Board Decision – Public Excluded

1 December 2021

2DHB Hospital Network: Planning for the future and addressing immediate capacity constraints

Action Required

The Boards approve:

(a) The Master Site Planning Envelopes developed by Destravis to deliver the additional capacity required to meet our population health demand. This includes plans to address:

  a. Immediate constraints in Emergency Department capacity at Wellington Hospital through the Front of Whare refurbishment project;

  b. Constraints in bed and theatre capacity across our three hospital sites;

  c. Long term capacity requirements and remediation of poor infrastructure across each site, providing the build programme for the Hospital Network over the next twenty years and responding to the issues outlined in the Strategic Infrastructure Brief endorsed by the Boards at their December 2020 meeting.

(b) The Clinical Configuration for our Hospital Network that has been developed with significant clinical and operational management input.

(c) Adjustments to demand modelling projections to account for unequal service provision for Māori and Pacific peoples (on a pathway to modelling equitable service provision), recommended hospital occupancy targets, and the impact of implementing the recommended Clinical Configuration.

Strategic Alignment	CCDHB Health System Plan 2030, Our Vision for Change HVDHB Te Pae Amorangi, Tauite Ora, Sub-Regional Disability Strategy, Pacific Health and Wellbeing Strategic Plan for the Greater Wellington Region.
Presented by	Fionnagh Dorigan, Chief Executive
Developed by	Chief Executive & Executive Leadership Team
Purpose	Seek Board approval of the Master Site Planning Envelopes and Clinical Configuration for developing the Hospital Network across the Hutt Valley and Capital & Coast districts. These parameters allow detailed planning to inform the Strategic Infrastructure Plan and development of Master Site Plans in 2022.

Executive Summary

1. This paper summarises the significant programme of work that has been undertaken over the last eight months to inform the future state of our Hospital Network and delivers three key inputs to the next phase of work for Board approval: Master Site Planning Envelopes, Clinical Configuration of our Hospital Network, and revised demand projections for capacity requirements.

2. Master Site Planning Envelopes were developed by Destravis to deliver the additional capacity required to meet our population health demand as outlined in the Strategic Infrastructure Brief approved by the Boards at the December 2020 meeting. This report includes plans to address:

  a. Immediate constraints in emergency department capacity at Wellington Hospital through the Front of Whare refurbishment project;

  b. Constraints in bed and theatre capacity across our three hospital sites;

c. Long term capacity requirements and remediation of poor infrastructure across each site, providing the build programme for the Hospital Network over the next twenty years and responding to the issues outlined in the Strategic Infrastructure Brief endorsed by the Boards at their December 2020 meeting.

3. The Clinical Configuration for our Hospital Network is presented for approval. This configuration has been developed with significant clinical and operational management input and includes future state, model of care or service delivery changes, and either current actions or next steps for change.
4. Approval is requested to implement adjustments to demand modelling projections used in the planning of our infrastructure. This change is required to account for unequal service provision for Māori and Pacific peoples, recommended hospital occupancy targets, and the impact of implementing the recommended Clinical Configuration.
5. The next steps in implementing change are three-fold:
    a. Progressing the development of our Strategic Infrastructure Plan;
    b. Development of business cases for investment in the Front of Whare and Bed & Theatre capacity projects. The Front of Whare business case is underway and Investment Logic Mapping is close to completion;
    c. Operational changes, including the development of an admitting trauma service and expansion of early supported discharge programmes which will occur in parallel with business cases for infrastructure.
6. Achieving our balanced healthcare system, of which the Hospital Network is an integral part, will be complex and co-dependent. Multiple changes need to be made together to have the desired strategic effect. We will continue to work across our health system to ensure that change is occurring concurrently in hospital and community settings, and in a connected, cohesive manner.

Strategic Considerations

Service	This work will lead to fundamental considerations of what services are provided on which hospital sites. This will be explicitly linked to the development of integrated care continuums in our communities and localities ensuring care is provided locally.
People	Optimising a Hospital Network within our health system by developing clinical service delivery models in parallel with Master Site Planning allows us to ensure services delivered from our hospital sites are best placed to make their greatest contribution to achieving health equity while growing an aligned workforce.
Financial	There are implications for our capital investment and maintenance investment requirements balanced against our long term operational cost profile and its contribution to wellbeing.
Governance	This is a programme of work being led by the executive leadership team with our clinical teams.

Engagement/Consultation

Patient/Family	Further work to be scheduled and planned for in 2022.

Clinician/Staff	Senior leaders across the organisations have developed the recommended Clinical Configuration and endorsed the Master Site Envelopes developed by Destravis in order to support the next phase of work to deliver the Strategic Infrastructure Plan.
Community	Further work to be scheduled and planned for in 2022.

Identified Risks

Risk ID	Risk Description	Risk Owner	Current Control Description	Current Risk Rating	Projected Risk Rating
	Information being made available to the community prior to official release	Fionnagh Dougan	Document control within DHBs	Medium	High
	Inadequate communication and engagement with communities and staff as part of our process	Helen Mexted	Successful implementation of the communications strategy under development	Medium	Medium
	People's availability makes time for engagement difficult	Joy Farley	Prioritisation	High	High
	Other change processes underway in the DHBs present a distraction from long term planning	Executive leadership team	Ongoing communication and engagement from executive	High	High
	Modelling and forecasting is wrong	Rachel Haggerty	Engagement and peer review, responsive to new information	Medium	Low
	Staff disengagement due to long history of planning and not implementation. This risk includes the long lead time required for delivery of the proposed changes	Fionnagh Dougan	Ongoing communication and engagement from executive including robust programme delivery plan aligned with strategy and values	Medium	Medium
	Adequate resourcing and expertise for the programme and implementation of change	Executive leadership team	Identifying expertise and time required and prioritising resource allocation	High	Medium
	Insufficient data and digital capacity and capability to support the pace and breadth of change required to support the programme	Martin Catterall	Identifying expertise and time required and prioritising resource allocation	High	Medium

Attachment

1. 2DHB Master Plan Envelope report from Destravis – ***RESOURCE CENTRE ON DILIGENT***

1. Introduction

Purpose

This paper seeks the Boards' approval of the recommended Clinical Configuration and Master Site Planning Envelopes. This work has been developed as key inputs to the Strategic Infrastructure Plan for the Hospital Network across Hutt Valley and Capital & Coast Districts.

Outline of paper

The paper is structured as follows:

People: who are we designing our Hospital Network for?

Outcomes: we are not achieving equity for Māori, Pacific, and people with disabilities

National reform: how does this plan align with the Future of Health?

Community: what service does this plan assume is available in the community?

Age & state of our hospitals: what infrastructure context are we operating in?

Demand projections: how much and what type of capacity do we need to create?

Master Site Planning Envelopes: how can we create the required capacity?

Clinical Configuration: how will we use the additional capacity, where will services be located?

Revised demand projections: how does the clinical configuration change capacity requirements?

Next steps

Previous papers relevant to this discussion

December 2020	Board Public Excluded	3.3 Strategic Infrastructure Brief
April 2021	Board Public Excluded	4.1 2DHB Hospital Network Development
August 2021	MCPAC	2.8 2DHB Major Capital Projects Seismic Resilience Update

Scope

The focus of the Hospital Network is to determine how our hospital services, infrastructure and sites are configured to deliver safe, quality health care. This includes specialist care for local, regional and national services.

Mental Health facilities at the Ratonga Rua o Porirua site and specific buildings providing exclusively mental health services on the Kenepuru, Hutt Valley and Wellington Hospital sites are out of scope for this phase of work.

Background

Developing the 2DHB Hospital Network is a priority programme for our two DHBs, focused on determining the Hospital Networks we need to both meet the health needs of our communities in two districts and five cities, and be an effective regional complex care provider of tertiary services.

We are developing our Hospital Network so that we:

- Achieve equitable population health outcomes;
- Deliver contemporary models of care that provide high quality and safe patient-centred care;
- Make the most effective use of resources – staff, buildings, and equipment – for clinical and financial sustainability; and
- Support safe places for teams to work.

Creating the network is a process that involves developing and redesigning services over a five to ten year period and infrastructure over the next 20 years. We will continue to invest in quality service development; growing our community and equity investment whilst making decisions to reconfigure specialist services across our sites. This is a process where the confidence of the public will come from the services and solutions we develop that improve outcomes and which are part of a more seamless continuum.

The information presented in this paper is the next milestone on our Hospital Network development journey and represents delivery under three of the 2021/22 Board Strategic Priorities in the Our Hospitals focus area (figure 1):

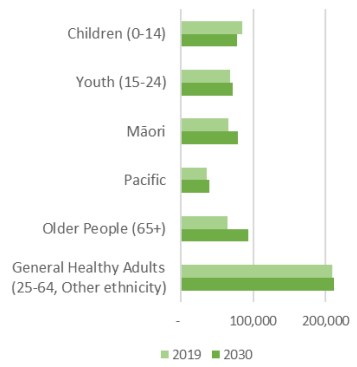
- Hospital Network Development – ensuring the best use of our hospitals and specialist services to achieve equitable outcomes for the people of our region
- Acute Hospital Flow–- timely and equitable access to acute care, and an integrated system to improve the management and care of older people with frailty
- Planned Specialist Care – timely and accessible planned care services to achieve equitable outcomes for the people of our region

Figure 1. 2021/22 Strategic Priorities for Hutt Valley and Capital & Coast District Health Boards.

2. People: who are we designing our Hospital Network for?

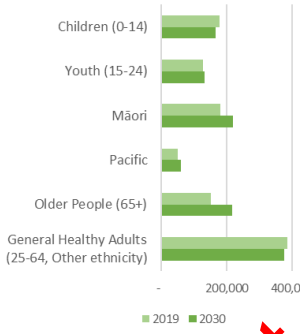
Our Hospital Network serves both the local population of Hutt Valley and Capital & Coast districts and the people of the wider central region, through our role as a tertiary service provider. The population we serve is increasing, with a projected growth of 38,000 people (8%) in our Districts and 71,000 (7.5%) across the Central Region by 2030.

Our local population is growing ...



Our people are increasingly more diverse with significantly more Māori and Pacific peoples, some of whom will also be part of our increasingly ageing population. At the same time, the number of children will decrease both locally and regionally.

... and so is the population of the Central Region which we serve



Demographic changes impact health services in different ways, so it is useful to consider who access services currently and how changes in these populations impacts health system demand. Figure 3 outlines how different populations currently access services delivered by our hospitals and how changes in each population will impact health service demand.

Based on current access patterns demand for care will increase and we need to plan and then act in order to be able to meet this need for Emergency Care, Ambulatory Care and Inpatient services

Figure 3. Impact of projected population growth on demand for services delivered by Hutt Valley and Capital & Coast DHBs.

Older persons and children are high users of health services. While the child population is forecast to decline, our older persons population is projected to increase 40% over the next ten years. The impact of this growth on hospital services, in particular inpatient bed days, is significant. The clinical configuration section of the paper outlines opportunities we have to consider different models of care in supporting people to be well closer to home, expanding and building upon our community investments in addressing demand (Community Health of the Older Persons Initiative (CHOPI) and Advancing Wellness at Home Initiative (AWHI)).

3. Outcomes: we are not achieving equity for Māori, Pacific, and people with disabilities

We are not achieving equitable health outcomes with our current hospital and broader health system. Māori and Pacific peoples have a higher rate of amenable mortality and spend more days in hospital acutely unwell than healthy adults and people with long term conditions (table 1). Furthermore, while we know the burden of disease is greatest for Māori and Pacific peoples, the planned care admission rate is only slightly higher than for other people with long term conditions and half that of older persons. We are not even able to compare outcomes for our disability populations as the data is not collected but through qualitative measures we know our disability community does not achieve equitable health outcomes.

Table 1. Access and outcomes our system currently delivers for our populations (2019 data baseline for Hospital Network outcomes framework).

Rate per 1,000 pop	Children	Youth	Māori	Pacific	People with Long Term Conditions	Older Persons	Healthy adults
	0 – 14 years	15 – 24 years	ALL ages	ALL ages		65+ years	25 – 64 years, non-Māori non-Pacific, no LTC
Planned Care Admissions	65.4	42.8	100.5	101.0	93.0	214.0	9.2
Acute Bed Days	164.1	197.0	471.6	407.5	216.9	983.1	59.9
Amenable Mortality	0.3	0.4	5.1	5.4	1.4	6.9	0.8

Our system is not achieving equitable health outcomes and this will affect more people as the populations with poorer health outcomes are projected to grow. Over the next ten years the number of Māori and Pacific people in our districts is projected to increase by 20% and 13% respectively. In addition, our Māori, Pacific people, and people with disability often require services younger in life which makes it important that health care is available in a range of ways and at a range of times as not everyone will be able to easily take time off work or away from family life for an appointment or procedure.

The solutions will not all lie in the community, we need a whole of system change. We must ensure we develop services across the continuum of care and invest in sufficient hospital capacity and service redesign so that our services are accessible and responsive to our Māori and Pacific communities and people with disabilities. In order to ensure we have sufficient capacity while we redesign service

models, our updated demand modelling presented in section 9 includes adjustment for delivery of equal levels of care (on a pathway to modelling requirements for equitable care and outcomes).

It is important that we focus on determining the Hospital Network we need to meet the health needs of all our communities, in two districts and five cities, while being an effective regional complex care provider of tertiary services.

4. National reform: how does this plan align with the Future of Health?

This plan aligns with the key shifts of the Health reform, in particular ensuring that '*When people need emergency or specialist healthcare this will be accessible and high quality for all'.* Our Hospital Network is designed and planned within the context of a community system that ensures '*All people will be able to access a comprehensive range of support in their local communities to help them stay well'.*

5. Community: what service does this plan assume is available in the community?

People will have access to services through developed and mature community health networks operating in localities that provide a strong organising system for health care with geographical areas. This will include:

- Comprehensive primary health care from general practices and urgent care providers who are able to access specialist advice and diagnostics without referral into the hospital system. This includes options for accessing urgent care and radiology outside of the hospital setting for people currently accessing care at Hutt Hospital emergency department because other options are not available or require out of pocket spending that is unaffordable for many;
- Local approaches providing support by and for Māori and Pacific communities with long term and complex conditions which may be achieved by extending our navigation services and community nursing support for those with long term conditions;
- Services across the continuum for mental health and addiction including early access and intervention supports for people experiencing anxiety and mental distress, where appropriate providing alternatives to the emergency department and inpatient care settings.

Service development and delivery will be commissioned to deliver with and for our populations. Determining need will be a collaborative process with mana whenua and partnered with the building of relationships with our Māori providers, including our urban and community Marae.

6. Age & state of our hospitals: what infrastructure context are we operating in?

The Strategic Infrastructure Brief developed by Destravis and endorsed by the Board in December 2020 provided us for the first time, a single comprehensive view of the state of hospital infrastructure across our three sites, its current capacity and the impact of future demand projections on our Hospital Network.

The findings about our facilities and sites were stark. This reflects a legacy of a poorly funded health system, compounded by continual DHBs deficits over time, which has made the choice to invest in

facilities and infrastructure difficult. This lack of investment is now clearly visible across our sites. The key findings were:

- *The remaining life of buildings is variable.* The majority of the Hutt site is approaching or exceeding the remaining design and maintenance life, Kenepuru is similar, and the majority of Wellington has at least 20% of life remaining.
- *The condition of our buildings is generally fair given their age.* Although deferred maintenance has a significant impact on building condition, both Hutt and Wellington sites have individual facilities in poor condition.
- Our inpatient beds and critical services are located in Importance Level (IL)[1] 3 & 4 rated buildings.
- *Our hospitals have a low percentage of single bedrooms.* This contributes to significant mixed gender flatting, particularly affecting the elderly.
- Our facilities lack appropriate bariatric and isolation spaces.
- Front of house and back of house flows are not optimal within or between buildings on our sites.
- Wayfinding is a challenge across all sites.

The work highlighted that the seismic ratings of many of our buildings were significantly out of date maybe reflect dated standards. A programme of work against current standards is underway, beginning with our IL4 and IL3 buildings as they are our inpatient spaces, and findings are incorporated into the Strategic and Master Site Planning process.

The implications of these findings have strongly informed the next phase of this programme of work. The major implications were:

- We must invest in upgrading and replacing our infrastructure to increase facility capacity to meet demand to 2037.
- Implementing an effective **data and digital** environment will be essential to embed new systems of care and make best use of our infrastructure across the Hospital Network.
- The **Kenepuru** and **Hutt Valley** hospital sites and infrastructure require significant upgrade and change given the age and condition of the sites. They will be reconfigured to be part of an optimal Hospital Network.
- The **Wellington Regional Hospital** site has existing facilities and infrastructure that can be expanded through a build programme to enable us to provide complex care to our communities and our regions.

This provided the basis for developing options for our master site envelopes and clinical configuration, working together to determine feasibility taking into consideration our current facility configuration and the demand we are facing

[1] The Building Code defines the significance of a building by its importance level (IL), which is related to the consequences of failure. The required level of seismic performance increases with each level of importance and the ratings are DHB self-assigned.

7. Demand projections: how much and what type of capacity do we need to create?

Demand Modelling provides a single view of our future service demand across the 2DHB Hospital Network. It provides a theoretical baseline of activity demand that will help us determine infrastructure demand and assist us to determine the best use of our hospital sites to enable the provision of safe and quality care to meet future demand.

Our DHBs have developed demand models that predict future service demand and infrastructure requirements. Having internal capability to work in real time by engaging with clinicians and management to develop and refine the models ensures they reflect the reality of health care delivery. The planning team and stakeholders across our DHBs have engaged widely to discuss and validate the modelling data. This engagement is ongoing and will alter the current baseline projection, as shown in the later sections of this paper. However, this provides the best chance of delivering a reasonable projection of the likely scenario in five, ten and fifteen years.

Through engagement upper and lower limits for data modelling projections have been developed to help reach consensus on what is a reasonable view of the future scenario. The *upper range* resembles status quo models of care and operating models with higher weightings on the impacts of patient/intervention complexity and frailty. This leads to high activity demand and therefore greater capacity requirements. The *lower range* assumes an optimised health system and substantial model of care changes. This reduces the growth of activity demand and therefore infrastructure requirements.

Our demand modelling shows a significant deficit in our current state (figure 4), this is being met in part by system-based initiatives including Health Care Homes, Community Health of the Older Persons Initiative (CHOPI), Advancing Wellness at Home Initiative (AWHI), and Kāpiti Community Acute Response (CARS), as well as outsourcing of surgical procedures. Through these initiatives we have halved our bed deficit from 90 to 45 beds across the 2DHBs. However, we need to continue investment as the deficit remains and will grow over time in response to the health needs of our populations.

These baseline ranges have been used in the development of the Master Site Envelope plans by Destravis. The envelopes consider whether, how and where we can refurbish or build new spaces to meet this increasing demand. The envelopes have informed the Clinical Configuration recommended later in this paper, which in turn has informed the refined demand projections at the end of this paper.

Figure 4. Demand projection ranges used to inform the Strategic Infrastructure Brief and Master Site Planning Envelopes. Projections show a deficit in infrastructure across all categories by 2030.

8. Master Site Planning Envelopes: how can we create the required capacity?

Demand projections indicate that we need a significant increase in bed capacity to meet demand over the next twenty years. In the next stage of planning Destravis has developed Master Plan Envelopes for each site to test how capacity can be created. The Master Plan Envelope determines the ideal location and size of new buildings that will best streamline future clinical functions, minimise disruption during construction, support efficient delivery and promote excellence and equity of patient care. Further, this defines opportunities for site redevelopment to achieve area requirements as per projections included in the Strategic Brief.

Essentially the Master Planning Envelopes provide a high level, site wide, development road map, giving us confidence that we can meet future demand and 'build our way out of our bed and theatre deficit' in a way that enhances the integrity of the sites and provides for future development in response to need (>50 years).

In addition, the Envelopes provide assurance of strategic alignment with site wide expansion and solutions for immediate 2DHB priorities. Our hospitals are constrained in many areas (beds, theatres, emergency care, ambulatory care), to determine the path forward the Executive Leadership Team have prioritised the following key issues:

- Safe location and capacity expansion for Front of Whare services (including Te Pae Tiaki Wellington Emergency Department (ED)) at Wellington Regional Hospital
- Expansion of 2DHB operating theatres
- Expansion of 2DHB inpatient beds

To deliver solutions, ELT with support of the Board Chair, FRAC chairs and MCPAC chair, have prioritised the issues above and arrived at the projects outlined below in priority order for immediate action:

1. Te Pae Tiaki Wellington Emergency Department capacity at Wellington Regional Hospital
2. Theatre capacity for the Hospital Network at Hutt Hospital
3. Inpatient bed capacity across the Hospital Network

Detail of the Master Plan Envelopes including plans to address the immediate priorities for action is provided in the *Master Plan Envelope report* from Destravis (attachment one). The subsequent section provides the high level changes and staging to deliver capacity now, and for the next twenty years.

At each stage in this development process: planning, construction, and commissioning, we will be ensuring that adequate isolation facilities are provided to support care provision in a pandemic and/or endemic environment (COVID-19 or future diseases).

Front of Whare plan to address immediate acute flow constraints at Wellington Hospital

The seismic rating of Wellington Hospital Emergency Department and Observation Unit (ED) building structure is 34% of NBS and there are risks with non-structural building elements. Thus "The ED building at Wellington Hospital does not meet Importance Level (IL) 4 requirements with medium to high risk to continuously deliver care during and post-disaster episodes."[2]

Investigation of options to address the structural shortcomings of the existing ED building established that it is not possible to rectify the identified issues (structural and building services) without ceasing operation or significantly reducing capacity to deliver service activity. Since the capacity of our ED is already significantly below demand, rectification works are deemed unfeasible.

In addition, a significant expansion of capacity at Wellington Hospital is required to address current and forecasted growth in activity. The volume of emergency activity is currently so high that service delivery has expanded to other areas including the transit lounge.

A number of options have been explored and the recommended option is refurbishment of an existing area within the main Wellington Hospital building. A preliminary concept for this area, adjacent to radiology and the main entrance to Wellington Hospital, confirms that a new ED located here would

- Have function connectivity with key departments including operating theatres, diagnostics, helipad, and assessment units
- Be accessible for both public drop off and ambulance access
- Have a strategic location that enables rather than constrains future expansion of the site.

The concept plan confirms a 50% increase in space for the emergency department in this location. The proposal requires a significant programme of relocation, decanting and refurbishment of areas (figure 5). This is enabled by the completion of the new children's hospital and the 'empty chair' this creates. At the same time as expanding the footprint of Te Pae Tiaki Wellington Emergency Department, this plan creates additional spaces for medical and surgical assessment and planning units. This allows service redesign to support people to access care from the best person in a timely manner. Further detail is outlined in the clinical configuration section of this paper.

The full detail of the refurbishment plan is outlined in *2DHB Master Plan Envelope* report from Destravis report from Destravis (attachment one).

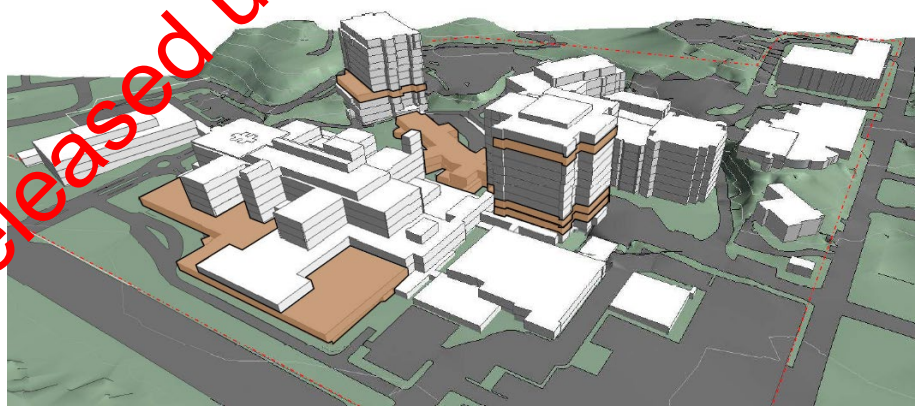


Figure 5. Overview of plan to relocate Te Pae Tiaki Wellington Emergency Department and refurbish additional areas to create Front of Whare, enabling timely assessment, treatment and discharge/admission for people presenting for urgent care.

[2] 2DHB Master Plan Envelope report by Destravis November 2021, page 9.

2DHB Bed & Theatre capacity

There is an existing shortfall in beds and theatres across our 2DHB facilities that is projected to increase in the coming years. This shortfall means that we are increasingly cancelling planned care in order to provide acute services. To preserve capacity for planned care we require an immediate solution but it must be: aligned with the Hospital Network strategy of service delivery across our three sites; strategically aligned with the long term infrastructure plans for each site considering the required expansions and replacement of unsuitable assets; and able to be delivered relatively quickly.

After review of our facilities Destravis identified that Hutt Hospital is the only site that can increase theatre capacity in the short-term. The preferred scenario will yield five additional theatres at Hutt Hospital adjacent to the current theatres (figure 6). This plan will address some of the projected demand but will still require the DHBs to continue outsourcing surgical procedures or wet lease theatres. The next opportunity to increase capacity is the first podium building at Wellington Regional Hospital.

Notionally a total of 112 inpatient beds and bed alternatives could be found across the three sites in the short term. However, value for money assessment of options resulted in a reduction to a total yield of 88 beds: 53 at Wellington Hospital (24 additional are provided in the front of Whare project); 20 at Hutt Hospital; and 15 at Kenepuru Hospital.

The proposed solution is supported by senior clinical and management leadership across our DHBs and detail is provided in the 2DHB Master Plan Envelope report from Destravis from Destravis (attachment one).

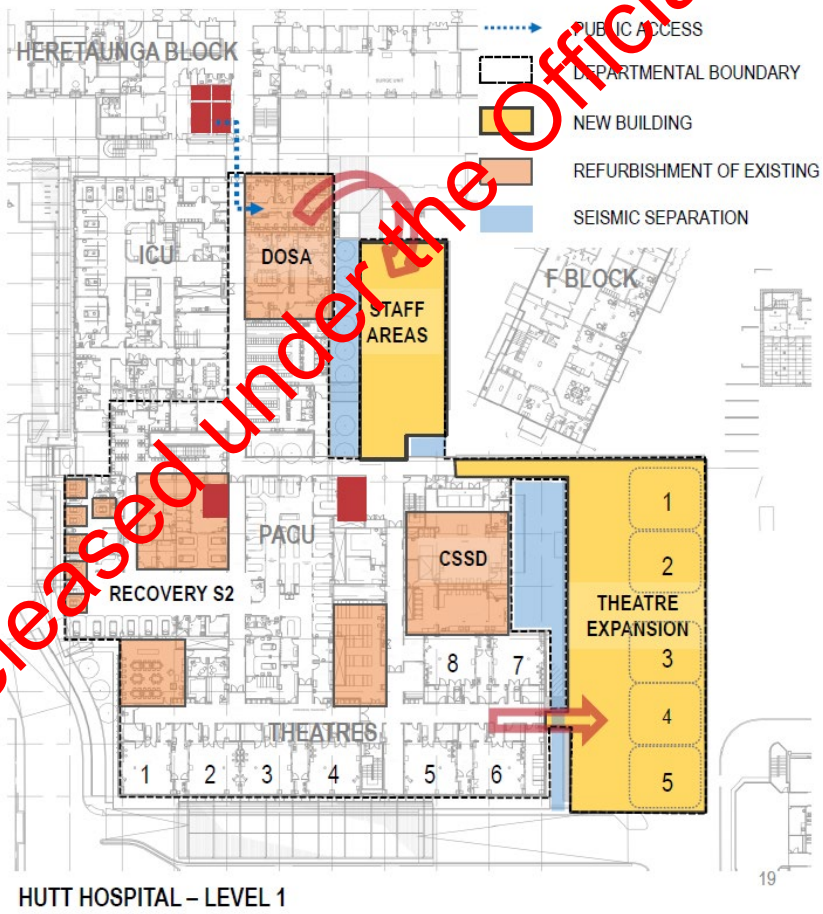


Figure 6. Overview of plan to deliver five additional operating theatres on the Hutt Hospital site.

Master Plan Envelope - Kenepuru Community Hospital

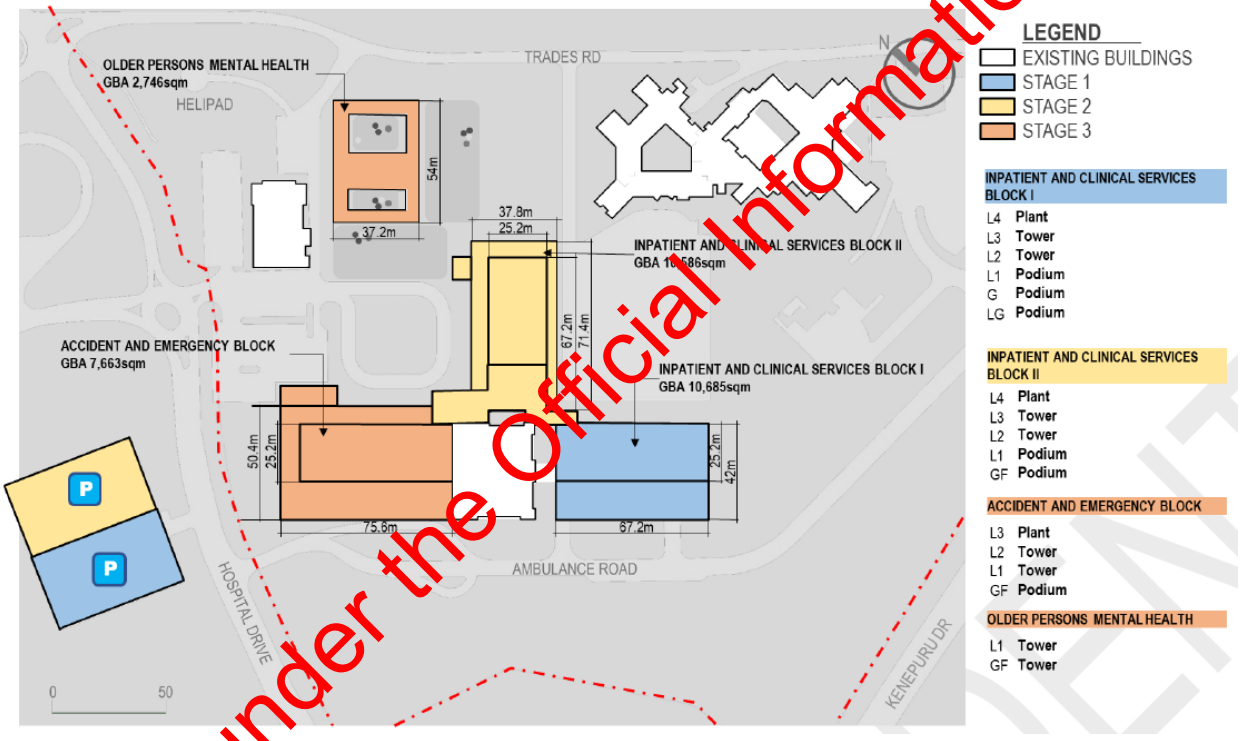
The Master Plan Envelope for Kenepuru Community Hospital details how infrastructure changes can be made to respond to the increase in capacity required to deliver against population demand. Changes will be made in three stages:

Stage 1 responds to the 2DHB immediate priorities and replaces the theatre complex, the maternity wing and central energy plant. It also provides additional inpatient units that address shortages in the existing infrastructure and provide for growth.

Stage 2 replaces the Tower Block, achieving benchmarked area provision to 2030 projections.

Stage 3 consolidates and provides for growth of ambulatory services, freeing up the space to provide two sub-precincts: a mental health and a clinical precinct.

The proposed footprint and preliminary stacking of new buildings is shown in Figure 7.



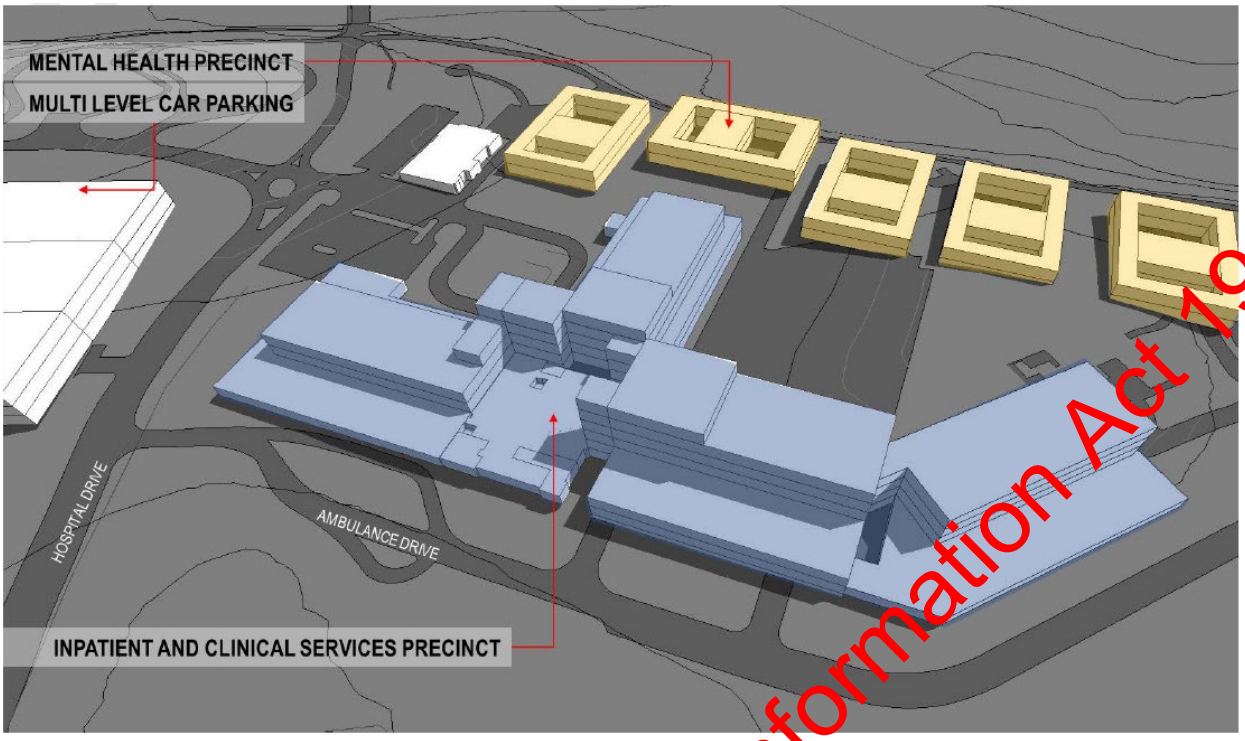


Figure 7. Master Site Envelope for Kenepuru Community Hospital.

Master Plan Envelope - Hutt Hospital

The Master Plan Envelope for Hutt Hospital details how infrastructure changes can be made to respond to the increase in capacity required to deliver against population demand. Changes will be made in three stages.

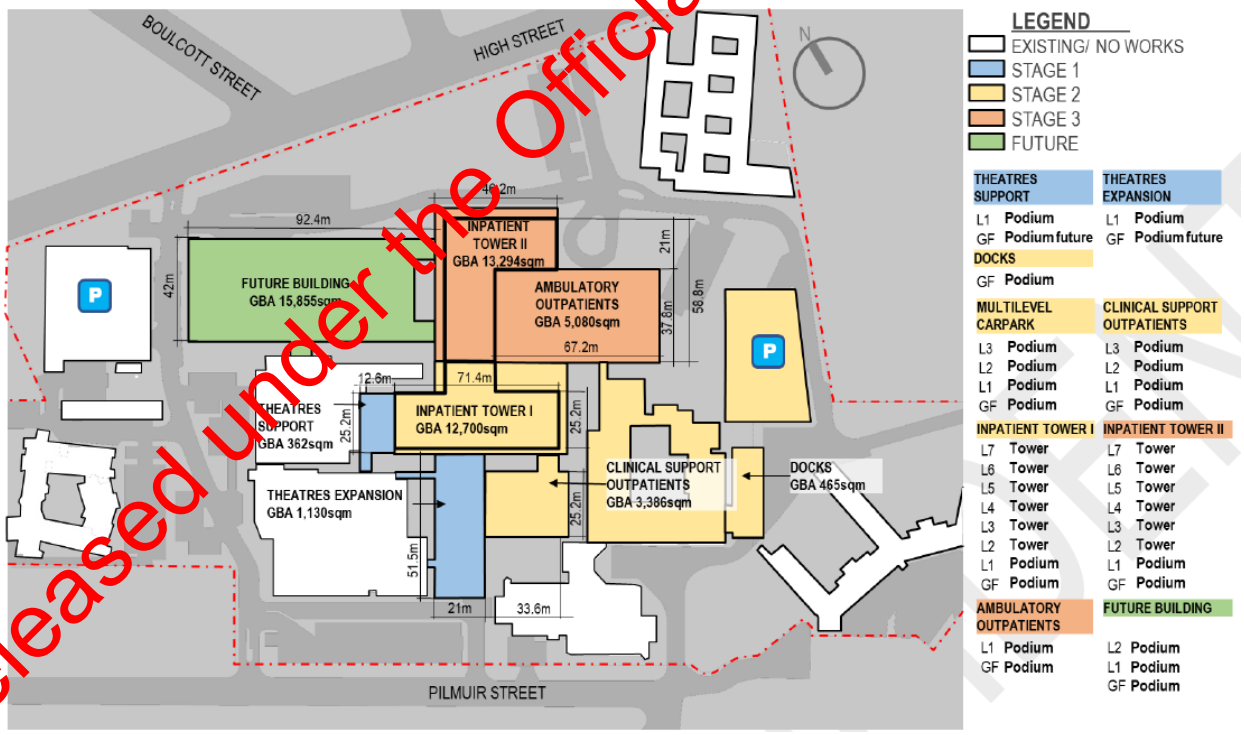
Stage 1 responds to the 2DHB short term priorities providing five additional theatres and 20 additional beds, enabled by modest expansions with good connectivity with the existing theatre building, partial demolition of a minor section of the kitchen building, consolidation of paediatric inpatient services at Wellington and localised refurbishment to increase recovery and admission spaces and overnight beds.

Stage 2 delivers a new inpatient tower which addresses projected growth for the site. Back of house functions are consolidated into a strategic location providing connectivity with existing and future buildings. The F-Block and kitchen building are demolished as part of the works. The Clock Tower becomes vacant at completion of the Inpatient Tower I and is demolished in preparation for the next stage.

Stage 3 replaces the bed stock located at the Heretaunga Block through provision of the Inpatient Tower II and an ambulatory and outpatients building. Heretaunga Block can be demolished on completion of this stage.

Future stage provides a clinical services building, with potential to replace the ED & Theatre Block and Endoscopy & ICU buildings.

The proposed footprint and preliminary stacking of new buildings is shown in figure 8.



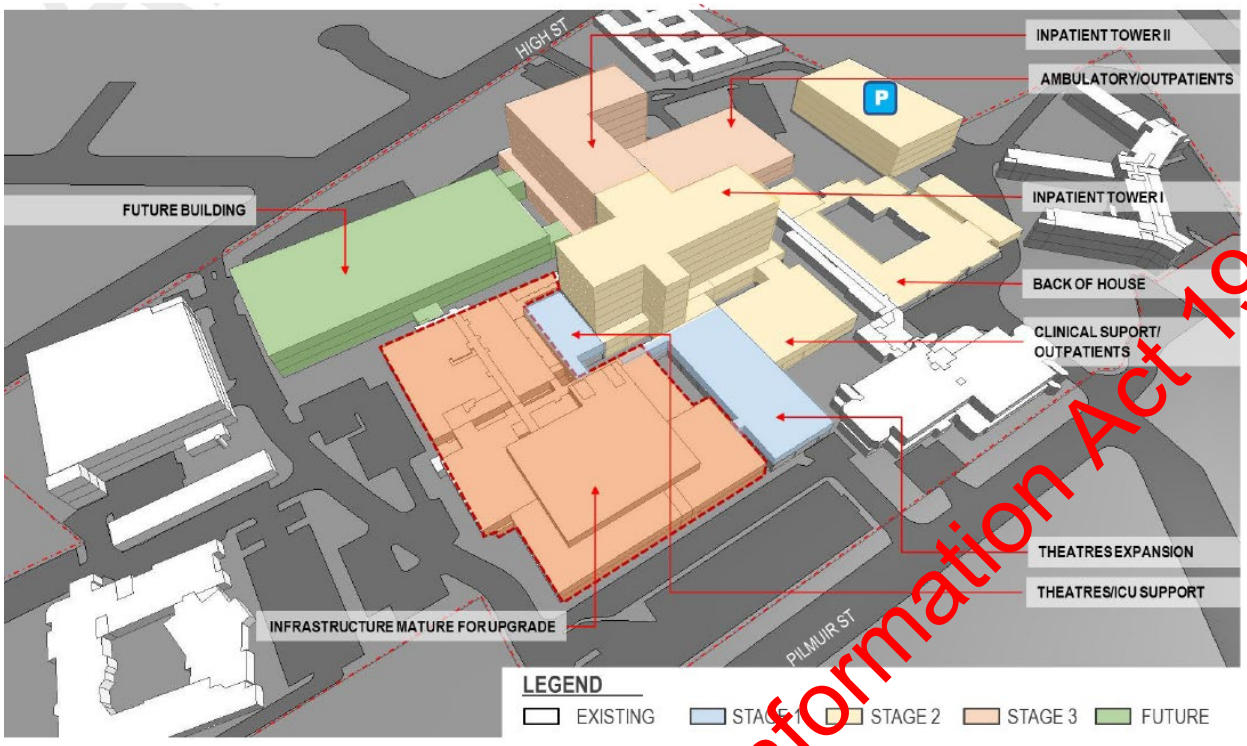


Figure 8. Master Site Envelope for Hutt Hospital.

Master Plan Envelope - Wellington Hospital

The Master Plan Envelope for Wellington Hospital details how infrastructure changes can be made to respond to the increase in capacity required to deliver against population demand. Changes will be made in three stages.

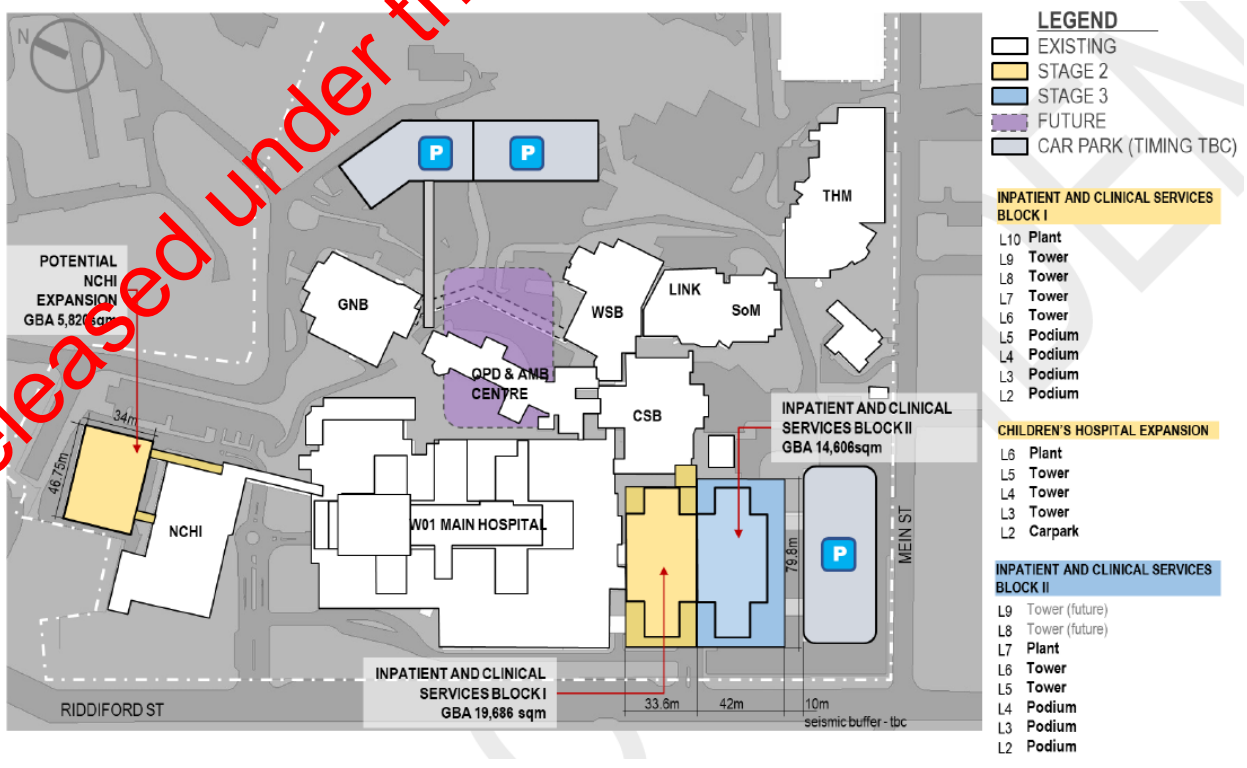
Stage 1 responds to the 2 DHB immediate priorities: the Front of Whare and increase in beds and bed alternatives, with potential for an additional 122 beds & bed alternatives in this stage. The Front of Whare is enabled by the relocation of a number of services from Level 2 of the Wellington Hospital building (W01) to other parts of the site. The relocations are enabled by: the opening of the New Children's Hospital which will vacate a double storey building (current Children's Ward) and the Clinical Services Building (CSB) and other vacant areas in the CSB and Grace Neill Block. The works to the Children's Ward will change the use into an Ambulatory and Outpatients Centre. An expansion of the New Children's Hospital building enables the consolidation of paediatric inpatient services across the network. This building can accommodate other functions in response to 2DHB priorities.

Stage 2 delivers a new building with podium and inpatient tower adjacent to W01, responding to predicted growth for the site. This requires demolition of existing ED building, which may have interim functions until commencement of implementation of works.

Stage 3 delivers a second inpatient tower and podium also in response to predicted growth in infrastructure requirements. This building is directly connected with the one provided at Stage 2. It is also connected with a building accommodating complimentary functions and car park, planned for the corner of Riddiford Street and Mein Street.

Future developments for the site can be enabled by the demolition of the Ambulatory and Outpatients Centre created at Stage 1. The footprint of this building has potential to connect with W01 and the buildings created at Stages 1 and 2. A more detailed investigation of the functionality at each stage of the master plan is required to validate the sequencing of the development.

The proposed footprint and preliminary stacking of new buildings is shown in figure 9.



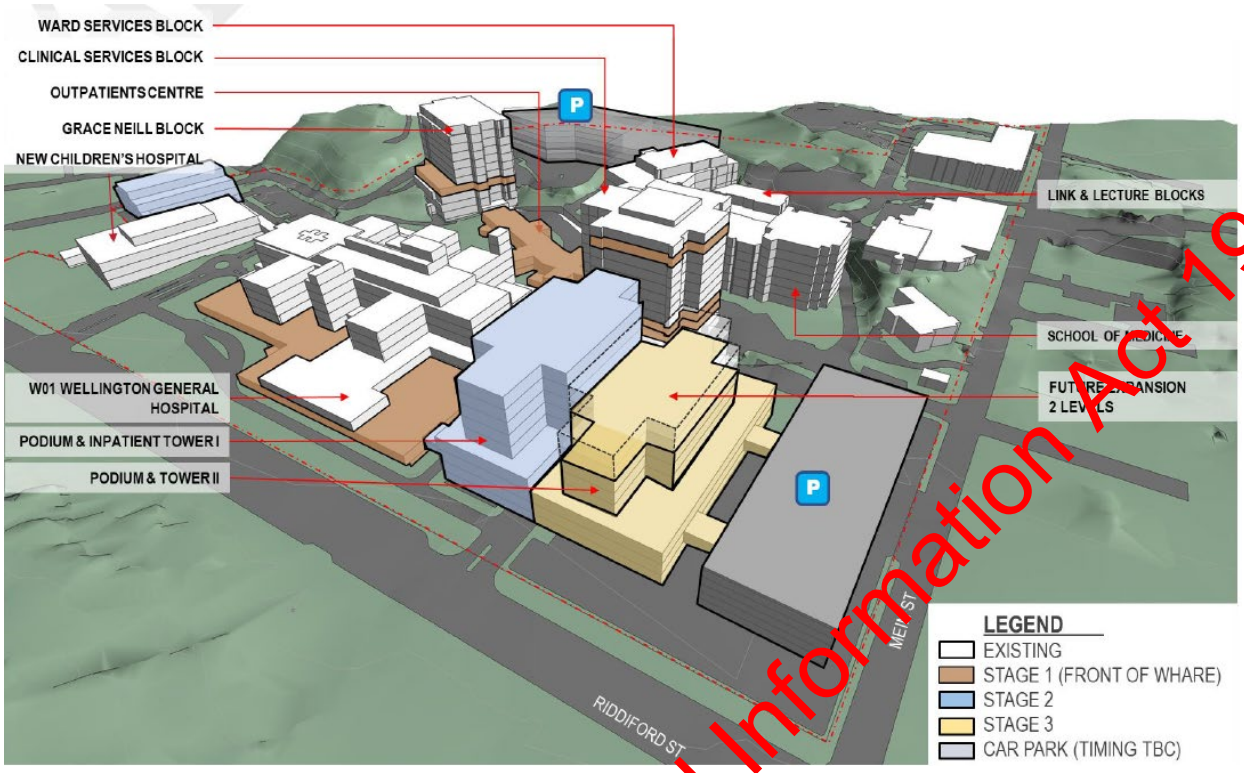


Figure 9. Master Site Envelope for Wellington Regional Hospital.

Together, the Master Site Envelopes show that we can build our way out of the bed & theatre capacity deficit we are in but it will take the next 15-20 years and a significant build programme. The next section outlines how we can arrange our services best before, during and after this build programme is completed.

9. Clinical Configuration: how will we use the additional capacity, where will services be located?

Our three hospital sites have a significant current footprint and so, while an ambitious redevelopment plan is outlined in the Master Site Envelope Plans, the Clinical Configuration development has not taken a green-field approach. We have worked within the boundaries of existing and future capacity and following the principles for Hospital Network development agreed by the Boards in April 2021:

- **Comprehensive Community Care** providing more care in our communities
- **Networked secondary services** across the region
- **Sustainable tertiary services** for the people of the Central Region
- **Enhanced Recovery Pathways** where more recovery takes place in community settings

The Clinical Configuration recommended herein has been developed through significant clinical engagement with senior leaders and services across the three hospital sites. The team leading engagement is multidisciplinary and includes clinical leadership, architecture & design (CCM), facilities expertise (Destravis), commissioning, analytics, and communications advice.

A series of 4 workshops were held and attended by 40+ senior leaders from across ELT, Clinical Directors, Directors of Nursing and Allied Health and Scientific, Operational Management, and Corporate. A further 10+ presentations and discussions were held with individuals and groups of clinical services from across our sites (e.g. surgery, theatre, ICU, general medicine, community services, cancer services, nursing, radiology). At each stage, clinical configuration discussions have been informed by demand modelling that has been developed over the last two years with significant clinical input.

The Clinical Configuration outlined below describes how we will change the use our three sites over the next twenty years. It focuses primarily on services for people presenting for acute and planned care requiring emergency department input, overnight stay, and/or a theatre procedure. Further detail on ambulatory care services will be developed in early 2022 once Boards have endorsed this direction for service configuration. ED, inpatient and theatre services require the largest capital footprint of space and thus are the central organising point for how we will arrange our hospital services.

Emergency Departments & Acute Assessment Units

Future state

Our emergency departments will be fit for purpose sites for people who require Emergency Medicine input, with appropriate streaming directly to acute assessment units for those who require urgent care but not Emergency Medicine input. This means our acute hospitals at Hutt and Wellington will have greater flows from ED and Primary care into acute assessment units, where care is delivered to people requiring a range of specialist input (current scope is primarily general medicine and general surgery). In the future this will include co-location of the Acute Frailty Unit with other assessment units which will enable it to be better utilised as an assessment unit.

Service design and model of care changes

Implementation of an expanded acute assessment unit model of care will encompass spaces that are utilised for assessment, planning admission to an inpatient bed, or discharge to community care. In parallel, we will develop acute appointment models where people can be booked to attend the next day rather than being admitted. These appointments could potentially be booked by both general

practice and ED teams. Appointments in acute clinics and indeed across the range of acute care spaces will be staffed by interdisciplinary teams ensuring best use of space, time, and workforce.

First steps

The relocation of the Emergency Department at Wellington through the Front of Whare change project provides an opportunity to develop the new service design and implement contemporary models of care.

Surgical Services

Future state

People will receive surgical services from one of our three hospital sites. In line with our core principle of ensuring sustainability of tertiary services, complex and tertiary services will be consolidated at Wellington Hospital. These services include cardiothoracic surgery, neurosurgery, vascular surgery, plastics, burns & maxillofacial surgery, complex general surgery, gynaecology surgery for oncology, and paediatric surgery. Currently the majority of these services are provided at Wellington Hospital. Relocation of the plastics, burns & maxillofacial surgery services will be a longer term transition once additional bed and theatre capacity at Wellington makes this feasible. In the interim, this service will provide support to the trauma service (detail below) and develop an on-site outpatient clinic presence at Wellington Hospital.

Non-complex and secondary services will be provided across the network, with additional and predominantly elective procedures at Hutt and Kenepuru hospitals. Significantly more surgery will be performed on the Hutt site, made possible by the increase in theatre capacity through the 2DHB Bed & Theatre capacity project. This project delivers 5 additional theatres, at which point theatre capacity is almost evenly distributed across Wellington (15 theatres plus obstetric theatre) and Hutt (13 theatres including obstetrics). Kenepuru will retain their 3 theatres and no acute surgery will be offered.

Service design and model of care changes

Networking of major specialties across sites will support efficient service delivery in this multi-site model. A number of services have begun developing multi-site approaches: oral health and dental are developing a service integration approach that will support this, following on from ENT who now have a sub-regional multi-site service.

Orthopaedics developed a multi-site service design in 2015 that will be refreshed in light of the new capacity planning. This multi-site model also provides the opportunity to further develop the package of care for people accessing orthopaedic services. Our DHBs have implemented advanced physio first specialist assessment and support for people presenting with a select range of musculoskeletal complaints. By creating the multi-site model we can maximise the interdisciplinary teams across assessment and treatment, providing early intervention through to pre-habilitation and post-surgical support. Other major specialties including general surgery and gynaecology will develop their multi-site approaches as part of the implementation planning for the new theatre capacity at Hutt Hospital.

While the 2DHB Bed & Theatre capacity project will deliver a significant increase in theatre capacity with the 5 theatres at Hutt hospital, there is more surgical demand than will be met by on-site theatre access for at least the next decade. Meeting this surgical demand will be achieved through further outsourcing of procedures and exploring wet lease theatre options. Utilisation of these options will be carefully balanced, however, as operations performed in the private hospitals are often restricted to patients with less complexity and co-morbidities which can drive inequities in access to surgery. In addition, outsourcing of significant volumes of procedures can also limit training opportunities as private hospitals are not generally training hospitals. In this situation wet lease options can support

growth and development of workforce through increased training opportunities as a bridge while additional internal theatre capacity is created.

First steps

Outsourcing is expensive to maintain and every opportunity will be taken throughout this change process to maximise internal capacity. To do so, changes are underway to increase access to acute surgery across the 7 day period, which will allow more timely treatment for patients and more efficient use of surgical spaces during the weekday period.

In addition, an integrated admitting Trauma Service will be established with patient ownership and direct clinical input from multi-disciplinary trauma specialists. This will ensure Wellington Hospital meets the requirements of a Level 1 Trauma Centre and improves local and regional care for trauma patients. The Trauma Service will coordinate the local and regional multi-specialty care for trauma patients, from initial care in ED, through operating theatres, ICU, wards, rehabilitation and discharge to the community; partnering with community providers early. This will in turn improve patient experience and outcomes, efficiency, and decrease length of stay.

Intensive Care

Critical care services are currently provided at Wellington and Hutt hospitals and this will continue to be the case, however the mix of intensive care and high dependency unity care will change. Intensive care will be consolidated at Wellington Hospital, supported in the Front of Whare programme with an expansion of Wellington ICU with 4 additional beds to support acute flow across the network. Hutt hospital will retain an appropriate level of HDU/ICU capability to ensure support for the medical and surgical specialities offered on-site and focusing on physiologically unstable patients. In the long term, critical care capacity will grow through the build programme to meet expected growth in demand. There is a strong interdependency between outsourcing of surgical procedures and ICU capacity and this will be carefully managed to ensure decisions are matched. In addition, the trauma service will improve ICU flow through coordination of care.

Medical Services

Future state

Medicine and medical sub-specialties predominantly provide acute care. General medicine is the largest user of inpatient beds in both Wellington and Hutt hospitals. As such, acute inpatient services will continue to be provided across both sites. Medical sub-specialties are smaller and will each create a single networked service for the wider Wellington region, providing care either on an inpatient or consult basis across Wellington and Hutt hospitals. This will be a staged process, cardiology is leading the way with their initial service integration plan out for consultation with staff currently.

Cardiology is the largest medical sub-specialty, and also has significant elective admissions to hospital. Part of the network development is identifying opportunities to make best use of capacity across our hospitals for different groups of patients – for example interventional cardiology procedures are provided at Wellington only, and there is potential for Hutt to lead the management of different patient groups like people with heart failure. Next will be development of a new model of care for rheumatology, dermatology and immunology services to deliver care by moving to a joined up approach, with respiratory, neurology and other sub-specialties to follow.

Service design and model of care changes

Front of Whare at Wellington Hospital provides the opportunity to also expand the services providing medical acute assessment and planning (MAPU) with networking of services, supporting the workforce

to implement this change. It is envisaged that this will create a new continuum of care with input and management of patients from multiple medical specialties in the new location.

Our build programme is ambitious and extensive, however capacity constraints will take time to resolve. In the meantime, alongside the new MAPU model of care there is good evidence that we can improve outcomes and address capacity constraints by implementing or expanding programmes that reduce length of stay and coordinate care across the inpatient and community systems, this will be critical to addressing barriers to discharge. These services include early supported discharge and long term conditions coordination teams and will be part of a system approach to supporting people and whanau across settings of care.

Specifically in our older persons service, the development of a centre of excellence will support the further evolution of trans-setting models of care for older persons and initiatives to move care to closer to community facilities or supported home based care. This will have a significant impact on the capacity constraints impacting the wider system. Services that require a hospital site will be located in a single centre of excellence for Older Persons Services on a single site, Kenepuru is well situated for this and to provide satellite services reaching into our communities. This will decrease bed demand for the system and, more importantly, support people to recover in their home settings.

Rehabilitation primarily based in hospital is a dated model and it is time to move to enhanced recovery pathways. Localisation and implementation of the NSW Rehabilitation Model of Care has the potential to decrease rehabilitation bed days by two thirds by providing significantly more care in an ambulatory or community setting. This will mean inpatient rehabilitation bed demand reduces over time as more ambulatory and community based services are commissioned and established. This approach is giving life to our principle of enhanced recovery pathways that focus on optimal functional recovery and support for community and home based rehabilitation and will result in improved patient experience, outcomes, and earlier discharge from inpatient rehab settings.

Blood & Cancer Services

Blood & Cancer services are tertiary services currently provided from the Wellington site. These acute inpatient services will remain in Wellington where co-location with other support services is provided. Changes will be made over time so that inpatient care for haematology and oncology patients is delivered in a dedicated fit for purpose unit with isolation, HEPA filtered rooms, specialist nursing staff and HDU capability. This will be a consideration when additional bed capacity allows reconfiguration of inpatient beds on the Wellington site. A dual site inpatient model would require consideration of co-located services and Blood & Cancer specialists on site and is not recommended at this time.

Thinking ahead to the next phase of planning, a more distributed model of delivering cancer services may be possible as part of the review of ambulatory care and procedural spaces. Installation of a linear accelerator at Hutt, which is currently under investigation, may lead to other oncology and haematology services also being offered at a satellite cancer centre. Some change has already begun in this space, with a medical day ward at Kenepuru providing some treatments.

Maternity & paediatrics

Maternity and Paediatric services will transition to a networked model delivering care across the wider region. This will be supported by coordinated clinical and operational leadership. The implementation of the 2DHB Maternity and Neonatal System Strategy as it pertains to hospital services is the focus to ensure *Women and families are supported to receive maternity care at home and in the community, with access to specialist care when required.*

The Hospital Network programme will continue to work alongside the team developing and implementing the Strategy, specifically focusing on the following key actions: articulate a 2DHB configuration of primary maternity facilities that increases access to community-based primary birth and postnatal services; contribute to the Master Site Plan to consider the medium-to-long term facilities needs for maternity services at Kenepuru, Hutt, and Wellington Hospitals, develop the plan to implement a new national Transitional Model of Care in Hutt and Wellington Hospitals. This will enable mothers and babies to remain together whilst providing additional neonatal specialist input as required.

Operating model

Implementation of the changes required to deliver the clinical configuration outlined here will be supported by the refresh and evolution of our operating model into a true multi-site model including clinical and management oversight. Front of Whare and 2DHB Bed & Theatre capacity projects will be the catalyst for delivering a clear and concise operating model that describes how services work together to deliver care to our people. The operating model will be underpinned by strong data & digital tools, and include clear pathways for the integrated operations centre to implement in support of good patient flow within and across our three sites and our regional partner hospitals.

10. Revised demand projections: how does the clinical configuration change capacity requirements?

Throughout the development of the Clinical Configuration we have been revisiting and revising the demand modelling projections to ensure that capacity requirements reflect the future we are building. There are three aspects to our revised demand projections: developing an equity approach, occupancy rates, and implementation of the recommended Clinical Configuration. Five scenarios have been developed based on these parameters, to form five options for projecting demand for general adult beds (table 2).

Developing an equity approach to demand modelling

One aspect that was highlighted during this work is that hospital care is not always accessed at the same rate by Māori and Pacific peoples as non-Māori non-Pacific people. This is despite a greater burden of disease[3].

It is a difficult area to address unmet need and we are taking a step-wise approach. For the first step, an EQUALITY model for Māori and Pacific ethnicities has been developed. In summary, the initial modelling shows a net increase of 5% in general adult beds across all sites is needed to account for inequalities between Māori, Pacific and non-Māori non-Pacific. Importantly, these models are not equity models and further work is needed to investigate modelling of equity.

Occupancy thresholds

The two general adult bed occupancy rates under consideration are 85% and 92%. 85% provides the highest protection against over occupancy during winter months as under the 85% occupancy condition there are no days in which hospital occupancy should exceed 100%, if demand projections hold true. At 92% there is a higher likelihood of exceeding 100% occupancy, however this rate is an average across the three hospitals.

[3]Ministry of Health. 2016. Health Loss in New Zealand 1990-2013: A report from the New Zealand Burden of Diseases, Injuries and Risk Factors Study. Wellington: Ministry of Health.

Table 2. Scenario options considered to inform general adult bed requirements to support our population to 2035.

Option	Title	Description	Occupancy	Provision for equal access	Clinical configuration implemented	Additional beds required by 2035
1	Lower occupancy plus equality	85% occupancy across all facilities to accommodate seasonal variation **plus** additional provision of capacity for delivery of care at the same rate to Maori and Pacific peoples as Non-Māori, Non-Pacific peoples.	85%	5%		448
2	Lower occupancy	85% occupancy across all facilities to accommodate seasonal variation, ensures there are no days where demand is projected to exceed bed capacity.	85%			398
3	Higher occupancy plus equality	92% occupancy across all facilities **plus** additional provision of capacity for delivery of care at the same rate to Maori and Pacific peoples as Non-Māori, Non-Pacific peoples.	92%	5%		369
4	Higher occupancy	92% occupancy across all facilities allows for flexibility in occupancy rates across sites e.g. lower occupancy in acute/tertiary spaces and higher occupancy in planned spaces, ensures there are minimal days where demand is projected to exceed bed capacity.	92%			323
5	Higher occupancy plus equality plus clinical configuration changes	92% occupancy across all facilities **plus** additional provision of capacity for delivery of care at the same rate to Maori and Pacific peoples as Non-Māori, Non-Pacific peoples **plus** adjustment for implementing clinical configuration recommended above which increases care in community settings and implements new models of care in hospitals, a net impact of reduced bed requirements.	92%	5%	Yes	314
Upper range		Initial range used to begin infrastructure design process				368
Lower range		Initial range used to begin infrastructure design process				297

An average occupancy of 92% across our hospital network provides for increased occupancy where there is significant volumes of planned care. This can be achieved because this activity can be scheduled and occupancy more tightly managed in advance (a fully planned care site could theoretically run at 95-100% occupancy). We will not have any fully planned care sites (Kenepuru provides arranged care) but the 92% occupancy value provides for increased occupancy particularly at the Hutt Hospital where there will be a significant increase in the ratio of planned to acute activity. At Wellington Hospital with a high ratio of acute to planned care activity the occupancy will be between 85 and 90%.

Figure 10 outlines the impact of each scenario on the projected requirements for general adult beds, and provides the upper and lower ranges used in earlier stages of this work for reference.

Recommendation for the next phase of work

Option five is the recommended choice for moving forward into the development of the Strategic Infrastructure Plan. This option incorporates equality modelling, a 92% occupancy (providing for different occupancy rates across sites), and the impact of implementing the recommended clinical configuration. The phased approach to implementation of both the equality capacity and impact of clinical configuration changes, as many changes require community-based commissioning, results in this being the lowest projection of demand long-term but not short-term.

If this option and the clinical configuration are endorsed by the Boards, this approach will be reflected in other demand modelling including operating theatres.

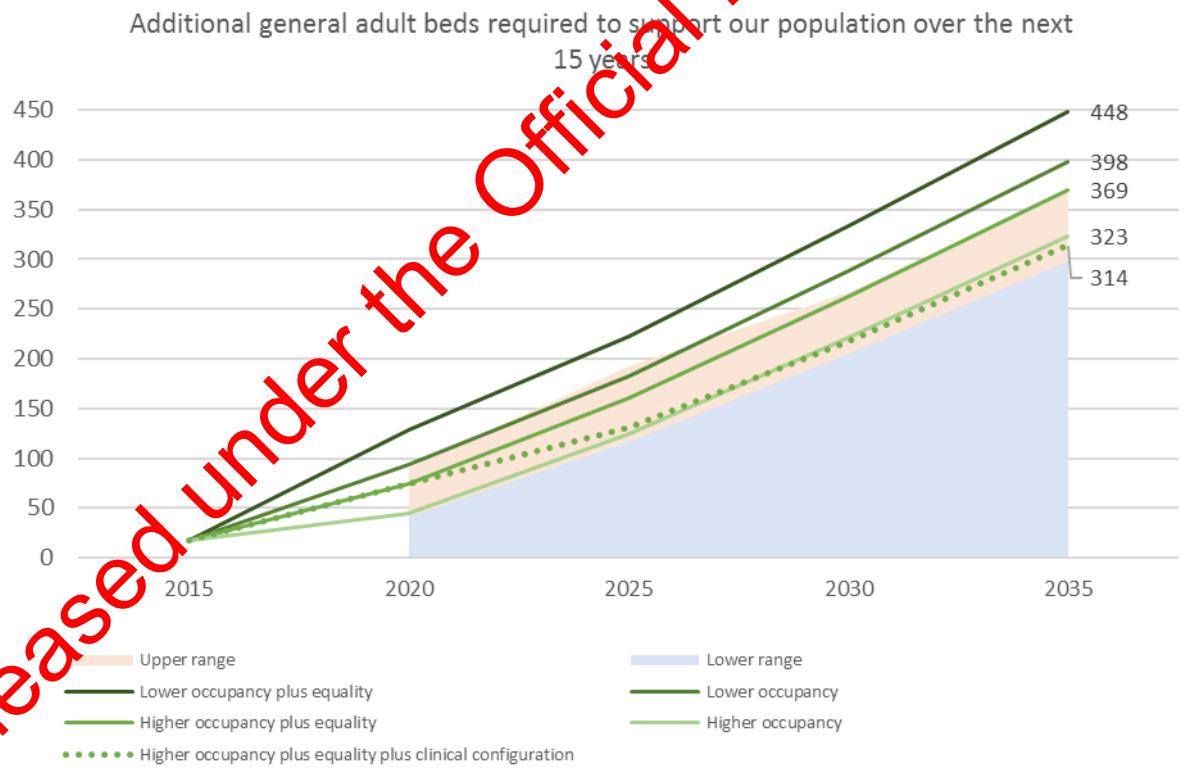


Figure 11. Revised projections for general adult beds required to support our population to 2035.

11. Summary and next steps

Where are we heading?

We will undertake a significant refurbishment and build programme across all three sites, beginning with the Front of Whare project at Wellington Regional Hospital. This will support implementation of a clinical configuration across our three hospital sites that creates sustainable services with opportunities to implement contemporary models of care:

- Tertiary services will be provided from the Wellington site. This is initially facilitated by a networked trauma service and critical care changes.
- Surgical services will be delivered across three sites with Hutt and Kenepuru delivering additional and predominantly elective procedures.
- Medical sub specialities will provide services across the region with strong networks to support secondary facilities.
- Older Persons services will be consolidated to a centre of excellence with strong integration with allied health and community based service.
- Rehabilitation will be provided across a continuum of inpatient to home based care.

The increased capacity will allow increased service delivery over time to meet the needs of the populations we serve. We are planning for this, addressing need in the community where we can and ensuring that where we have not previously delivered an equal (let alone equitable) service we are planning for that service provision so that we are planning for success: services that are accessible and responsive to our Māori, Pacific peoples, and people with a disability or impairment.

How will we get there?

Over the next six months we will:

- Accelerate the networking of services that currently operate across sites to develop a joint model of care that delivers the best care for our communities.
- Develop processes to stream arranged and elective patients to the most appropriate site based on complexity and clinical risk rather than where they live in support of the surgical reconfiguration and delivery of additional theatre capacity at the Hutt.
- Work alongside the primary care, maternity, and mental health services commissioning teams to advance plans for investment in community based services, ambulatory care, and rehabilitation facilities.

How does this address equity for our Māori, Pacific, and disability communities?

Hospitals buildings themselves do not deliver improved health equity, rather we will leverage the opportunity created by infrastructure changes to redesign our spaces and our services so that they are accessible for our Māori, Pacific and disability communities. This will happen in a range of ways:

- ensuring new spaces meet universal design principles of accessibility so that facility design does not inhibit access for people with disabilities;
- redesigning service pathways to provide care in the community if it does not need to be provided on a hospital site;
- early engagement with communities to design services for example Front of Whare where the focus is with Māori as they are more likely to leave the Wellington Emergency Department

without receiving treatment, a strong signal that the service is not working for them so the spaces and the services are being redesigned to meet their needs.

At the same time we will ensure that we are providing increased capacity so that, as services are more accessible both within our hospitals and across our health system, there is capacity to provide care for people when they need it.

Finally, increasing capacity requires an increased workforce, and we are committed to dramatically increasing the number of people who identify as Māori, Pacific and/or people with disability employed by our DHBs over the next nine years to reflect our population.

What do the infrastructure changes mean for our workforce?

The changes outlined here will impact the people working in and around our hospital sites. We also note that our workforce are part of the communities we serve. It should be clear from the plans outlined above that our DHBs will remain significant employers in the region. Growth of the Hutt Hospital site in particular will be significant with five new theatres in the next few years. Across the board we are looking to implement contemporary models of care delivered by a diversified workforce. We hope to create opportunities for people to learn and grow, and determine our future. Our people are dedicated, hardworking and in most cases innovative creators of change. They will lead the way with change over the coming years.

What planning do we need to complete next?

The next step in our Hospital Network development is a Strategic Infrastructure Plan for our three hospital sites. If the Clinical Configuration, demand modelling of capacity requirements, and Master Site Planning Envelopes recommended within this paper are endorsed we will proceed to the development of the Strategic Infrastructure Plan with these as the key inputs. The Strategic Infrastructure Plan will be followed by Master Site Plans for each site which provide the detail of how we will stage this significant build programme over the next twenty years.

Who will fund the implementation of the building programme and what will it cost?

The early cost indication at this Master Site Envelope stage is $1.5-2 billion to deliver the hospital network infrastructure change programme. This is a very early provisional value that is subject to change as we move through the next phases of work over the next six months. Operational expenditure will be forecast in parallel. A whole of system investment model is being developed for this work.

Funding for the infrastructure build programme will be sought from Treasury via the Ministry of Health. This will be structured under a Programme Business Case to be developed in early 2022 based on the Strategic Infrastructure Plan and then supported by the Master Site Plans as they are completed.

What changes can we make now?

Capital investment

Some changes cannot wait for the Strategic Infrastructure Plan and Hospital Network programme business cases to be completed. Demand on our emergency department and the seismic risk of the building means we are seeking investment in Front of Whare now.

We are currently in the strategic assessment phase of our Front of Whare business case development, finalising our Better Business Case Scoping document and risk assessment for submission. During this phase we have engaged with the Ministry of Health and the Treasury to confirm our strategic intent, the expected investment envelope, and the better business case pathway. This means that we can continue to develop our Indicative Business Case for the Front of Whare project within the context of the Hospital Network Development Programme. Ministers are expected to receive advice in December

2021 about the capital priorities for the next two years. We have confirmed with the Ministry of Health that our priority is the Front of Whare project for Budget 2022.

We have recently completed our Investment Logic Mapping workshops. This is a mandatory part of business case development that is a critical step of our strategic assessment. The Investment Logic Mapping workshops tell the story of the Front of Whare project and exposes its underpinning logic. This includes specifying the benefits that are expected to be delivered along with the evidence that will be required to prove the benefits have been realised. This will result in an Investment Logic Map that represents a simple single-page flowchart that tells the investment story and logic. Next we will begin the development of a Benefit Management Plan which is made up of is made up of a benefit map and a statement of reporting and responsibilities. These are expected to be completed in December 2021.

Service design and operational changes

Operational changes to support our emerging Hospital Network Clinical Configuration will be developed in parallel with the business cases for infrastructure. Changes to be implemented in 2022 include the development of an admitting trauma service and expansion of early supported discharge programmes.

Our communications and engagement approach for this work

Strategic context

Our 2DHB Communication and Engagement strategy and programme for the next eight months is focused on telling a joined up story about our strategic priorities, engaging with staff and stakeholders to enable commitment and change as we transition to Health NZ and the Māori Health Authority.

Manaakitanga ā tōna wā outlines our areas of focus for 2022 and beyond and leverages off our stakeholder ecosystem, core narrative and engagement framework: Inform, Understand, Involve, and Collaborate. Within our strategic priorities, the 'Our Hospitals' focus area demonstrates how our clinical services and facilities will evolve. The Hospital Network and clinical configuration across our region is a key area of focus.

Communication activity for the Hospital Network to date has focused on:

- Updating our 2DHB ELT and Boards at key stages.
- Seeking input on Clinical Configuration and Investment Logic Mapping.
- Communicating the foundation regarding reasons for change and what we want to achieve.

Externally, activity has focused on engaging with central government decision makers to increase the likelihood of our business case for Front of Whare being recognised and funded in Budget 2022. This includes:

- A walk through Wellington Hospital with representatives from the Ministry of Health Capital Investment Team.
- Briefing Rt Hon. Prime Minster Jacinda Ardern, Hon. Ministers Andrew Little and Grant Robertson, and local MP Paul Eagle via a visit to Wellington Hospital ED.
- Informing local government of our high level plans at regional Mayoral Forums.
- Updating providers on our high level plans through the regular Provider Update.

Communication and Engagement activity over the next six months will:

1. Outline the benefits of Front of Whare via our Business Case to secure Government funding.
2. Inform staff of our broad strategic goals and aim to align their 'why' with ours.

3. Encourage staff to consider how they can contribute to successful change, in preparation for implementation.
4. Aim to give external stakeholders, including local government, iwi, Unions, community providers and health system users confidence that we can successfully deliver improvements to our Hospital Network, and that our plans align with the objectives of Te Pae Ora – Healthy futures legislation.

Strategic considerations for 2022

Our staff and leaders, as both employees and users of the health system, will play a critical role in the success of change, as they are the audience who will undertake the biggest shift in behaviour. Our staff have the potential to be our most significant advocates or detractors, and our clinical leaders in particular are well placed to carry the most influence when we engage staff.

Clear, transparent and meaningful messaging on decisions and plans will be critical to the success of implementing the proposed changes both in 'Our Hospitals' and other connecting strategic priorities.

Approval of the Hospital Network planning by the Board and approval of the Front of Whare Business Case provide important milestones to engage with internal and external stakeholders including iwi, providers, community health, people, patients and whānau, and media, in a confident and purposeful way next year. Our high level timeframe for communications and engagement activity is as follows:

Broad timeline for the Hospital Network communications

December 2021 2021 wrap up	Communicate Board decisions Christmas wrap up messaging – successes and what's to come
Jan – April 2022 Prepare	Tell the story of our 'why' and how our strategic priorities connect together. Seek internal and external input on Hospital Network Master plan and Front of Whare design elements.
May – July 2022 Encourage behaviour change and inform	Once we have Business Case approval, provide detail internally and externally about change impact and how staff and stakeholders can enable change success. Tell stories about how change will benefit equity and access to care.
Mid - Late 2022 Implementation	Inform staff specifically what they need to do make change happen and when.

Conclusion

Achieving our balanced healthcare system, of which the Hospital Network is an integral part, will be complex and co-dependent. Multiple changes need to be made together to have the desired strategic effect. We will continue to work across our health system to ensure that change is occurring concurrently in hospital and community settings, and in a connected, cohesive manner.

Appendix i Demand modelling methodology

Bed Modelling

Sophisticated modelling of our 2DHB general adult speciality services has been undertaken. These bed models are banded into five year age ranges, split by service/speciality and show the event type; acute, arranged, and elective. Within this the number of events, bed days, theatre and ICU use for each speciality is available, projected to the year 2030. These projections are based on PBFF population and other data sets from 2015 occupancy, as this was generally agreed to be a time where capacity was better able to meet demand and looking further back prevented the incorporation of significant changes in practice. A demographic uplift using PBFF data has been applied to capture the expected changes in population demographics. For Kenepuru, 2019 data has been used for both bed and theatre modelling to reflect significant changes in practice in 2015.

Theatre Modelling

Similar to the bed model, projections are based off the year 2015 (2019 data for Kenepuru). The PBFF and population uplift are then applied to obtain a case rate and average case minutes. This is banded into five year age ranges showing; admission type and speciality by month. The modelled projection out to 2030 is then able to be adjusted according to list and session utilisation, hours per session, sessions per day, days per week and weeks per year. This allows us to see the impact of different utilisation scenarios by individual specialities or the wider theatre space will have. A modified model has been made to capture theatre utilisation which does not result in inpatient admission to reflect the mix of complexity of theatre utilisation.

Notes

An implication of basing projections from one year is that ALOS is assumed to remain constant, thus any gains in reducing ALOS between the selected year, to present are not captured.

Older adult mental health at Hutt Regional Hospital is included in the general adult beds. To allow for consistency Ra Uta Psychogeriatric Unit has been included as older adult mental health at Kenepuru Hospital. Acknowledging there are older adult mental health patients in other inpatient mental health wards in Kenepuru.

An EQUALITY model for Māori and Pacific ethnicities has been developed. In summary, initial modelling shows an increase of 5% in general adult beds across all sites is needed to account for inequalities between Māori, Pacific and non-Māori non-Pacific. Importantly, these models are not equity models and further work is needed to investigate modelling of equity.