or other key stakeholders; and
- Making any final changes to the *Non-Admitted Service Planning Tool*. Depending on the type of NAP services you are projecting, modification to the template may be required or, the template may be used as a guide to inform a bespoke analysis.

Step 9 – Generate and Analyse Projection Outputs

Utilising the projection methodology(ies) outlined in Section 2.4: Projection Methodologies Underpinning Determination of Future Capacity, generate and analyse these outputs against the pre-determined scope of the NAP service planning exercise. This step may require futher consultation to support analysis and verification of outputs.

Considerations include:

- Applying admitted growth rates, and/or population growth rates, and estimating future activity for new and/or changing service models;
- Considering the data and assumptions from previous steps to make assessments of the outputs and if they reflect the proposed future directions of the service. This may involved presenting preliminary findings to the governance committees and/or organisational governance groups that sponsor the NAP service planning exercise;
- Recognising that NAP service planning is an iterative process, and may require re-extraction of data, further verification with local service managers and/or Performance Units, and/or consultations with clinicians.; and
- Understanding the applicability of outputs in the context of organisational strategic directions is essential before presenting final outputs as they may be used to inform Clinical Service Plans and Business Cases for investment.

Step 10 – Confirm, Approve and Document Projection Outputs

Approval will be required by the NAP service planning exercise governance, other formal project governance and/or LHD/SHN governance. This involves approval of the documentation of the NAP service planning approach that may be used through broader clinical service planning and business case processes to communicate and justify the outputs.

Considerations include:

- Confirming the outputs with individual service providers as a sensitivity test. This enables health service planners to consider the validity of the output, sustainability of services (if outputs are the desired future state), or whether a different approach to service delivery should be explored;
    - The key output is the total annual estimated future OOS;
    - OOS need to be mapped to service events to facilitate infrastructure, workforce and funding requirements, for example, for the Financial Impact Statement;
- Consultation throughout the NAP service planning exercise is essential. This includes meaningfully presenting information and evidence to stakeholders, to estimate the future activity and service infrastructure requirements, and validate the output;
- The output from the Tool will allow health service planners to do 'what ifs' to inform infrastructure planning. For example, decentralising outpatients for specific services or moving activity/ services off-site; and
- In some cases, developing a draft future clinic schedule may be useful, especially if there are complexities in service models. For example, multidisciplinary clinics require multiple room types and spaces for virtual care delivery.

2.4 Projection Methodologies for Estimating Future Capacity

Current projection methodologies used to estimate NAP service activity for planning rely on admitted activity growth rates or population growth rates as inputs. There is not always a clear relationship between historical trends in NAP activity and trends in either admitted patient activity or population growth. This may be due to historical supply factors and the inherent complexity of non-admitted services in general. For example, waiting lists may have been managed through stricter eligibility and referral criteria to prioritise patients of greatest need in some services or at some times. Changes in eligibility over time and differences in referral processes between services can be problematic for historical trend analysis.

However a lack of consistent historical trends does not invalidate projecting future NAP activity based on projected admitted activity or population, which remains the most reliable method for estimating future growth in a base case.

The NAP Data Collection encompasses a broad range of services, including highly complex and specialised services, where each service needs to have a tailored approach to assess the current and future requirements. A further challenge is service planning exercises to estimate future activity for services that do not yet exist, thus a data baseline cannot be provided.

Specific considerations need to be applied for uncommon, complex, and highly-specialised services. Technology changes that influence virtual care services are expected to evolve rapidly and need to be factored in to supplement the methodologies described in this Guideline.

Where the NAP service planning exercise is focused on projected activity and determining infrastructure requirements, OOS is recommended to understand the impact on space requirements (noting a single Service Event can contain multiple clinical interactions that may even occur in different spaces).

To support the development of Financial Impact Statements, including Service Events is required. Therefore for NAP service planning exercises attached to redevelopment projects, data extracts need to include both OOS and service events to enable comparison and alignment.

Primary Projection Methodology: Apply Admitted Growth Rates

This preferred method involves mapping NAP services to admitted activity classifications (for example, Service Related Groups (SRGs)), then applying the admitted growth rates taken from the admitted activity projections in HealthAPP*analytics*[22] to the base year of OOS and/or service event.

Some services, such as allied health or community health, do not necessarily align with admitted services. Other services are influenced by PPH[23] indicators such as lymphoedema. Therefore, an understanding of the patient cohort and referral sources is required to supplement analysis of the historic activity to determine if this is an appropriate method.

The application of the primary projection methodology is to be used unless a clearly defined justification is documented for utilising alternative models. This will be considered on a case by case basis.

[22] HealthAPPanalytics is the endorsed tool for estimating future acute inpatient services in NSW Health. HealthAPPanalytics is available on the Clinical Services Planning Analytics Portal (CaSPA)

[23] The Potentially Preventable Hospitalisations (PPH) indicator is a proxy measure of primary care effectiveness. PPH are certain hospital admissions that potentially could have been prevented by timely and adequate health care in another setting. Source: AIHW, 2019.

Alternative Projection Methodology: Apply Population Growth Rates

This method involves applying population growth rates to total OOS separated by age group.

Consideration is required to apply the most appropriate age group growth rate to the services indicated for the respective NAP service planning exercise.

These approaches have some limitations as these growth rates don't reflect the disease patterns, changing technology or redesigned or new models of care.

Standard NAP Service Base Case Modelling

This section aims to provide some guidance to circumstances commonly experienced by health service planners across the state.

What happens when there is limited or extremely variable historical trends?

As highlighted in Step 5 of the NAP Service Planning Approach, reliance on NAP trended activity is dependent on the data quality and consistency of collection over a long period.

The preferred approach considers the most recent three (3) years of stable historical data and should be averaged to adjust for year-on-year variability.

For those NAP services where activity variability effectively inhibits trend analysis, the most recent 'representative' year may be used as a base year. It is recommended the base year data be reviewed and 'adjusted' (e.g., utilising a trended average of stable previous years, or recent stable year of operations that can be used as the base year), if required, to ensure representation of a normal operating year of activity is aligned to the model of care for the service.

The aim of reviewing the base year is to determine if any events or circumstances could have resulted in an under or overestimation of expected activity. This includes events or situations such as COVID-19, workforce shortages, service commenced part way through the year, or data collection methods changing. This may be discovered by reviewing activity month by month (looking for unexplained gaps) or comparing activity volumes over several years, if available.

Using this approach, assumptions are applied, and the evidence or justification must be clearly documented.

Scenario Modelling

Base case projections are suitable to estimate future activity where no substantial changes to the service profile, scope, models of care or operation, or the patient catchment are intended. Scenario modelling is required to strengthen a NAP service planning exercise where strategic or operational change is required.

For example, changes in catchment, shifting a service (partial or total) from one location (hospital) to another, changing the balance between service contact modes (i.e., more virtual care or home-based face to face service delivery), or changes to ratios of individual and group sessions.

In some instances, there may be a reduction in projected activity based on the intent of the scenario and the model applied. For example, if models of care changes impact the setting of services being delivered, then projected activity would be expected to reflect that.

Depending on the domain of the change, scenario assumptions will need to be applied to adjust the expected service growth, mix of settings or other parameters underpinning the projection outputs. These scenario assumptions should be established through the same planning processes described above (i.e., under suitable governance and consultation with stakeholders) and supported by robust evidence and documentation.

Any scenario involving changes in activity flow should identify the impact on services at both ends of the change. Where any changes impact activity in other LHDs or SHNs, appropriate negotiation with the impacted LHD or SHN must be undertaken and agreement to the changes documented.

What happens when a shift in activity from the admitted stream to the NAP stream has been indicated and/or requested?

Literature and consultation confirmed that this cannot be captured simply by a generic ratio or rule. It is recommended that consultation with clinicians involved in the service be undertaken to determine how many OOS the change is expected to generate. This should be documented and validated through the NAP service planning exercise governance.

Consider benchmarking against other initiatives where a service has successfully shifted activity between settings for the same patient cohort, the Leading Better Value Care programs or other pilots and/or projects led by LHD/SHN Clinical Redesign teams.

In using this approach, assumptions applied, and the evidence or justification for them must be documented.

What if there is no service, however analysis of the population and its demography indicates a particular service(s) will be required?

It is recommended that health service planners consult with the respective LHD or SHN Executive to determine their strategic approach.

Understanding the strategic direction is essential to guide health service planners in aligning future activity estimates with the LHD or SHN preferred service development approaches, such as increasing virtual care delivery or hospital avoidance.

If there is no service currently, care should be taken to understand any cross-over or potential duplication of other services, including in the primary care and private sectors. If it is determined that the new service is warranted, it is recommended that the model of care be outlined in sufficient detail to establish the service. This includes understanding the patient cohort, population incidence and prevalence, relationship with admitted services, operating framework and parameters and nature of the services (for example, assessment, treatment, multidisciplinary, single appointments or group session, workforce profile). Planning should identify any opportunities for improved efficiency or disinvestment from existing services due to the proposed service.

Consider benchmarking against other services of similar nature, for example, if a service model available at one location is to be replicated at another site/location.

In using this approach, assumptions applied, and the evidence or justification for them must be documented.

3. THE NON-ADMITTED SERVICE PLANNING TOOL

A *Non-Admitted Service Planning Tool* was developed in conjunction with the 2018 version of this Guideline and can be found on CaSPA. More information about the elements/columns that make up the Tool is provided in Appendix 3.

3.1 What Is the Non-Admitted Service Planning Tool?

The *Non-Admitted Service Planning Tool* is an excel workbook that health service planners use to document the inputs developed through the NAP service planning exercise and derives estimated NAP service activity outputs. The Tool uses the agreed inputs to calculate NAP service activity outputs, OOS and rooms required to deliver them for a given target year.

An additional benefit of the tool is that it provides a simple summary of the planning assumptions and outputs across the range of services. The Tool can support communication with key stakeholders, including the governance committee, the Ministry and Health Infrastructure.

To use this Tool, service-level data developed through the analysis and clinical consultation is manually entered into **the orange cells**. The **green cells** (which contain formulas) calculate the projected NAP activity based on the data that has been entered.

IHPA Tier 2 Clinic Type Code	IHPA Tier 2 Clinic Type Name	Local Clinic Name (if applicable and required to split up the Tier 2 Clinic Types)	Individual / Group	SRG Mapping	SRG Annual Growth Rate	Treatment Space	Ave. Minutes per New App't	Ave Minutes per Repeat App't	Base Year New OOS	Base Year Repeat OOS	Current No. of Review OOS per New OOS (new/review ratio)	Revised No. of Review OOS per New OOS (if applicable)	Adjustment to Annual Growth Rate (if applicable) - service specific	Projected Year New OOS (dependent on outputs)	Projected Year Repeat OOS	Total Minutes Required p.a. per clinic type	Minutes available per clinic room per year @ 240 days, 7 hours per day	Number of Rooms Required @ 240 days per year, 7 available hours per day, 80% occupancy	Notes
20.07	General Surgery		e.g. Individual	e.g. Non-Subspecialty Surgery	Take from aM e.g. 3.4%	e.g. Consult Room	e.g. 15	e.g. 30	e.g. 2,000	e.g. 8,000	= base year repeat OOS / Base Year New OOS e.g. 4	e.g. 3	e.g. 0.5%	= base year volume x (1+SRG annual growth rate) ^no. of years between base year and projected year e.g. 2,000 x 1.04^5	= projected year new clinic volume x projected year no. of review clinics per new clinic IF formula dependent if new/review ratio changes	= (ave. minutes per new appointment x projected year new clinic volume) + (ave. minutes per repeat appointment x projected year repeat clinic volume)	= 60 minutes per hour * 7 hours per day * 240 days per year	=(total minutes required p.a. per clinic) / minutes available per clinic room per year)/ 0.8	
20.19	Respiratory		Individual	Respiratory Medicine	4.50%	Consult Room	15	30	2,335	9,158	4.0	3.0		4,480	13,441	470,429	100,800	5.0	
40.11	Social Work		Individual	All	4.10%	Interview Room	30	60	650	500	0.8			1,482	314	80,663	100,800	1.0	
30.08	Clinical Measurement	Cardiology	Individual	Cardiology	5.10%	Consult Room (cardiac	30	30	850	500	0.6			1,793	1,054	85,407	100,800	1.1	Rooms with specialised equipment required
30.08	Clinical Measurement	Respiratory	Individual	Respiratory Medicine	4.50%	Consult Room	30	15	800	300	0.4			1,549	591	55,158	100,800	0.7	May be collocated with other investigations (e.g. cardiac, respiratory, neurology)
40.27	Cardiac Rehabilitation		Group	Cardiology	5.10%	Group Gymnasium	10	10	600	4800	8.0		0.40%	1,339	10,738	120,554	100,800	1.5	The service averages 8 patients per group session / 10 mins per patient on average / Increase in non-admitted service to reduce inpatient rehabilitation modelled

Figure 3: Screenshot of *Non-Admitted Service Planning Tool.* See Appendix 3 for further detail on each column

3.2 How Can the Tool Be Applied?

The Tool has been designed to be flexible and cater for a range of NAP planning activities. For example, duplicating the worksheet can allow for scenario modelling, grouping services together to provide summary-level projections, or doing a detailed clinic by clinic analysis within the worksheet.

3.3 Application Of the Outputs of The Tool

To sense check and validate the outputs of this Tool before incorporation in other planning activities such as clinical service plans:

- Outputs need to be consulted with service providers to sense check and consider operational sustainability (e.g. workforce profile and availability to operate the service, operational parameters/considerations of the proposed location/setting). This may initiate reconsideration of the approach to the service such as eligibility criteria, distribution of the service particularly in a regional or rural context or model of care (e.g., shifting a medical-led to nurse or allied health-led models); and
- Consultation with LHD or SHN managers and executives can validate whether services deliver on strategic goals expressed in the strategic plan or clinical services plan. Other considerations include funding implication, efficiencies and economies of scale and whether growth should be targeted in key clinical areas rather than indiscriminately across all NAP services.

3.4 What Are the Tool's Limitations?

The Non-Admitted Service Planning Tool is based on an excel workbook used to document the inputs to derive the outputs. Care should be taken due to the manual entry required. The assumptions underpinning the tool must be reviewed and adjusted as appropriate based on consultation and considerations outlined in this Guideline.

The tool is based on a template originally developed to inform outpatient service planning. It makes the assumption that services will continue to grow in a linear manner with relatively little change to the way the service is delivered. Depending on the type of NAP services you are projecting, modification to the template may be required or bespoke analysis completed.

The NAP service planning exercise can address these by manually adjusting baseline inputs (where it can be evidenced that baseline activity is under-represented), and including modelling to account for planned changes to future service delivery. All adjustments must be clearly documented, and evidence based.

Some key points to note when modelling activity for NAP services using this Tool include:

- Maintaining integrity – 'comparing apples with apples';
- Shifting activity from the hospital (acute) to community settings;
- Impact of public awareness campaigns;
- Impact of screening and extensions to screening programs;
- Changes in broader health and funding policies;
- Changes in local provision; and
- Changes in primary care.

Consultation to understand the impact of these factors should be undertaken with the key stakeholders and service providers who should agree to the structure, framework and process used to model the NAP service demand and capacity. The outcome of these consultations and assumptions should be documented.

APPENDIX 1 - DATA FIELDS USED IN NAP DATA EXTRACTS FOR PROJECTION INPUTS

This Appendix outlines key data elements that can be extracted from the NAP Data Collection. It aims to provide health service planners with a reference on what a particular data element can be used for and their value to the NAP service planning approach.

Data Element	EDWARD/HIE Field	Commentary Including Relationship to NAP Service Planning Exercise
Hospital/Facility Name	HEALTH_ORGANISATION_FULL_NAME	Indicates the location where service is assigned to. However, this may not be the physical location such as if a clinical stream has been assigned a Facility ID within an LHD/SHN.
Service Unit HERO Identifier	SERVICE_UNIT_HERO_ID	Used as an identifier value for the service.
Service Unit Establishment Type code description	SERVICE_UNIT_ESTABLISHMENT_TYPE_DESC	Reflects the NSW Establishment Type that has been assigned to classify the service. This has been mapped to the IHPA Tier 2 Classification. Can be used for mapping services to admitted SRG or ESRG.
Tier 2 clinic type code	IHPA_TIER_2_CLINIC_TYPE_CODE	Reflects the IHPA Tier 2 Clinic Classification assigned to the service and used for ABF purposes. Can be used for mapping services to admitted SRG or ESRG.
Tier 2 clinic type description	IHPA_TIER_2_CLINIC_TYPE_DESC	
Clinic Name	SERVICE_UNIT_FULL_NAME	Reflects the name of the clinic which should be reflected and is based on what is in HERO as the full name. It should be noted that local names or abbreviated names for the service units are not available. Can be used for mapping services to admitted SRG or ESRG.
Setting	PRIMARY_SETTING_TYPE_CODE	Used to decide which location/setting the service was undertaken. This is useful to separate for detailed analysis.
Modality	SERVICE_CONTACT_MODE_CODE	Used to determine how the service was conducted (for example face to face or by a virtual modality). It can be used in determining infrastructure requirements and delivery method service.
Group Flag	GROUP_SESSION_FLAG	If captured, can assist in determining the type of spatial requirements that a service may require. However, there is difficulty in determining the ratio of OOS per group session. Though it could be addressed through consultation to gain a better understanding.
New or Follow Up	INITIAL_OR_SUBSEQUENT_SERVICE_CODE	If captured consistently, can be used to inform average service time and determine spatial occupancy rate.
Referral Source	REQUEST_SOURCE_TYPE_CODE	Could be used to determine where the demand for the service is coming from for example predominately GP referral or from within hospital following an acute admission.
Financial Class Code	FINANCIAL_CLASS_CODE	While not routinely used in NAP service planning and inputs not used in

Data Element	EDWARD/HIE Field	Commentary Including Relationship to NAP Service Planning Exercise
Financial Class Description	FINANCIAL_CLASS_DESC	infrastructure requirements, the data can assist in informing service sustainability.
Clinician Discipline	PROVIDER TYPE	Vital to understanding who is providing the service especially for multidisciplinary clinics.
NWAU	NWAU	Can be used for FIS development
Service Event	SERVICE_EVENT	Cane be used for FIS development
Start Date of appointment	SERVICE_EVENT_START_DATETIME	Can be used to determine the frequency of service operations.
End Date of appointment	SERVICE_EVENT_START_ENDTIME	Can be used to assist in sense checking the data as it would not be expected that an OOS would total more than 1 day.
Appointment Duration		Used to determine the total minutes for
Local appointment type	APPOINTMENT_TYPE_LOCAL_CODE	This data element can have varying value and is specific to each LHD. If used consistently, can assist in determining what type of service is and support mapping to other classification types including admitted SRG or ESRG.
Client Contact Flag	CLIENT_PARTICIPATED_FLAG CLEINT_PARTICIPATED_DESC	May be used to determine based on service contact code or modality of care code, where any service contact mode that has 'No client contact' indicated, it will result in a client participated flag of 'N'.
Age of client	CLIENT_AGE	Can assist in further analysis of patient cohort. If the age field is not available, use the date of birth field.
Birth date	CLIENT_BIRTHDATE	
Local Government Area (LGA)	CLIENT_RES_LGA	Used to determine the patient/client location of residence which can be used to inform service catchments and determine where patients are coming from to receive the service. Depending on data quality among these three elements, LGA is the most useful as it aligns best to LHD boundaries (notwithstanding some LHDs share LGAs that complicates the use of LGA).
Suburb	CLIENT_RES_SUBURB	
Postcode	CLIENT_RES_POSTCODE	
Indigenous status of client/patient	CLIENT_INDIGENOUS_STATUS_DESC	Can assist in further analysis of patient cohort.
Residential Status	RESIDENTIAL STATUS	If collected consistently, can be used to provide further detail about the client cohort.

Optional data elements that can be considered include:

- Country of birth
- Interpreter required
- Sex of a patient
- Is patient part of research?

APPENDIX 2 - INFORMATION RELATED TO OTHER COMMONLY USED TERMS – UTILISATION, EFFICIENCY AND CAPACITY REQUIREMENT

This Appendix outlines information related to the operationalisation of the outputs of the *Non-Admitted Service Planning Tool*.

Utilisation

Capacity utilisation can be improved by reducing unplanned loss or increasing the effective capacity. This is influenced by three key factors - resource availability, resource performance, and service quality. Resource availability includes the physical infrastructure and human resources.

Efficiency

Efficiency is a measure of how "successful" at producing higher outputs with the same or lower resources across two different periods (i.e., yearly quarters). Efficiency can lead to a reduction of waste and resource savings. Higher output is produced if the resources are used and allocated appropriately, enabling the service to manage demand better. This can be influenced by effective process management. For example:

- Standardisation of services (duration, appointment duration, new and follow up appointments);
- Confirming patient availability to attend / and provide reminders;
- Arrangements for new staff;
- Monitoring effective service utilisation and service availability;
- Daily 'empty appointment' report to fill service appointments;
- The proportion of patients using the service that identify as 'Culturally and Linguistically Diverse (CALD) and/or requiring interpreters;
- Account for potential service latency for predictable reasons such as teaching commitments, on-call requirements and staff leave, and
- Teaching within a clinic.

It is good to apply some operational reality and pragmatism by sense-checking capacity information with outpatient and admissions booking staff. In some instances, additional resources may need to be supplied to cope with demand, either temporary (seasonal) or permanently (population increases). This means that efficiency can go down if more resources are allocated to produce the same or lower service output. However, if resources are added and the service output increases proportionally, efficiency measures will be unaffected.

Capacity Requirements

The flexibility of capacity is the ability of the service to deal with fluctuations of demand. This can be a crucial requirement to minimise delays. Estimations of attendance volume can be used to estimate the service time and space required. The allocation of time and space to create capacity will affect modelling outcomes.

For example, the impact of a lower follow-up rate may reduce attendances but minimal in its effect on service time requirements.

There are three types of flexibility.

- Flexibility in the *number of sessions per week,* such as what capacity is there to run extra services or substitute services when someone is on annual leave etc.?
- The mix of appointments per session, such as the *ratio of new to review appointments* and what requirement is there to maintain some flexibility with these ratios within a session?
- The ability for services to maintain *buffer capacity to absorb fluctuations* in demand. For example, services planning more sessions than anticipated demand may be due to new screening programs etc.

How are the capacity requirements determined?

In determining future capacity requirements, it is important to understand the current capacity of the service and how outpatient care is scheduled. This explains the formula that underpins the outputs of Column S in the *Non-Admitted Service Planning Tool*.

Although complex in practice, one approach for determining the demand for initial outpatient appointment services, is calculated by determining the total requests (referrals) received, from all sources, for that particular service.

Factors to be considered include:

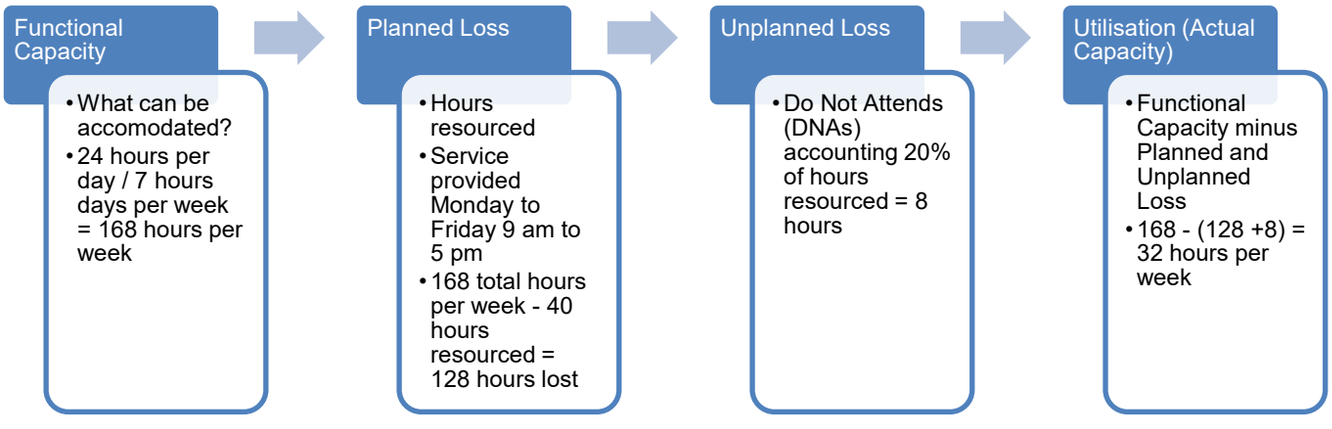
- Total requests (referrals) received;
- Plus, rebooked "Did Not Attends" (DNAs) / cancellations (where an appointment was lost);
    - This information may not be obtained solely from a data extract and may need to be informed by consultation with clinic booking and admissions staff;
- Minus, any waiting list removals where a booking was no longer required (removal for reasons other than treatment);
    - This information will likely be obtained through consultation with service scheduling staff and may not be within an electronic information system.
    - Waiting lists are generally not recommended to be included in projections

Capacity is considered as the available and appropriate resources required to meet the demand for that service. An appropriate resource means the efficient use of scarce resources to cope with demand and ***does not*** mean an endless supply to meet all demand.

In considering what capacity is available, it is important to consider:

- The functional capacity (also indicates maximum throughput);
- Planned loss;
- Unplanned loss; and
- The effective capacity or utilisation.

This is explained in the following example.



The occupancy rate for services can be determined as (32/40) x (100/1) = 80%. Therefore, capacity or utilisation is only 80%. Noting that the above is an example and will need to be determined specifically for services being reviewed in a NAP service planning exercise as there may be considerations for any initiatives

that aim to reduce unplanned loss.

Outpatient services are often dependant on numerous healthcare resources, for example, pharmacy, pathology, patient transport, diagnostic, clinical measurement, allied health and therapy services. These need to be considered from a resourcing perspective as the availability of these services affects utilisation.

Infrastructure Requirements

Responding to demand with physical capacity can be done in numerous ways. Calculating the physical space needed will depend on the clinic type and workforce, and support services requirements needed to operate the service. For example, multidisciplinary clinics may require multiple rooms and/or larger rooms.

For example, a chronic care service may require 6 rooms

- 2 x consult rooms for two specialists or a specialist and registrar;
- 2 x consult rooms for allied health practitioners, for example, dietitian or physiotherapist;
- 1 x supporting clinical investigation capacity, for example, lung function testing; and
- 1 x consult room for a care coordinator or clinical nurse consultant.

If a new physical location (i.e. capital infrastructure) is being planned, it will be important to know whether the:

- Design and operational model are to be centralised, decentralised or a hybrid model;
- The setting is all on-site, or will some be off-site; and
- Service needs to cater for any private provider capacity.

Allied Health Requirements

If allied health is in-scope, this requires particular consideration. These services are more likely to be conducted with various service models (for example, group sessions) and across several treatment settings/spaces. For example:

- Group rehabilitation sessions in a gymnasium;
- Individual physiotherapy in dedicated treatment rooms;
- Audiology in sound attenuated clinic rooms; and
- Hydrotherapy in individual and group sessions inhydrotherapy pools.

Allied health services are organised in many different ways across different hospital sites, which may have implications for the service model and associated infrastructure requirements. For example, some hospitals have integrated outpatients / allied health services, some have entirely separate departments, and some have different elements of allied health integrated within the hospital near admitted wards.

Both admitted, and outpatient services may use treatment spaces used by allied health staff. Therefore, capacity planning consideration of only the non-admitted activity may underestimate allied health space requirements in some instances.

In summary, where allied health is in scope, a detailed understanding of service models and treatment pathways is required across the admitted and outpatient settings. Knowledge of the setting types and their link to the non-admitted data sets at the local level will also assist allied health service capacity planning. This can be strengthened through consultation with service providers to provide an in-depth understanding of their service operations and requirements.

APPENDIX 3 - NON-ADMITTED SERVICE PLANNING TOOL INFORMATION

This Appendix contains more information to guide health service planners through the use of the *NAP Service Planning Tool*. The columns as they appear in the Tool are explained in further detail below.

If a bespoke approach is undertaken, columns changed or altered for a particular NAP service planning exercise may not be reflected in the below table.

Column of the Tool	Notes
Service Unit Establishment Type Code	Input the establishment Type Code here.
Service Unit Establishment Type Description	Input the establishment Type Name here.
Local Clinic Name (if applicable and required to split up the Establishment Type)	A local clinic name (if available) may help split up Establishment Type into multiple rows if required. For example, if multiple clinics require different inputs (such as appointment times or individual/group therapies) under one Establishment Type.
Individual / Group	This field identifies if the service was provided on an individual or group basis. Note: be careful with inputting new and repeat service numbers for servicesprovided on a group basis.
SRG Mapping	This is to which SRG has been mapped to the service. This % should be manually inputted. Following further assessment and understanding of services, mapping to the ESRG level could enhance the alignment of a service/clinic to admitted growth assumptions, if applicable. Other mapping exercises to align NAP and admitted activity may include Establishment Types to SRGs / ESRGs. Any mapping of activity will need to be tested and verified through consultation with local Performance Units and the NSW Ministry of Health Strategic Analysis and Investment Unit.
SRG Annual Growth Rate	This is the hospital-based annual growth rate of the SRG(s) mapped to the service. It is recommended that the HealthAPP CAGR be used. Note: be careful when calculating an annual growth rate as it needs to take into account the effects of compounding growth. Therefore, the compound annual growth rate (CAGR) formula is used and is calculated as: (end year value - base year value) ^ (1/ number of intermittent years) - 1. For example ((40,500 - 25,000)) ^ (1/15) - 1 = 3.3% The above means that the service is projected to grow at 3.3% every year, compounding. The best way to do this is on a separate worksheet before inputting it into the Tool.
Treatment Space	This is the treatment space in which the non-admitted service takes place. For example, consult room, interview rooms, gymnasium, and treatment room. The Australasian Health Facility Guideline is a useful resource for understanding room types.

Column of the Tool	Notes
	Consultation will help determine the inputs for this column.
Ave. Minutes per New App't	This is the average number of minutes per new appointment. Note that this is an average and should be determined through consultation. Note: be careful with services provided on a group basis (see above).
Ave Minutes per Repeat App't	This is the average number of minutes per repeat/follow up appointment. Note that this is an average and should be determined through consultation.
Base Year New OOS (ServiceEvent)	This is the base year (i.e., latest financial year)
Base Year Repeat OOS	This is the base year (i.e., latest financial year)
Base Year No. of Review OOS per New OOS (new/review ratio)	This is a calculated field: base year repeat OOS/base year new OOS
Revised No. of Review OOS per New OOS (if applicable)	Complete this column if a change in new to review ratios has been modelled. Leave blank if this is not being modelled.
Adjustment to Annual Growth Rate (if applicable) - service-specific	Complete this column if the SRG annual growth rate is increasing or reducing. For example,if an increase is being modelled for a service at 5.0% per year and the SRG growth rate mapped is 4.5% per year, 0.5% needs to be inputted into this column.
Projected Year New OOS (dependent on out year)	This is a calculated field. The calculation is: base year volume x (1+SRG annual growth rate) ^ number of years between the base year and projected year For example: 2000 x (1+0.04) ^15 = 3,602 There is a cell above the worksheet where the number of years between the base and the projected year can be inputted and links to the formula.
Projected Year Repeat OOS	This is a calculated field similar to the above. The repeat OOS will automatically update if a change to the new to review ratio has been inputted in the “Revised No. of Review OOS per OOS" column.
Total Minutes Required p.a. per clinic type	This is a calculated field. The calculation is: (avg. minutes per new appointment x projected year new service volume) + (avg. minutes per repeat appointment x projected year repeat service volume) The output will be proved in total annual minutes for the service type.

Column of the Tool	Notes
Minutes available per clinic room per year @ 240 days, 7 hours perday	This column assumes 240 days per year, 7 hours per day is available for each service at a minimum. Adjust if required (for example, if it is known that the service has access to extended hours) and make a note in the"Notes" column.
Number of Rooms Required @80% occupancy	This is a calculated field. The calculation is: (total minutes required per annum per service/minutes available per service room per year) / 0.8 An occupancy rate of 80% is included in this formula which means that the rooms will be used 80% of the time. This has been included to take into account cancellations / did not attends and understanding that not all rooms can be full 100% of the time (scheduling considerations). Note: Health service planners should consider the mix of consultation and clinic rooms and identify any required specialty rooms to support the proposed service profile. While the 80% calculation is built in, this can be manually adjusted as appropriate as long as the changes are documented and can be justified.
Notes	Include any notes about the service that are pertinent for example, explanations, notes about service models, intended infrastructure considerations.

APPENDIX 4 - NON-ADMITTED SERVICE PLANNING INFORMATION LINKS

This appendix contains useful links to strategies, policies, and the Ministry Units that health service planners can access and refer to for more information to inform their respective NAP service planning exercises.

- 20 Year Health Infrastructure Strategy
- Allied Health Data Set Extension
- Centre for Alcohol and Other Drugs – NSW Ministry of Health
    - National Framework for AOD Treatment Services
    - For further enquiries, MOH-CAOD@health.nsw.gov.au
- Clinical Services Planning Analytics (CaSPA)
- Data Integrity and Governance Team, Systems Information and Analytics Branch – NSW Ministry of Health
- Drug and Alcohol Data Set Extension
- Mental Health Branch - NSW Ministry of Health.
    - Please contact SAIU for further information.
- Non-Admitted Patient Intranet site
    - For further enquiries, MOH-NAP@health.nsw.gov.au
- Non-Admitted Patient and Supplementary Services Data Collection: Core Minimum Data Set
- Non-Admitted Patient Reporting Rules
- NSW Casemix Classifications Handbook 2020-21
- NSW Health Guide to the Role Delineation of Clinical Services
- NSW Rural Health Plan – Towards 2021
- NSW State Health Plan – Towards 2021
- Outpatient Services Framework
- Sexually Transmissible Infections and Human Immunodeficiency Virus Data Set
- Strategic Framework for Integrating Care
- Value based healthcare in NSW
- Violence, Abuse and Neglect (VAN) Data Set
- Virtual Care Communities of Practice
- Virtual Care in Practice
- Workforce Planning and Talent Development Branch – NSW Ministry of Health

APPENDIX 5 – CONSULTATION LIST FOR DEVELOPMENT OF THIS VERSION

Name	Position	Organisation
David Dowling	Senior Data and Modelling Officer	ACT Health
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Kathy De Souza	Telehealth Manager	Northern NSW LHD
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David Miles	Manager Health Services Planning	Northern Sydney LHD
Donna Parkes	Telehealth Manager	NSW Agency for Clinical Innovation.

Name	Position	Organisation
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Lynne Fitzsimmons	Nurse Manager, Ambulatory Care, Sydney Children's Hospital	Sydney Children's Hospitals Network
Nadine Shaw	Network Nurse Manager, Ambulatory Care	Sydney Children's Hospitals Network

Name	Position	Organisation
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