

20 April 2023

S9(2)(a)



Your request for Official Information, reference: HN200005357

Thank you for your Official Information Act 1982 (the Act) request for information relating to the new Dunedin Hospital. You have specifically requested:

"I request the following information from the Ministry of Health under the Official Information Act – in relation to the new Dunedin Hospital.

- (1). A copy of any and all submissions **from health professionals** into the current review of the new Dunedin Hospital. Dated between **July 1, 2022** and today's date*
- (2). A copy of any and all correspondence sent or received by the New Dunedin Hospital Executive Leadership not limited to emails and reports regarding work that has been put on hold or stopped during the current review of the new Dunedin Hospital. Dated between July 1, 2022 and today's date (7 November 22)*
- (3). A copy of any and all correspondence sent or received by the New Dunedin Hospital Executive Leadership not limited to emails and reports regarding proposed steps to mitigate the risk of cost escalation. Dated between January 1, 2022 and today's date (7 November 22).*
- (4). A copy of any and all correspondence not limited to emails and reports regarding the emergency plan for flood events for the new Dunedin Hospital. Dated between July 1, 2022 and today's date (7 November 22)*
- (5). A copy of any and all correspondence not limited to emails and reports regarding the emergency plan for flood events for the new Dunedin Hospital. (Dated between January 1, 2022 and today's date).*
- (6). Any and all correspondence between the Ministry and the following individuals, regarding the new Dunedin Hospital:*
 - David Clark MP*
 - Ingrid Leary MP*
 - Rachel Brooking MP*
 - Rino Tirikatene MP*
 - Michael Woodhouse MP**Dated between January 1, 2022 and today's date"*

As part of the health and disability system reforms, as of 1 July 2022 the functions previously under the Manatū Hauora Sector Operations team transferred to Te Whatu Ora (Health New Zealand) pursuant to the Pae Ora (Healthy Futures) Act 2022 (the Act).

At the time of your request, Te Whatu Ora was a newly established entity, navigating various challenges. This includes recruiting for numerous vacant roles, organising new processes and receiving assistance from the Ministry of Health in order to fulfil our agency's operations and legislative requirements.

Te Whatu Ora would like to sincerely apologise for the delay in getting you this information and any inconvenience this may have caused.

Itemised as Appendix 1 are multiple documents and emails identified in scope of your request with copies attached. Please note the following:

- Where information is withheld this is noted in the appendix below and the document itself.
- Information has been provided in the form of excerpts in accordance with section 16(1)(e) of the Act which summaries information within scope of the request.

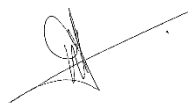
In response to part 6 of your request, this information is refused under section 18(f) of the Act as the information requested cannot be made available without substantial collation or research.

For further information about the New Dunedin Hospital, including recently released papers, please see our website here: <https://www.tewhatauora.govt.nz/our-health-system/infrastructure-and-investment/new-dunedin-hospital/>.

If you have any questions, you can contact us at hnzoia@health.govt.nz.

If you are not happy with this response, you have the right to make a complaint to the Ombudsman. Information about how to do this is available at www.ombudsman.parliament.nz or by phoning 0800 802 602.

Nāku iti noa, nā



Monique Fowler
Director, Delivery
Infrastructure and Investment

Appendix 1: List of documents for release

#	Date	Document details	Decision on release
1. <i>A copy of any and all submissions from health professionals into the current review of the new Dunedin Hospital. Dated between July 1, 2022 and today's date</i>			
1	16 September 2022	Te Whatu Ora Southern response to new Dunedin Hospital Value Management Option 4.4	Released with some information withheld under section 9(2)(b)(ii) to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information.
2	2 September 2022	NDH Value Management option 4.2 and 4.3 - Clinical and Operational Impact Statement – Te Whatu Ora, Southern	Released with some information withheld under section 9(2)(a) of the Act to protect the privacy of natural persons.
3	3 November 2022	Response to presentation of Value Management Option 4.5	Released with some information withheld under section 9(2)(g)(i) maintain the effective conduct of public affairs through free and frank expression of opinions.
2. <i>A copy of any and all correspondence sent or received by the New Dunedin Hospital Executive Leadership not limited to emails and reports regarding work that has been put on hold or stopped during the current review of the new Dunedin Hospital. Dated between July 1, 2022 and today's date (7 November 22)</i>			
3. <i>A copy of any and all correspondence sent or received by the New Dunedin Hospital Executive Leadership not limited to emails and reports regarding proposed steps to mitigate the risk of cost escalation. Dated between January 1, 2022 and today's date (7 November 22).</i>			
4	8 July 2022	Executive Steering Group Agenda	Excerpts have been released in accordance with section 16(1)(e) of the Act, with information deemed out of scope of your request excluded. In addition, some information is withheld under: <ul style="list-style-type: none"> • section 9(2)(f)(iv) to protect the confidentiality of advice tendered by Ministers of the Crown and officials. • section 9(2)(b)(ii) to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information

#	Date	Document details	Decision on release
5	9 August 2022	Executive Steering Group Agenda	<p>Excerpts have been released in accordance with section 16(1)(e) of the Act, with information deemed out of scope of your request excluded. In addition, some information is withheld under:</p> <ul style="list-style-type: none"> • section 9(2)(f)(iv) to protect the confidentiality of advice tendered by Ministers of the Crown and officials. • section 9(2)(b)(ii) to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information.
6	9 September 2022	Executive Steering Group Agenda	<p>Excerpts have been released in accordance with section 16(1)(e) of the Act, with information deemed out of scope of your request excluded. In addition, some information is withheld under:</p> <ul style="list-style-type: none"> • section 9(2)(f)(iv) to protect the confidentiality of advice tendered by Ministers of the Crown and officials. • section 9(2)(b)(ii) to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information.
7	7 September 2022	RCP Value management report "Inpatient Building & Logistics Building Design Optimisation Recommendation"	Released with some information withheld under section 9(2)(b)(ii) to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information.

#	Date	Document details	Decision on release
8	11 October 2022	Executive Steering Group Agenda	Excerpts have been released in accordance with section 16(1)(e) of the Act, with some information deemed out of scope of your request excluded and some information withheld under section 9(2)(g)(i) maintain the effective conduct of public affairs through free and frank expression of opinions.
9	8 September 2022	Another option 'staged development for decision makers to consider	Withheld in full under section 9(2)(f)(iv) to protect the confidentiality of advice tendered by Ministers of the Crown and officials.
4. <i>A copy of any and all correspondence not limited to emails and reports regarding the emergency plan for flood events for the new Dunedin Hospital. Dated between July 1, 2022 and today's date (7 November 22)</i>			
10	20 July 2022 – 24 July 2022	Email Correspondence	Released with some information withheld under section 9(2)(a) of the Act to protect the privacy of natural persons.
11	22 July 2022 – 25 July 2022	Email Correspondence	Released with some information withheld under section 9(2)(a) of the Act to protect the privacy of natural persons.
12	22 July 2022 – 25 July 2022	Email Correspondence	Released with some information withheld under section 9(2)(a) of the Act to protect the privacy of natural persons.
13	20 July 2022 – 21 July 2022	Email Correspondence	Released with some information withheld under section 9(2)(a) of the Act to protect the privacy of natural persons.
14	25 July 2022	Email Correspondence	Released with some information withheld under section 9(2)(a) of the Act to protect the privacy of natural persons.
15	11 August 2022 – 15 August 2022	Email Correspondence	Released with some information withheld under section 9(2)(a) of the Act to protect the privacy of natural persons.
15A	N/A	Attachment	Released in full.
16	11 August 2022 – 15 August 2022	Email Correspondence	Released with some information withheld under section 9(2)(a) of the Act to protect the privacy of natural persons.

#	Date	Document details	Decision on release
5. <i>A copy of any and all correspondence not limited to emails and reports regarding the emergency plan for flood events for the new Dunedin Hospital. (Dated between January 1, 2022 and today's date).</i>			
17	17 February 2022	Letter - 20220218, Flooding risk for the New Dunedin Hospital's Outpatient's building (Ref: Gree-DMS.FID91606)	Released in full

Te Whatu Ora Southern response to New Dunedin Hospital Value Management Option 4.4

Date: 16 September 2022

Purpose

1. To provide a clinical and operational response from Te Whatu Ora Southern following the release of New Dunedin Hospital (NDH) value management option 4.4. This refined option arose as a consequence of the Executive Steering Group (ESG) recommendations and direction at their 9 September 2022 meeting.
2. In contrast to ESG being tasked with providing a response to Ministers that contemplates the narrower view of the NDH build, Te Whatu Ora must also consider the longer-term view that includes whole of life costs.

Option 4.4 has evolved in response to Southern's Clinical and Operational Impact Statement

3. In response to the resolution at the ESG meeting on 9 September, the design team produced value management option 4.4. Many of these changes were in response to issues outlined in Southern's Clinical and Operational Impact Statement prepared to accompany discussion about option 4.3
4. The key changes in option 4.4. from option 4.3 presented at ESG are:
 - a) Reinstatement of 32 bed inpatient ward on L08, which is necessary to ensure appropriate patient capacity and flow in the NDH
 - b) Allowance for acute inpatient bed pod for Mental Health Services for Older People (MHSOP) on south tower of L06, with the precise number of beds to be confirmed once the service's desired model of care is agreed. Option 4.4. does not include a solution for the balance of the capacity requirements of this service.
 - c) Retail, staff amenities and workspace location in the redeveloped Dairy Building on the south end of the Cadbury site.
 - d) Soft expansion space for future PET CT scanner positioned alongside Nuclear Medicine.
 - e) Refinement to locations and key adjacencies of some departments based on user advice in the Te Whatu Ora Southern Clinical and Operational Impact Statement (e.g. Integrated Operations Centre moved in to the podium rather than tower).

The risk profile has changed, but still requires active mitigation

5. Southern would like to acknowledge ESG's response to the identified "red" risks in the Clinical and Operational Impact Statement, dated 2 September 2022 (appendix 1). In particular, the reduction of inpatient bed numbers and deletion from scope of an inpatient unit for MHSOP and the PET CT scanner.

6. The reinstatement of the two logistics lift shafts between option 4.2 and option 4.3 has likely reduced the identified risk of logistics inefficiencies to amber. However, we understand that one of these lift shafts will be shelled. Updated lift modelling calculations – and a clinical and operational interrogation of the outcome – will be required before an update to this risk category from red to amber can be confirmed.
7. The remaining red risk category is the ~1,000m² shelled workspace.
 - a) We acknowledge the work the design team have undertaken to incorporate as much workspace as possible in option 4.4 and we will await the detailed gross floor area (GFA) comparisons to fully understand the included area in option 4.4 compared to the current scheme (as at 75% Developed Design).
 - b) Southern continue to advocate strongly for all scheduled workspace to be built in or alongside the Inpatients' Building to enable the efficient functioning of the hospital. This is supported by detailed modelling of workspace requirements.
8. In review of option 4.4 the risks outlined in the chapters of the Clinical and Operational Impact Statement (appendix 1) have been turned "green" in chapters 2 and 6, chapters 1 and 3 in part (now both amber), and risks outlined in chapters 4,5,7, 8, 9, 10, 11 and 12 remain.
9. A new risk to be considered in option 4.4 is the redevelopment of the Dairy Building with the retail, staff amenities and workspace. The costs and risks to bring this historic building up to an IL3 standard need to be fully explored and understood. s 9(2)(b)(ii)

s 9(2)(b)(ii)

s 9(2)(b)(ii)

2

Relea

¹ ESG memo dated 7 September 2022: Value Management and Recommendation, attachment F, RLB Memo 'NDH Inpatient Building Optimisation Estimates' dated 30 August 2022

Summary

s 9(2)(b)(ii)



Recommendations

15. It is recommended you:

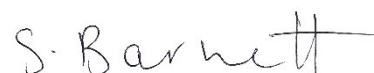
- a) **note** Southern's views concerning option 4.4.
- b) **endorse** the "alternative approach" proposed by Southern to develop a hybrid option incorporating staging and a design lite scheme based on the current design, resulting in less clinical and operational risk and a reduced future OPEX liability. This is anticipated to generate comparable savings to option 4.4 once all the unknown risk is quantified.



Hamish Brown
Interim District Director
Te Whatu Ora Southern



Bridget Dickson
Programme Director
Te Whatu Ora Southern



Sheila Barnett
Clinical Transformation Group
Chair
Te Whatu Ora Southern

Appendix 1: Te Whatu Ora Southern Clinical and Operational Impact Statement

Attached

New Dunedin Hospital

Value Management: Option 4.2 and 4.3

Clinical and Operational Impact Statement – Te Whatu Ora, Southern

Prepared by: Te Whatu Ora Southern PMO and Clinical Transformation Group (CTG)

Reviewed by: Hamish Brown (Interim District Director), Bridget Dickson (Programme Director), Sheila Barnett (CTG Chair) and Pete Hodgson (LAG Chair)

Date: 2 September 2022

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Released under the Official Information Act 1982

Clinical and Operational Impact Statement – Executive Summary

This is an assessment of potential clinical and operational risks presented by Value Management (VM) Option 4.2. This was the option presented to clinical users in the week commencing 22 August 2022, preserving as much existing design and clinical capacity as possible within a reduced footprint, whilst achieving a net saving of \$100 million. Since then, further refinements to the design have been incorporated in Option 4.3.

In addition to expertise from those already involved in the project, Southern has carried out a week of user engagement to enhance feedback and communicate the situation in an open way to our teams.

Specific risks posed by the changes in Option 4.2 and Option 4.3 are discussed in chapter format.

There is danger in focusing on solving these ‘obstacles’ to achieve a solution when **the greatest risks are the VM process itself**. The nature of the VM work increases whole of life costs, shifts costs to other capital and operational Health New Zealand budgets, and introduces operational and programme uncertainty and risk.

1. Overarching risks related to process and timeline

It has taken four years of careful planning to achieve the current design. Undoing this in as many months carries significant reputational, operational and clinical risk.

This has been a rapid, high-level assessment. Without adequate time to dig deeper, there will be unknown impacts including unknown costs that we, the project, will become committed to resolving. Changes have been presented at departmental level. As such, whole-of-hospital effects have not been scrutinised and require further detailed analysis.

Impacts may compound each other. For example, shelling a logistics lift, combined with redistributing workspace, may increase demand on the clinical lifts.

2. Shifting costs

A full operational cost impact analysis for each proposed change could not be performed although the savings will commit Te Whatu Ora to other costs that will, across the life of the investment, greatly exceed the proposed savings

Short-term savings realised through redesign could unintentionally increase long-term, future operational costs. Where possible, we have costed this, detailed in the document. In most cases, this is unknown. Despite this, we are confident in our assertion that the whole of life OPEX costs will exceed the CAPEX saving.

Moving services (full or partial) out of scope of the NDH still requires a facility to be provided with capital expenditure, and unknown operational costs and impacts.

3. 'Deep dives' at regional and national level are required

Due to the tight time frame for providing feedback there has not been the opportunity to undertake "deep dives" into the clinical impacts of certain aspects of VM Option 4.2. Some of these require regional or national direction.

Examples include:

- a. The impact of space reduction allocated to Pathology services will require an in-depth study of the requirements for delivery of a two+ site pathology service.
- b. The proposed changes to Mental Health Services for Older People (MHSOP) Unit will require a regional study into a new model of care approach for delivery of this service.
- c. National strategic direction for provision of PET-CT.
- d. Regional planned care provision.

Without this due diligence, Te Whatu Ora Southern are **unable to provide confidence that all potential risks associated with Option 4.2 have been adequately identified.**

4. Risk of not achieving savings and the true calculation to consider

Te Whatu Ora Southern clinical and operational team has not been provided with a detailed breakdown of the costs; in particular the costs incurred to achieve the net saving of \$100 million.

Further to this, the net saving considers the direct programme costs, but does not include the downstream impact of deleting, or reducing, the provision of certain services. Capital and operational costs will be incurred by providing services such as MHSOP, Pathology and PET scanning off site.

Over time these costs could, substantially if not completely, cancel out the savings that have been made through this VM process.

The reality of this result, and the inherent risks in the equation, may make Southern's earlier proposal to retain current design and stage fit out of facilities appealing (see appendix 1)

5. Equity and co-design

The recent Health New Zealand reforms aimed to improve equity of access to care, particularly for groups that have not been served well by the health system in the past, contributing to poorer health outcomes.

Mana whenua have been invited to share their initial views on the VM proposal under consideration, with a Co-design Hui held on 1 September. Southern would welcome mana whenua's opportunity to fully detail the impact of the VM from their perspective.

It should also be noted, that to our knowledge, Te Aka Whai Ora has not been briefed or consulted regarding the VM Option 4.2 or 4.3. We would strongly recommend this crucial step is initiated without delay to ensure that an equity lens is applied to any change, especially where capacity is reduced.

6. Te Whatu Ora Southern has engaged in good faith

Te Whatu Ora Southern has engaged in good faith, with assurance that no decisions have been made, and that there will be transparent flow of information through all governance and decision-making levels that details impacts beyond a simple capital project level.

There is an expectation that any rework would include progression of the Clinical Leadership Group's recommendations on additional positive pressure capability to three existing inpatient bedrooms and extension of dialysis supply water in the medical HDU.

7. Delivery of expected benefits

In determining clinical and operational impacts, Te Whatu Ora Southern has considered whether the NDH under Option 4.2 and Option 4.3 can still deliver expected benefits as outlined in the 2021 Detailed Business Case (DBC)

Where opportunities for improving design and/or function have arisen in Option 4.2 or Option 4.3 these are noted in each chapter.

DBC Benefits Framework:

1. Better health outcomes – efficient care, improved quality, improved experience.
2. Improving efficiency - better layout, reduced delay, doing more with a given resource.
3. Improved patient safety and experience – avoiding harm, enhanced recovery.
4. Improved experience for staff – engaged staff, improved retention.
5. A more resilient system – avoiding the risks of 'do minimum'.

Proposed Changes linked to Benefits at Risk and overall Risk Assessment

Chapter	Proposed change	Risk rating	Benefits at risk
1	Deletion of 24-bed MHSOP Inpatient Unit	Red	1, 2, 3, 4
2	Reduction of 35 med/surg inpatient beds	Red	1, 2, 3, 5
3	Deletion of Logistics Building	Amber	2, 4, 5
	Change in logistics strategy	Amber	
	Removal of two logistics lifts (partially addressed in Option 4.3)	Red	
4	Deletion of pavilion building	Amber	1, 2, 4, 5
	Distribution of workspace and staff amenities within Inpatients Building with Ground Floor Area reduced by 10%	Amber	
	Reduction of supplied workspace by 1000m ² (cold shell)	Red	
5	Deletion of two theatres from scope	Amber	1, 5
6	Deletion of PET CT from scope.	Amber	1, 4, 5
7	Onsite pathology services reduced to acute clinical functions only (fit not yet tested)	Amber	2, 5
8	Impact on pandemic response	Amber	1, 5
9	Deletion of pharmacy aseptic production unit	Amber	2, 4
10	Reduced resilience and redundancy in backup systems	Amber	3, 5
11	Impact on functional relationships within NDH and Site Masterplan	Amber	1, 2
12	Reputational risk and impact on user engagement	Amber	3

Risk rating key:

Red: Highly likely to have a major impact on the expected benefits of the project with no significant mitigations identified

Amber: Likely to have a significant impact on the expected benefits of the project but may be able to be mitigated at least in part with further design and/or operational work

Green: Likely to impact on the expected benefits of the project but mitigations identified to manage this risk

Appendices

1. Te Whatu Ora - Southern, interim guidance on VM optimisation options

Released under the Official Information Act 1982

Appendix 1: Te Whatu Ora Southern interim guidance on VM options

Memo

To: Helen Telford, Senior Responsible Owner, NDH Project
Tony Lloyd, Programme Director, Te Whatu Ora - Infrastructure and Investment Group

From: Hamish Brown, Interim District Director, Te Whatu Ora – Southern
Bridget Dickson, Programme Director, Te Whatu Ora - Southern

Copy to: Sheila Barnett, Clinical Transformation Group (CTG) Chair, Te Whatu Ora – Southern
Pete Hodgson, Local Advisory Group (LAG) Chair
Peter Bramley, Regional Director Te Whatu Ora - Te Waipounamu
Marcus Read, Design Director, RCP

Date: 5 August 2022

Subject: Te Whatu Ora – Southern Leadership Team Interim Guidance on Value Management Options

Purpose

1. This memo provides interim guidance from Te Whatu Ora – Southern district leadership team following an initial briefing regarding the value management options under consideration by the New Dunedin Hospital (NDH) project.

Background

2. Te Whatu Ora – Southern district leadership team were provided a briefing on 25 July 2022 to the value management (VM) optimisation process currently underway in the New Dunedin Hospital (NDH) project due to the extraordinary cost escalation pressures.
3. Southern leadership team have been previously briefed on the Southern 'offerings' tabled as part of the current VM process.
4. Option 1, option 2.1 and option 3.1 (dated 15 July 2022) were presented at a high level with particular focus on the proposed changes to scope compared to the Cabinet approved Detailed Business Case (DBC).
5. Other significant clinical and operational implications were highlighted, including the proposal to descope Mental Health Services of Older People down to a small acute footprint, reduce clinically facing workspace, reduce or delete the pathology laboratory, and stage PET scanner.
6. It was noted that the options are still a work in progress (WIP) so the full clinical and operational impacts could not be discerned.

7. Appropriateness of functional adjacencies, as defined in the functional design briefs, and impact on patient, staff, emergency response, logistics and tupapaku flows were not discussed as the schemes have not sufficiently settled. Any option that deviates from the current scheme requires careful consideration to ensure that the previously agreed adjacencies and flows remain intact to enable a fit for purpose hospital.

Southern Leadership Team Guidance

8. Southern leadership team notes the pressure on the Health Capital Envelope nationally, further exacerbated by current global condition
9. **Recommended option is to build as scoped, together with the savings put forward by Southern.** The NDH scope is based on detailed modelling, including benchmarks where available and meets the healthcare needs of the Southern Community while maximising operational efficiency. The agreed DBC scope contained high efficiency assumptions that informed the bed numbers.
10. It is Southern's strong opinion that any scope reduction of any form is ill advised. It will increase ongoing operational costs, reduce clinical functionality, decrease the likelihood of us realising the patient flow and efficiency benefits of the NDH, and lead to higher costs in the medium- to long-term for Te Whatu Ora.
11. As one example, the reduction in bed numbers associated with option 3.1 (56 less beds than DBC) results in a medical-surgical bed number (192 beds) that is below the current Dunedin Hospital level (227 beds). For total inpatient beds using the OECD number of hospital beds per 1000 people, option 3.1 is 2.34 beds/1000 people using 2028 projected population of Southern compared to the New Zealand national figure in 2021 of 2.67 beds/1000 people.
12. With any scope reduction, there is risk that the NDH will not realise the benefits of the investment as described in the DBC, nor satisfy the investment objectives upon which the DBC is built.
13. Te Whatu Ora - Southern has *considered alternative funding options* as a substitute to implementing the full extent of the proposed VM. Support services suited to a logistics type building would be worthwhile considering under third party contract arrangements. These have not been developed to any meaningful extent at this stage. They require a feasibility study to better understand the benefits, risks, and long-term financial impact.
14. Reputational damage and impact on trust established with users and the public requires careful consideration. Redesign with clinical users will be required, with risk of fatigue and frustration, risking the quality of the end product. The project is a flagship for health within New Zealand as the first Greenstar digital hospital. The local community, including mana whenua, are well informed and engaged with the project.
15. At this point, key staff have been respectful of the sensitive nature of these discussions. As time progresses, we note the risk increases that this sensitive information is more widely known.
16. As time progresses towards a solution, we are incurring significant redesign fees and cost escalation that, in turn, further pressure the budget requiring further savings.

Te Whatu Ora – Southern Recommendations

17. Te Whatu Ora – Southern recommends building NDH as scoped within the business case signed off by cabinet on 19 April 2021, together with the savings put forward by the Te Whatu Ora - Southern.

18. If further cost savings are required, **Te Whatu Ora – Southern** proposes:
 - a. **Further exploration and feasibility studies for the option which largely preserves scope aligned with the DBC.**
 - b. A feasibility study into **third party** funding of the logistics building housing support functions such as the kitchen, pathology or distribution centre.
 19. For all options presented to the Ministry, the degree of deviation from the DBC, feasibility of achieving savings, costs to achieve, delay to programme, and magnitude of the clinical and operational impacts **must** be made explicit.
-

Next Steps

20. Te Whatu Ora – Southern PMO and CTG members continue to consider and work through clinical and operational implications of the options with key staff in preparation for drafting the clinical impact statement once the schemes have been sufficiently developed. Of note:
 - a. Dedicated session with Mental Health Directorate senior leadership on 10 August to provide an initial briefing regarding the impact of reduced beds in NDH.
 - b. Identify the operational costs of third-party providers being delivered off site (pathology).
 - c. Further understand the impact on planned care with reduced theatres and inpatient beds.
 - d. Complete modelling to understand the inpatient beds/1000 population for Southern compared to New Zealand and OECD and WHO figures.
 21. The impact of reducing clinical capacity on equity goals set by Te Whatu Ora and Te Aka Whai Ora for Southern needs careful consideration, noting the disproportionate impact on Māori and other underserved communities of reduced healthcare capacity.
 22. Te Whatu Ora – Southern leadership team request a further briefing once the schemes have settled, with detailed analysis of cost savings for each option versus cost to achieve and programme impacts.
-

Chapter 1: Deletion of 24-bed Mental Health Services for Older People Inpatient Unit

Summary of changes

The proposed deletion of the 24-bed Mental Health Services for Older People (MHSOP) inpatient unit on L06 will reduce the capacity in the Detailed Business Case by 21 MHSOP inpatient beds plus three medicine beds. This will reduce the New Dunedin Hospital (NDH) project overnight bed capacity from 410 beds approved in the Detailed Business Case to 386 beds. The proposal assumes maintaining an acute MHSOP footprint in one of the retained inpatient units with a consequence of reallocation of overnight bed capacity from the collocated service to MHSOP.

Key risks

- Significantly reduced access to acute MHSOP bed capacity within NDH will most likely contribute to reduced patient flow and potential bed block in Emergency Department and inpatient units.
- Compromised patient outcomes and patient and staff safety compromised without adequate access to acute MHSOP bed capacity in safe and purposely designed facilities with appropriately trained staff,
- A value management-driven decision to reduce inpatient bed capacity without a clear and evidence-informed MHSOP model of care to reference in Southern and Te Waipounamu.

Explanatory notes

“It is widely accepted that mental health services for older people should develop in tandem with geriatric medicine services given the inseparable relationship between physical and mental health” (1, p.20). This statement echoes Te Whare Tapa Whā health model where the four cornerstones of wellbeing need to be considered simultaneously when an individual is accessing healthcare.

The continuum of care for older people with complex co-morbidities presenting acutely to secondary care cannot be compartmentalised into distinct and defined services or departments where physical and mental health specialities are separated by any distance.

It is acknowledged that primary and community health services are pivotal in supporting older people. However, the last 1000 days of a person’s life (3) is often peppered with compounding impacts of physical and mental co-morbidities, including frailty. Swift access to secondary services is paramount to ensuring quality of life and prevention of complications. Supportive primary care and community models are vital but do have limitations in acute and crisis management in the care of an individual patient. Therefore, access to acute inpatient beds in a secondary hospital are an essential part of the model of care for older people.

A recent review from Ireland recommends 8 MHSOP beds per 30 000 population >65 years (1). Using this recommendation, acute inpatient beds for MHSOP in NDH in 2028 projected as 20 beds with a Southern population of 75,800 and in 2038 as 24 beds with a Southern population of 92,600 (4). It should be noted that the district and regional model of care for MHSOP under Te Whatu Ora has not been defined, and therefore the spread of secondary inpatient MHSOP beds has not yet been identified. At this point, the Southern district population would indicate up to 24 beds by 2038. The split, if any, between Dunedin and Invercargill secondary hospitals would need to be driven by the model of care.

For patients at higher risk of harm to themselves or others, acutely distressed and/or agitated, accommodation in standard inpatient units poses significantly increased risk of harm and adverse outcomes and would not meet any modern expectations of a safe standard of care. To ensure the safety of patients and staff, mental health design principles are imperative (5).

The reduction of 24 inpatient beds in NDH compared to the agreed Detailed Business Case capacity will ultimately contribute to patient flow issues as acutely admitted older persons with specialist MHSOP cannot be accommodated in the reduced acute bed capacity and therefore are accommodated in general inpatient units or Emergency Department. We know this occurs within Southland Hospital which does not have dedicated MHSOP inpatient capacity and results in poor outcomes for patients with psychogeriatric issues. Replicating this model in NDH would result in a serious risk profile for the individual patient, whanau and the hospital.

The clinical expertise of MHSOP staff is relied upon to support other inpatient services with complex patients, for example patients with delirium, cognitive impairment and acquired brain injury. There is “consistent evidence that specialist old age psychiatry consultation and/or liaison services can improve the quality of hospital care, reduce length of stay, improve uptake of recommendations, improve identification of delirium, reduce carer stress and improve patient satisfaction with care” (2). If MHSOP were to relocate off site, the team would need to be expanded if it were to be providing consult liaison into NDH. The current model enables greater efficiency of scarce clinical resources by integrating inpatient and consult liaison functions within MHSOP.

Older people with mental illness are more likely to experience social and physical health issues (6). Internationally there is a trend of increasing demand on acute psychogeriatric use of services. There is growth in multiple areas including but not limited to addiction, dementia, disability and suicidal ideation.

Further information or investigation recommended

- Determining the number of acute inpatient MHSOP beds in NDH would require a working group to develop a detailed Te Waipounamu regional MHSOP model of care lead by Te Whatu Ora, in partnership with Te Aka Whai Ora. This is as an opportunity to provide contemporary MHSOP care but needs to be centred around patient need rather than a NDH cost saving exercise.
 - In addition, the working group would need to identify the risks to patient safety and outcomes if care cannot be accessed in a timely and appropriate manner in NDH with a reduction in inpatients beds from those endorsed in the Detailed Business Case (21 beds).
 - Initial key regional and national leads who have knowledge and expertise to contribute to this workstream have been identified.
 - No clear mandate or working group Chair has been identified.
 - No clear funding path or timeline for this workstream has been identified.
 - Southern has underdeveloped primary and community services. Investment will need to significantly increase in these services to compensate for a reduction in inpatient beds.
- Burwood Hospital in Christchurch has the older person's geriatric medicine inpatient unit alongside the MHSOP inpatient unit. Burwood Hospital is not the acute tertiary admitting hospital in Canterbury but has many elements of an acute hospital such as access to imaging and 24-hour medical cover.
- A potential mitigation to reduced MHSOP beds in NDH is to consider an alongside purpose-built facility on the Health Precinct. This would provide close at hand access to imaging and ability for clinicians to cross consult within walking distance. This alternative location for MHSOP inpatient beds would have significant capex implications plus additional operational implications of patient and staff transport. However, ground floor design aspirations with connection to the outside green spaces may be able to be achieved.
- If a smaller amount of MHSOP capacity was to be retained within reduced total inpatient bed numbers, these beds would need to be designed specifically for the needs of older mental health patients (i.e. have sufficient space to accommodate agitated, distressed and ambulatory patients).

Summary impact statement

Any change to the NDH Detailed Business Case capacity for acute inpatient beds for mental health services of older people cannot be supported until a point in time when there is a blueprint for the future and evidence-informed model of care across the district and region. Te Waipounamu region of Te Whatu Ora does not have a detailed and comprehensive model of care for mental health services of older people, nor does it have a clear strategic investment pathway. There are obvious differences between the two large districts of Canterbury and Southern in terms of provision of community-based specialist and NGO service provision, with Canterbury offering a much more comprehensive range of supports according to psychogeriatricians familiar with the two centres. Supportive and enabling primary care and community health services are essential – acknowledging there is work to be done in this space too - but access to acute secondary services for patients with complex comorbid presentations and crisis management will ultimately always be required.

It is critical that the four dimensions of health - taha tinana (physical health), taha wairua (spiritual health), taha whānau (family health) and taha hinengaro (mental health) - for older people can be delivered in unison and partnership between mental health services of older people and geriatric medicine to enable quality of life for them and their whānau. The development of an alongside inpatient unit for mental health services of older people in the health precinct is possible but would come with substantial capital costs and additional operational costs.

References

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6. Australasian Health Facility Guidelines. Older peoples Acute Mental Health Inpatient Unit. February 2019
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Chapter 2: Reduction of 35 Adult Medical/surgical Inpatient Beds

Summary of changes

Reduction of inpatient adult general medical/surgical beds on opening by 35 by:

- Shelling a 32-bed ward, and:
- Permanent loss of 3 beds from the associated deletion of the Mental Health Services for Older People (MHSOP) ward.

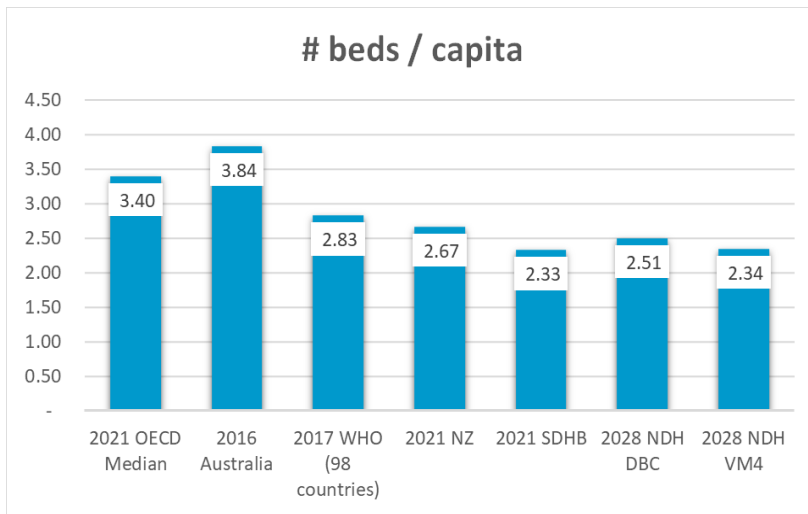
Physical number of med/surg beds		Current resourced number of med/surg beds	Projected demand (Sapere) (High efficiency assumed)			NDH DBC	VM Option 4
2017	2022	2022	2028	2035	2038	2028	2028
227	234	224	212	239	252	235	200

Key risks:

- Fundamental and significant change of scope from DBC
- Critical loss of bed capacity leading to a sustained and high risk of patient harm
- significant impacts on planned care, and operational failure
- Failure to realise all five expected major Benefits of the DBC
- Failure to achieve all five Investment Objectives of the DBC
- Clinical and public backlash
- Reputational risk for the project

Explanatory notes:

1. Southern provides fewer beds per head of population than the NZ average



- NZ sits below the OECD and WHO averages (all inpatient beds).
- Southern sits below the NZ average.
- With all NDH beds retained, the supply of inpatient beds in Southern approaches the NZ average.
- With VM option 4, as proposed, Southern remains well below the national NZ benchmark.

Fig 1. Number of beds per 1000 head of population.

2. Dunedin Hospital currently operates with high occupancy and bed block

Dunedin Hospital Medical / Surgical	
Row Labels	Average of Occupancy
2013	96.60%
2014	97.17%
2015	98.02%
2016	98.87%
2017	99.72%
2018	100.56%
2019	101.41%
2020	102.26%
2021	103.11%

NICE recommend a maximum occupancy of 90%. (Guideline 94, Bed Occupancy, 2018).

- Bed occupancy above 85-90% leads to
 - Increased 7 and 30- day mortality.
 - Increased hospital acquired infection.
 - Increased length of stay.
 - Increased readmission rates.
 - Delays in admission for ED patients.
- Bed occupancy above 85% leads to:
 - Regular bed shortages
 - Periodic bed crises

Fig 2. Dunedin Hospital Medical/Surgical bed occupancy.

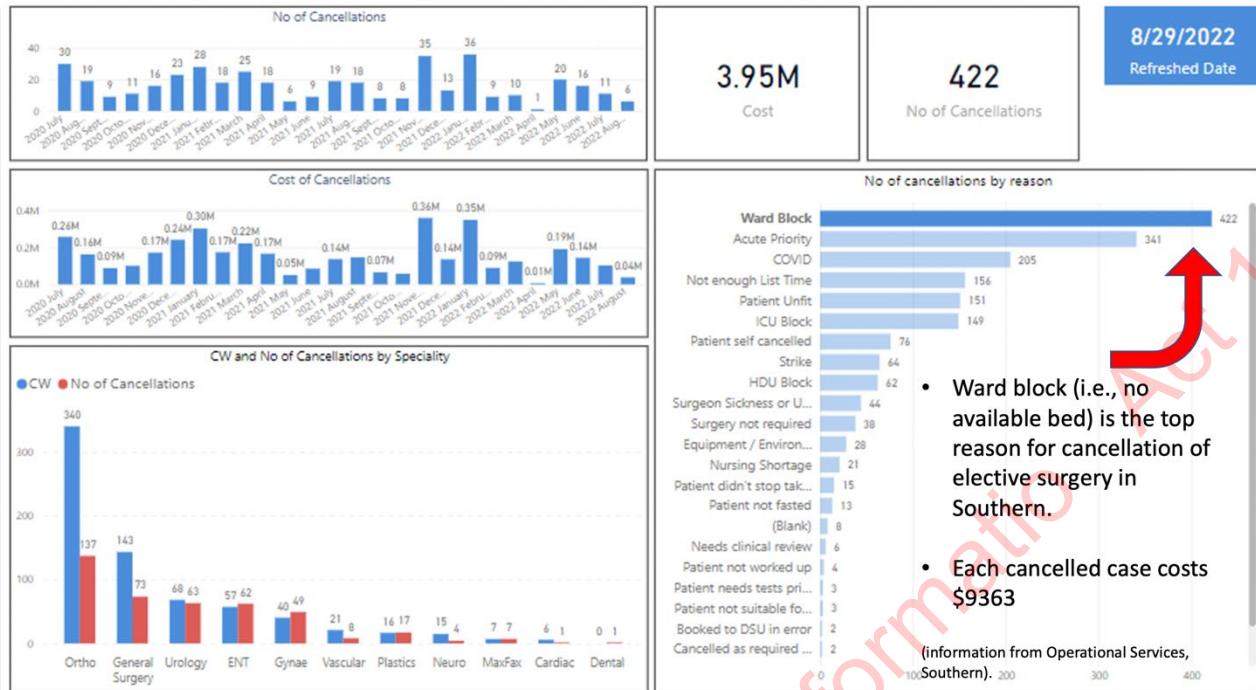
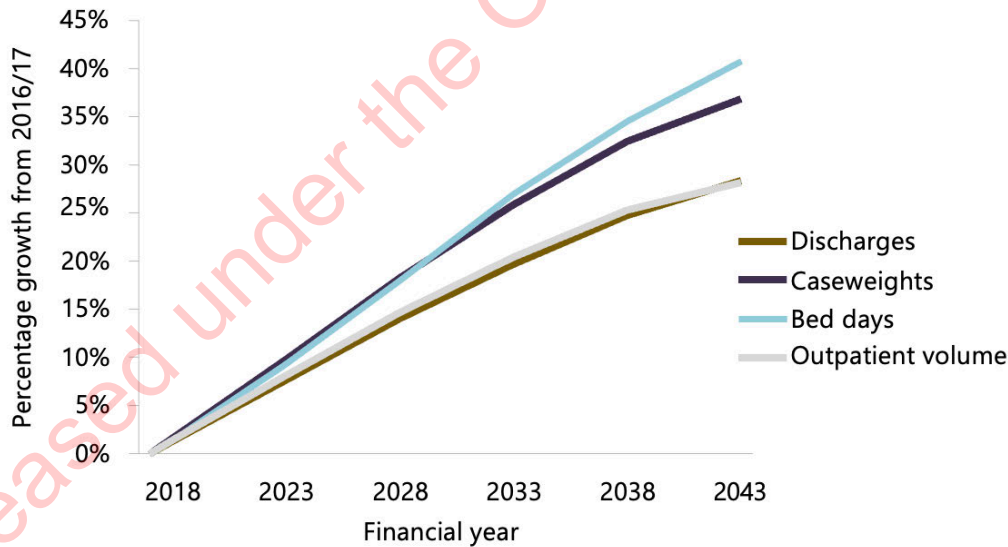


Fig 3. Reasons for cancellation of elective surgery in Southern 2020 – 2022

3. The situation will get worse, not better: demographic change (ageing) will drive higher case weight events and length of stay for Southern.



Source: Sapere

Fig 4. Percentage increase in services for Southern, driven by demographic change.

“The increase in discharges remains substantial at 28 per cent by 2042/43 but increases in caseweights and bed days are greater. These reflect the current age distribution of the more complex, higher caseweight inpatient events, the length of stay, and the impact that the ageing population will have upon the need for services if current models of care continue.

As outlined in the IBC, the clear message is that the average complexity of patients will increase across the hospital and there will be substantial pressure upon bed capacity under existing models of care.”

NDH Detailed Business Case March 2021

4. High efficiency assumptions are already built into DBC modelling

	Low efficiency assumption	High efficiency assumption
	Efficiency assumptions are relative to forecast growth and are not absolute reductions. The projection of bed demand—with the high efficiency assumption—was signed off by the SPG as part of the initial DBC (2018) and ratified in 2019 in a series of meetings with Destravis, Jacobs, MOH, SDHB and Sapere.	
Medicine (excluding cardiology, renal, oncology and elective gastro)	15% lower intervention rate 20% lower ALOS; or 30% lower intervention rate with no ALOS reduction	30% lower intervention rate 20% lower ALOS

- Planned bed numbers for the NDH DBC were crafted on the assumption that there would be significant changes to the way that Southern delivers its services by shaping demand to the hospital internal efficiency and good outflow back to the community. Therefore, this high efficiency is already built into the modelling, and a further reduction in beds cannot be mitigated by unachievable models of care.

Potential mitigations

- Some efficiencies of flow delivered by new models of care – transit lounge and 23-hour ward. However, these are already contributing to the efficiency assumptions.
- It could be argued that shelling is ‘reversible’. However, the danger in persisting with shelling is twofold:
 1. The fit out is not a certainty and risks the same clinical fallout as described, and
 2. The proposal to reduce beds is so clearly clinically unacceptable that public and staff faith in the project may be compromised.
- The change in ratio to provide more two-bed rooms has preserved the number of beds on the remaining wards. This is felt to be operationally acceptable and remains in line with the clinical recommendation to provide a majority of single rooms.

Summary impact statement

- The proposal to remove 35 of the most critical beds to acute flows and planned care has received a swift and severe response from clinical and operational teams.
- Bed numbers were already predicated on achieving significant efficiencies in new models of care. Even if achieved, the DBC itself clearly states that med/surg bed numbers will need to increase due to demographic change.
- The likely result of loss of these beds is chronic occupancy of over 100%, resulting in known patient harm and severe disruption to planned care.

Chapter 3: Deletion of Logistics Building and change in Logistics Strategy, Back of House and Food Services

Summary of changes

- Deletion of logistics building on Bow Lane site.
- Incorporation of main logistics functions to main Inpatient Building, adjacent to the Emergency Department, accessed via shared roadway with ambulance and public vehicle traffic.
- Within the dedicated logistics lift bank there is a reduction from four lifts to two (proposal 4.2), with a later proposal (4.3) reducing from four lifts to three and retaining the fourth shaft for future fit-out. In a pandemic response one of these would be repurposed as the primary pandemic patient lift.
- Internal back of house area split between the ground level and first floor, with connection via two single-level lifts to enable a dedicated clean/food flow separated from dirty/waste flow.
- Majority of logistics movements proceed to the first floor for staging prior to distribution; introduces additional handling and potential bottleneck
- Further reduction of one truck bay to four total.
- Updated facility pandemic response occupies two of four truck dock parks within the loading dock for temporary outdoor support facilities and acquires the ground level goods access route to the Inpatient Building
- Co-location of kitchen and staff cafe on the first floor with a reduction in Gross Floor Area (GFA) for food services of approximately 200m². There is no dedicated food truck dock.

Key risks

- Risks to DBC logistics benefit:

Benefit:				inrections
1.6 Improved Logistics Flow+ + NOTE: Logistics Benefits will be worked up through	1.6.1 Reduction in lift delays	Rolling average of instances for 2021/22 and 2022/23	Year on year improvement/ reduced number of lift delays	• Increased number of logistics movements completed on time due to reduced lift delays (dedicated logistics lifts in operation)

- Reduction of two logistics lifts (to one clean, one dirty) would present unacceptable risk, impacting staff resourcing requirements, service response times and resilience during outages and pandemic operations.
- The proposal to instead shell one of the three clean logistics lifts may be operationally acceptable but activity will need remodelled.
- Reduction in truck dock bays from 5 to 4 is not in line with the modelling for daily peak demands and raises the risk of queueing and congestion, which is further compounded by the constrained ground floor staging capacity.

- Lack of a dedicated food truck dock, and of appropriate staging for incoming food deliveries and outgoing meals, introduces risk to safe food handling practices, and inefficient logistics operations. It is also an explicit requirement in the Food Services' Functional Design Brief.
- Co-location of dock with the pandemic inpatient building entry airlock and outdoor temporary facilities risks the delivery of effective pandemic operations and introduces a risk to public safety.
- Co-location of the back of house areas with the mortuary pick-up garage and crossing of tūpāpaku/deceased mortuary flows with logistics flows, including food, on the ground floor.
- Lack of available staging space on the ground floor creates inefficient logistics operations, impacting staff resourcing requirements and service response times. As logistics is a key enabler to an efficient hospital, it will also pose a direct risk to our ability to deliver model of care changes – and other service efficiencies – upon which the NDH's high-efficiency modelling was predicated.
- Lack of direct connection to the main logistics lift core introduces operational inefficiencies
- Noise, waste odour, and vehicle exhaust pollution from dock impacting surrounding clinical units – note ICU on level 4.

Explanatory notes

The proposed scheme introduces inefficiencies by two predominant means:

- 1) Co-location of incompatible flows, namely tūpāpaku/deceased flows including the location of the mortuary garage; and the pandemic entry and temporary outdoor facilities setup.
- 2) Dividing back of house functions over two floors necessitating additional handling and staging of goods and waste.

Potential mitigations and opportunities

- Should appropriate assessment and design address the identified planning issues and operational risks, relocating the back of house services from the Bow Lane site has potential to deliver a degree of operational benefit through proximity to the ground floor and main lift core.
- Co location of the kitchen and staff cafe offers opportunities for operational efficiencies through a reduced requirement to transport food and goods between two sites, and reduced service duplication.

Further information or investigation recommended

- Lift modelling to be updated to inform the operational implications of the proposed lift quantities and configurations.
- Test options to increase allocation of ground floor GFA to back of house functions.
- Impact of off-site pathology service to be understood and included in lift and dock modelling.
- Cultural assessment of lift-sharing to be reviewed.
- Reduction in GFA for food services to be tested and internal kitchen flows replanned.
- Allocation of sufficient staff amenities for food service staff requires further assessment.
- Testing design to ensure the facility remains capable of supporting the efficient operation of future automation, including Automated Guided Vehicles, for efficient logistics movements in the future.
- Investigate implementation of waste chutes to reduce loading on logistics lifts to mitigate the loss of a dedicated logistics lift car in the main logistics core. (Chutes were recommended as part of the NDH's Logistics Management Strategy).

Summary impact statement

The currently proposed scheme for the Back of House and logistics functions are not yet supported due to incompatibility of some flows, vulnerabilities to lift outages, operational inefficiencies and risks under pandemic operations.

Should these constraints be sufficiently addressed in design and planning, the proposal to relocate the back of house functions from the Bow Lane site to the Inpatient Building is considered workable.

The proposed scheme for Food Services is considered workable (excepting supply routes which have been discussed above), though internal flows and layout will need to be remodelled in the reduced footprint to ensure an effective and efficient food service delivery model can be achieved.

Chapter 4: Pavilion Deletion, Collaborative Workspace Reduction by 10%, further shelling of one third

Summary of changes

- Collaborative workspace Gross Floor Area (GFA) reduction of 10% (3472m² to 3153m²)
- Shelling of one third of the remainder (approx. 1000m²)
- Effective reduction of 38% in collaborative workspace
- Deletion of Pavilion Building including the interpretation of the cultural narrative of the cloak of Hōri Kerei (H.K.) Tairaroa.
- Collaborative workspace no longer centralised but distributed within inpatient Building
- Relocation of staff amenities including staff cafe and end of trip facilities.

Location	Mode	Area
Level 1	Fixed – Permanent	228m ²
Level 2	Shell – Built within theatre shell space	276m ²
Level 4	Fixed – Permanent 62m ² meeting room	62m ²
	Shell – Built within ICU future pod space	545m ²
	Fixed – Permanent	635m ²
Level 5	Fixed – Permanent	129m ²
Level 6	Shell – Built within what could be a future ward if all of Level 6 is displaced in the future.	465m ²
	Fixed – Permanent	143m ²
Level 7	Fixed – Permanent	208m ²
Level 8	Fixed – Permanent	208m ²
Level 9	Fixed – Permanent	254m ²
		3153m²

Key Risks

1. Reduction by 38% in supplied collaborative workspace would result in major deficiencies in workspace provision and would be unworkable.
2. 10% reduction in built collaborative workspace may not support peak occupancy periods.
3. No contingency for workspace that will be decanted when shelled clinical space is brought online.
4. The change from centralised to distributed collaborative workspace will require a corresponding change in model of care. Ad hoc distribution of workspace across areas may not match demand meaning space is not used efficiently.
5. Relocation of staff amenities.

Explanatory notes

1. *Reduction by 38% in supplied collaborative workspace would result in major deficiencies in workspace provision and would be unworkable.*

- Reduction of 10% in GFA plus a further 1000m² of GFA not fitted out on opening, is a total reduction of 38% in collaborative workspace, for which no provision has been made elsewhere.
- This equates to a loss of approx. 491 workspaces.
- This scenario would result in a chaotic, dysfunctional, and unworkable workspace as the workspace within the clinical units had been kept to a minimum and transferred in the briefing stage to be in the collaborative workspace area

2. *Reduction of 10% in collaborative workspace will result in deficiencies during peak occupancy.*

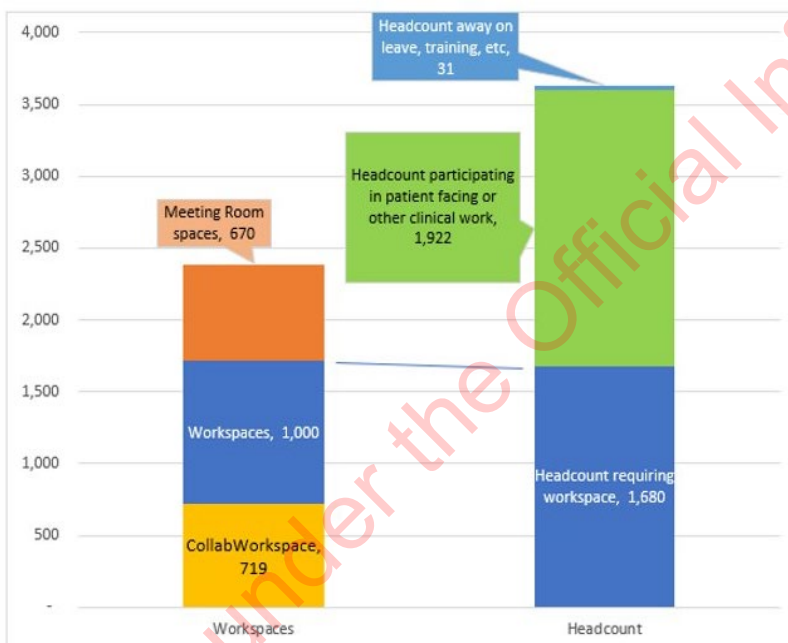


Fig 1: Modelling of workspace requirements for clinical staff - peak occupancy in 2028. Excludes corporate staff.

At peak times, 1680 staff required a workspace, 1719 provided (buffer of 39). Includes all workspaces within clinical units themselves.

10% reduction in collaborative workspace means a shortfall of 133 workspaces. This may be exacerbated by the distributed nature of the workspace.

3. *Collaborative workspace earmarked as future clinical expansion space will require a suitable solution when displaced.*

- Workspace located in clinical shell equates to 40% of the total Collaborative Workspace. Much of it has a key relationship to its alongside clinical unit.

4. *Change from centralised to distributed workspace.*

- Planning and design have been based on centralised, activity-based workspace. An ad hoc change to distributed workspace will require a revision to the model of care that was already under significant pressure from some quarters.

- Benefits of centralised, activity based working model will be lost:
 - Diverse working – private spaces, informal meeting spaces, meeting rooms etc.
 - Optimising chance encounters and corridor interactions
 - Create “Neighbourhoods” and intentional colocations of similar services.
- Smaller distributed collaborative workspaces have been incorporated into the design where there is space, rather than based on need. It is likely this will create inefficiencies when matching team size to the best workspace location. It may also impact on being able to physically distance during a pandemic.

5. Relocation of staff amenities

- End of trip facilities would be better positioned at edge of building.
- Resident Medical Officer (RMO) room to be positioned alongside workspace plus with ready access to red lifts (note – the provision of this room is a requirement of the Multi-Employer Collective Agreement).
- Staff will see benefits to having amenities located within the Inpatient Building, especially the staff café, despite the pressure on space as a result.

Potential mitigations to be explored and further investigation recommended

- Detailed investigation of layout and design of workspace including number of workstations
- Mapping of staff numbers and flows by area / floor
- Provision of extra collaborative workspace within the Master Site Plan or in adjacent buildings.
- Investigate option for end of trip and a portion of collaborative workspace to be located in an alongside building, such as the Dairy Building.

Summary Impact Statement

- Collaborative Workspace is integral to clinical functionality.
- Reduction of 38% in supplied collaborative workspace (10% built + 1000m² shelled) constitutes a severe risk and would be unworkable.
- The reduction in built collaborative workspace by 10% may result in workspace shortages during times of peak staff occupancy and risks dysfunction.
- There is a lack of strategies to mitigate the proposed changes.

Chapter 5: Deletion of two Operating Theatres from DBC scope

Summary of changes

- Reduction on Main Operating Theatres (MOT) from 15 fitted + 3 shelled theatres (total 18) to 14 fitted + 2 shelled theatres (total 16).
- Proposed opening capacity (across MOT and Cardiac Intervention Suite floors) of 15 operating theatres.

Key risks

- Reduction of two operating theatres is a change to DBC scope.
- Reducing theatre capacity directly risks DBC Benefit 1.1 – Increased Elective Surgery Rates – as available capacity must be prioritized for urgent, acute surgery.
- Risk to Investment Objective 1 by reduced resilience of system to future needs, exacerbated by limited regional resource.
- On opening, provides only **three more** general operating theatres than current hospital. The current hospital is at capacity.
- Full capacity (including 3 shells), reached 2043, without change in practice.
- Activating shells requires an additional solution for displaced clinical workspace.

	Current working day - First shell required			Current working day – Capacity exceeded		
	2023	2028	2033	2035	2038	2043
Day Surgery	3.4	3.6	3.9	4.0	4.1	4.4
Acute	2.3	2.4	2.6	2.7	2.7	2.8
Elective	6.0	5.8	7.8	8.2	8.8	10.0
Cardiothoracic	0.3	0.4	0.4	0.4	0.4	0.4
Obstetrics*	0.7 (1.0)	0.7 (1.0)	0.8 (1.0)	0.8 (1.0)	0.8 (1.0)	0.9 (1.0)
	13.0	14.2	15.7	16.3	17.0	18.6

Rounded up	2023	2028	2033	2035	2038	2043
Day Surgery	4	4	4	4	5	5
Acute	3	3	3	3	3	3
Elective	6	7	8	9	9	11
Cardiothoracic	1	1	1	1	1	1
Obstetrics	1	1	1	1	1	1
	15	16	17	18	19	21

- Continued reliance on outplacng or outsourcing to limited private services (in FY21/22 Southern DHB spent \$12m to outsource circa 10% of its production).

2021/22 Service Provider Breakdown	Actual		Plan	
	cwds	% Delivered	cwds	% Delivered
	Inhouse	13,542	86%	15,959
Outsourced/Outplaced	2,275	14%	1,571	9%
Total	15,817	100%	17,530	100%

Explanatory notes

- Dunedin Hospital provides all tertiary and subspecialty surgical services to Southland and Otago.
- There are 12 theatres in the current hospital (+ 1 theatre volume outplaced).
- Current utilisation is 80%. Despite additional weekend operating, there is a chronic shortfall of 28 hours of acute operating time per week, leading to regular cancellation of elective surgery to manage acute volumes.
- Current delivery of elective surgery is below the national average.
- Additional operating capacity has been a critical driver of the early delivery of NDH's Outpatient Building.

Potential mitigations

- Extend theatre day (to average 10 hours elective, 12 hours acutes) to extend build horizon out to beyond 2043 with all theatres running (appendix 1).
- Maintain and increase outplaced and outsourced activity, acknowledging limited regional supply and increased operational costs. There is some limited expansion of theatre capacity in the private sector.
- Requires staging plan for fitting out shells soon after opening. Plan for additional physical facility for displaced clinical workspace currently occupying shell.

Further information or investigation recommended

- None at this stage. Optimising use of private and regional capacity has already been explored by Southern operational team.

Potential opportunities

- Releases some of the theatre floor for redesign, enhancing functionality of the interventional radiology theatres and sterile stores.

Summary impact statement

- The loss of two theatres from the DBC scope is felt to be operationally manageable in the medium term but reduces long term capacity and therefore resilience.
- Full capacity will be reached in 2043, including shells, unless there is significant change to the length of the operating day. Early use of the shells should be planned for and will require an additional physical solution for the workspace they currently occupy.
- There will be a continued reliance on outplacing/outsourcing to private providers.

Appendices

Appendix 1: Summary of theatre modelling

Appendix 2: Current State in Southern – Surgical Capacity

Appendix 1: Summary of theatre modelling (based on Destravis 2019):

- Raw SDHB datasets with a standard length of theatre working day.
- Population growth as per NDH modelling, with 3% additional growth for general surgery and orthopaedics. Obstetrics (*) theatre available 24/7 for obstetrics alone.
- Peer reviewed by Director of Perioperative Services, Auckland City Hospital.
- Standard utilisation rate and case lengths correlate with Dunedin's.
- Unmet need not included.

Current working day -
First shell required

	2023	2028	2033	2035	2038	2043
Day Surgery	3.4	3.6	3.9	4.0	4.1	4.4
Acute	2.3	2.4	2.6	2.7	2.7	2.8
Elective	6.0	5.8	7.8	8.2	8.8	10.0
Cardiothoracic	0.3	0.4	0.4	0.4	0.4	0.4
Obstetrics*	0.7 (1.0)	0.7 (1.0)	0.8 (1.0)	0.8 (1.0)	0.8 (1.0)	0.9 (1.0)
	13.0	14.2	15.7	16.3	17.0	18.6

Current working day -
Capacity exceeded

Rounded up	2023	2028	2033	2035	2038	2043
Day Surgery	4	4	4	4	5	5
Acute	3	3	3	3	3	3
Elective	6	7	8	9	9	11
Cardiothoracic	1	1	1	1	1	1
Obstetrics	1	1	1	1	1	1
	15	16	17	18	19	21

Longer working day -
First shell required

	2023	2028	2033	2035	2038	2043
Day Surgery	2.7	2.9	3.1	3.2	3.3	3.5
Acute	1.9	2.0	2.2	2.2	2.3	2.4
Elective	4.8	5.4	6.2	6.5	7.1	8.0
Cardiothoracic	0.3	0.3	0.3	0.3	0.3	0.3
Obstetrics	0.6 (1.0)	0.6 (1.0)	0.6 (1.0)	0.7 (1.0)	0.7 (1.0)	0.7 (1.0)
	10.7	11.6	12.8	13.2	14.0	15.2

Rounded up	2023	2028	2033	2035	2038	2043
Day Surgery	3	3	4	4	4	4
Acute	2	2	3	3	3	3
Elective	5	6	7	7	8	9
Cardiothoracic	1	1	1	1	1	1
Obstetrics	1	1	1	1	1	1
	12	13	16	16	17	18

Appendix 2: Current State in Southern – Surgical Capacity

Southern is unable to provide elective planned care to patients within 4 months of the commitment to do so (ESPI 5), at a rate that is higher than the national average.

ESPI 5 - Patients given a commitment to treatment but not treated within 4 months.

ESPI 5 National – all Elective Services

Measure	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
5 Imp. Req.	13,869	15,778	18,899	21,000	20,993	22,213	22,865	22,920	25,965	28,337	27,267	28,536
5 Status %	24.2%	26.4%	32.2%	36.7%	36.4%	37.4%	37.9%	37.8%	40.5%	43.3%	40.5%	41.3%
5 Status colour	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red

ESPI 5 Southern – all Elective Services

5 Imp. Req.	1,804	1,958	2,134	2,230	2,208	2,293	2,401	2,395	2,455	2,604	2,503	2,479
5 Status %	38.8%	40.5%	44.6%	47.4%	46.9%	47.5%	50.2%	52.0%	53.0%	54.8%	52.5%	52.8%
5 Status colour	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red	Red

ESPI 5 Southern General Surgery

Imp. Req.	170	188	201	215	200	217	232	236	232	255	234	240
Status %	35.8%	36.7%	41.4%	46.2%	41.3%	43.3%	47.3%	49.1%	49.2%	51.5%	45.1%	47.2%

ESPI 5 Southern ENT

Imp. Req.	360	381	424	442	458	479	463	475	516	542	527	507
Status %	37.9%	40.1%	46.4%	47.9%	50.4%	51.1%	49.4%	52.5%	57.1%	56.2%	56.0%	56.5%

ESPI 5 Southern Orthopaedics

Imp. Req.	771	780	798	820	809	832	880	866	859	895	893	910
Status %	59.4%	58.7%	60.2%	63.4%	65.3%	64.7%	66.9%	66.1%	66.5%	70.4%	71.0%	71.7%

ESPI 5 Southern Urology

Imp. Req.	57	58	60	70	64	78	71	70	84	82	75	78
Status %	19.5%	18.0%	20.3%	24.7%	21.8%	26.2%	24.2%	25.3%	29.7%	29.4%	26.0%	27.5%

ESPI 5 Southern Vascular

Imp. Req.	51	59	62	69	72	74	83	85	83	83	85	88
Status %	44.0%	48.4%	48.8%	53.1%	60.0%	64.3%	69.7%	70.8%	64.8%	64.8%	63.9%	62.4%

ESPI 5 Southern Plastics

Imp. Req.	90	100	115	115	108	106	117	114	117	128	130	119
Status %	38.1%	42.9%	47.7%	52.0%	45.4%	41.7%	45.2%	47.9%	54.4%	55.9%	54.6%	50.4%

ESPI 5 Southern Ophthalmology

Imp. Req.	176	229	286	272	244	237	289	304	307	358	308	272
Status %	25.4%	33.2%	41.4%	40.2%	35.4%	33.7%	41.9%	47.1%	45.4%	49.4%	44.7%	40.8%

Measure	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
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Chapter 6: Deletion of PET CT from scope

Summary of changes

- Deletion of the Positron Emission Tomography (PET- CT), plus associated spaces, from scope of the New Dunedin Hospital (NDH).
- Reduction of Nuclear Medicine Department to 547m² (c.f. 727m² scheduled) leaving it with one treatment modality - SPECT- CT.
- Repositioning of Nuclear Medicine position on floor plate.

Key risks

- The lack of future proofing for increasing demand for PET scanning may be short-sighted.
- The reliance on the private sector to provide public services carries risk.
- Non-delivery of PET scan is a change from DBC scope.
- Reputational risk – lack of comprehensive public and sector consultation.

Explanatory notes

1. *Future proofing for increasing demand for PET scanning will be required.*

- PET scanning provision varies between countries but on average in the OECD there are 2.78 PET scanners per million population (1).
- This equates to provision of one PET-CT to the Southern region.

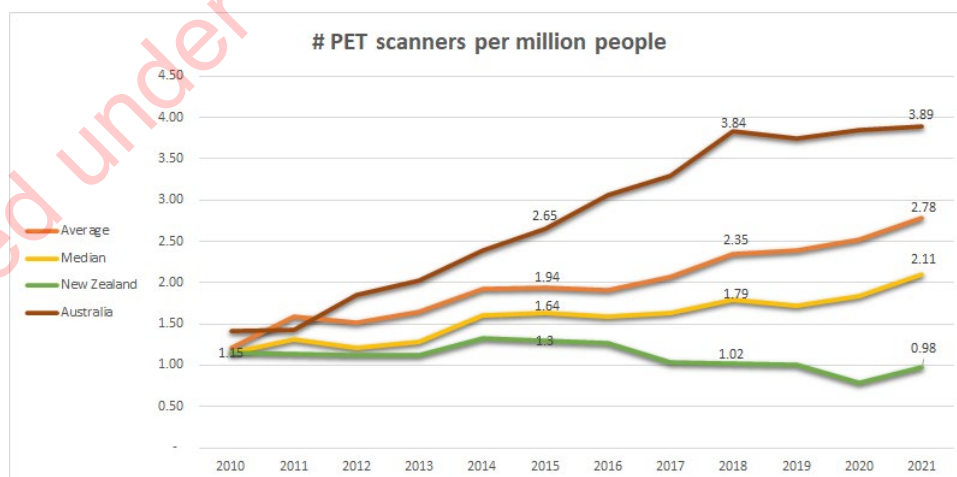


Figure 1: Number of PET scanners per million population (OECD).

- PET scanning is in its infancy, its use is growing dramatically overseas (1), and will become a routine radiological procedure during the lifetime of the Inpatient Building.

- PET scanning is integral to the provision of oncology services. The Southern Regional Cancer Network has the second highest number of new cancer registrations nationally (2). As shown below, the number of PET scans ordered in Southern is increasing significantly and is likely to continue to do so.

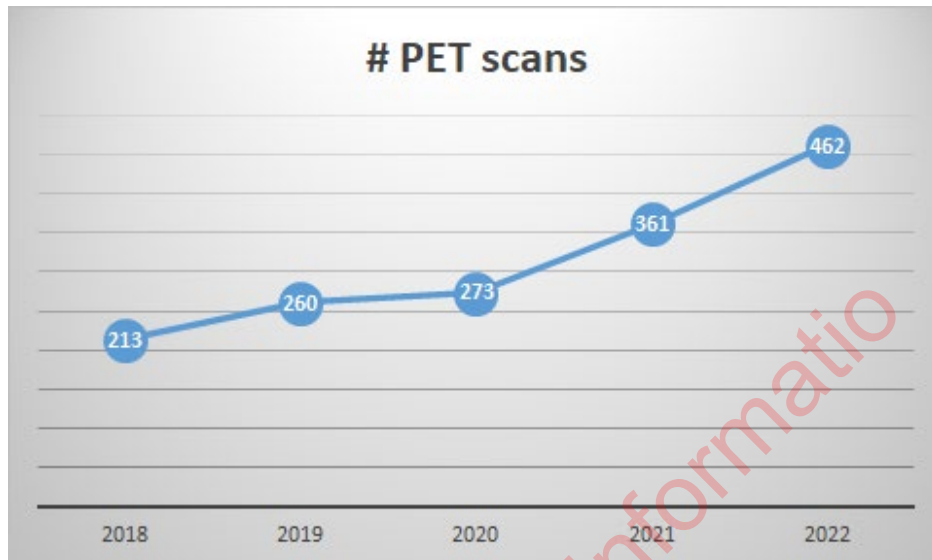


Figure 1: PET scans ordered by Te Whatu Ora – Southern between 2018 and 2022 (extrapolated)

- In 2020 the State of Cancer in New Zealand report (3) noted that “there are inconsistencies between DHBs in terms of routine funding for PET scanning”.
- Te Whatu Ora Southern patients currently travel to Christchurch, the sole PET scanner in the South Island. This significant travel requirement means that access is not equitable, even within the South Island.
- Provision of PET scanning within a comprehensive radiology service would be favourable from a staff retention and training perspective.

2. The reliance on the private sector to provide public services carries risk.

- Vulnerability in future provision of PET-CT in Southern.
- Absence of control over costs: Current pricing for PET-CT is between \$2500 – 3800 (4). Te Whatu Ora is projected to pay between \$1-2 million per year in the short term for private PET scans for Southern patients + travel costs. With increasing clinical utilisation, and reduction of inequities of access, this will rise.
- Not providing comprehensive radiology services impacts on training and retention of staff. Staff looking to progress their career are moving to private services with PET facilities. All nuclear medicine MIT require a PET- CT component to their training, at additional cost to the public sector.

3. *Non-delivery of PET scan is a change from DBC scope.*

- Reduction of area in nuclear medicine reduces resilience of system to future needs (Investment Objective 1).
- Lack of readiness for a PET scanner at NDH if a future national strategy supports provision of PET scanning within tertiary public hospitals.

Potential mitigations

- Identification of soft expansion space within NDH nuclear medicine for future PET scanning facility.
- Continued reliance on private sector - Pacific Radiology plan to open a private PET-CT two blocks from the NDH site. This facility is planned to be operational in 2023 and will be the second PET-CT in the South Island (5).
- PET-CT could be planned for in future staging with Southern Blood and Cancer service. This would require duplication of sub-specialist services (hot lab and staff). PET is also used for other non-cancer related investigations, therefore the impacts of providing this service to a mixed population in an oncology centre should be considered.

Further information or investigation recommended

- The key outcome is equity of access to PET-CT for Southern patients, anticipating rising national demand.
- Te Whatu Ora to review the progress of a National public PET service (6), ensuring equity of access for Southern patients, and how the NDH, potentially the first public site, could support this. We note previous work has been done in this area (7).
- Nuclear medicine requires extensive shielding and management of 'hot' patient flows. The relocation of nuclear medicine to the central courtyard should be reviewed by a Medical Physicist to ensure the proposed movement is appropriate.

Summary impact statement

- Medium term 'gap' mitigated by private PET-CT planned for Dunedin.
- Potential risks are associated with the reliance of PET scanning being provided by the private sector.
- Te Whatu Ora Southern strongly supports identification of soft expansion space alongside nuclear medicine to provide a PET scanning capability in the future.

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5. Otago Daily Times. 15 August 2022. [Pacific Radiology to provide much-needed PET-CT scanner for Southern regions | Otago Daily Times Online News \(odt.co.nz\)](#)
6. Personal communication, Dr Chris Jackson, Oncologist, Te Whatu Ora Southern, Chair of the Cancer Agency Clinical Assembly.
7. Ministry of Health. July 2008. Assessment of the Business Case for Positron Emission Tomography (PET) Scanning. Wellington: Ministry of Health.

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Chapter 7: Onsite Pathology Service Reduced to Acute Clinical Functions only

Summary of changes

Reduction of pathology laboratory in the Inpatients' Building from ~1,300m² to 180m². The intent of the proposal for a reduced footprint is to provide sufficient area to receive samples in the Lamson tube and only process samples to support acute clinical functions. All other pathology laboratory sample processing would be off site and need to be transported to another location.

Key risks

- A tertiary hospital cannot run without a pathology department and 180m² is simply a specimen reception and packaging area. There is no clear plan for how, where and who will provide the additional space needed. Neither is there clarity on who will pay although ultimately it is Te Whatu Ora who will bear the cost.
- Current Inpatients' Building pathology laboratory area has previously undergone peer review confirming the ~1300m² size deemed necessary to appropriately service an acute, tertiary hospital. Current pathology services provider advised that provision of acute clinical functions would require a minimum of 500m².
- Potential impact on timeliness of processing and analysis of critical samples if sufficient area in NDH is not provided.
- Operational inefficiencies of increased sample transport and duplication of lines with multiple sites contributing to greater costs to health system. Current provider has indicated a 15% operational cost uplift with duplication of lines.
- Impact on training of pathologists with reduced footprint in NDH and split laboratory services across multiple sites.
- Impact on resilience with proposed reduced pathology services in Importance Level 4 (IL4) building.

Explanatory notes

Southern Community Laboratories Ltd (SCL) CEO, Peter Gootjes, has provided an initial response (appendix 1) to the proposal to reduce the pathology laboratory in NDH. He outlined clinical and operational risks from his organisations point of view.

1. *Current pathology services provider advised that provision of acute clinical functions would require a minimum of 500m².*

The area required for the provision of pathology services in the NDH is approximately 1300m². This figure has been peer reviewed (appendix 2). In discussion with the current provider of pathology services it is believed that 500m² of this space would need to be

provided within the Inpatient Building. This space would be required to perform “time critical sample analysis” within the Inpatient Building and to process samples for transport to an off-site central laboratory for analysis. It is recognised that this figure needs to be validated and, for the time being, represents a “best estimate”. The interim view held by the current provider is that the 200m² scoped in option 4.2 significantly underestimates the space required for these processes.

It is imperative that suitable space is provided to perform these critical functions within the Inpatient Building. Failure to do so will create a dysfunctional pathology service with potential disastrous clinical consequences.

2. Potential impact on timeliness of processing and analysis of critical samples if sufficient area in NDH is not provided.

Timeliness of laboratory results are of major importance in delivering optimal healthcare in the acute setting. To accomplish this a short turnaround time for critical value tests is imperative. Any impediment that lengthens turnaround time for critical values is of significant clinical concern. Concern exists that if insufficient space is provided to perform critical value analysis within the Inpatient Building, then samples would need to be transported to an off-site facility which would adversely affecting turnaround times. The consequences of this would be that patient safety would be compromised.

3. Operational inefficiencies of increased sample transport and duplication of lines with multiple sites contributing to greater costs to health system.

Splitting the laboratory into two plus labs has the likely effect of introducing operational inefficiencies in terms of doubling the number of sample processing lines. This, together with transportation costs, will result in increased operational costs that, over time, would undo the savings that would be made by reducing the original 1,300m² footprint of the laboratory in the NDH. Currently the two lab locations operated by SCL have separate lines operating in each site, with no duplication of lines. This is somewhat workable as they are located one city block apart (Dunedin Hospital and Plunket House, George Street).

Peter Gootjes (SCL CEO) estimated the operational cost uplift could be 15%. The following table provides an indication of the 15% cost uplift based on 2022-2023 contract.

Southern Community Laboratories 2022-23		
Labs contract		
Workings 22/23		
51,475,935		contract yr5 base
+ 1,544,278	3.00%	annual funding incr % (PBF funding for cost pressure)
53,020,213		
- 0		initial savings investment yr5
- 1,626,353		service provider committed savings yr5
51,393,860		
- 899,393	1.75%	quality payment
50,494,467		
4,207,872	1/12	new monthly total
4,839,053		incl gst

Add in 15%:

\$50,494,467
+ 15%
= \$58,068,637

That is a difference of \$7,574,170

4. *Impact on training of pathologists with reduced footprint in NDH and split laboratory services across multiple sites.*

Pathology is an important service within a tertiary teaching hospital. Many clinical services heavily rely on pathology services and a close working relationship with pathologists is beneficial. Increasingly, combined MDT meetings involving pathology as a core component are the standard of care for patient management. Pathology training is also likely to be compromised if the laboratory is split over multiple sites.

SCL General Manager – Southern / Nelson / Marlborough, Leanne Giles, noted in her response “*if sample transport is resolved the entire laboratory could be off-site (closely located), providing a robust, efficient and comprehensive (best in class) laboratory service to support the clinicians and patients within the NDH and the wider Southern region*”. One new technology being explored is drone transport for urgent samples

The key factor in an off-site health precinct development is the capital funding of an additional project if most of the pathology laboratory is removed from NDH.

Further information or investigation recommended

- Te Whatu Ora to provide guidance on the future regional laboratory services model and determine if an off-site pathology model to be built/redeveloped via another capital investment is viable or realistic.
- Te Whatu Ora to provide benchmark guidance to the minimum size within which an acute clinical function pathology laboratory can function.

Summary impact statement

- Previous peer review has supported the current provision of 1,300m² in an acute facility. For the NDH, this maintains a similar approach to current provision.
- Current pathology services provider advised that provision of acute clinical functions would require a minimum of 500m². This has not yet been validated.
- To provide an acute service only, there will be increased operational inefficiencies and therefore costs.

Appendices

1. Letter dated 26/08/2022 from Peter Gootjes, CEO, Southern Community Laboratories Ltd
2. NDH pathology lab peer review, path lab – e-mail correspondence from Dianne McQueen dated 07/09/2020.

Appendix 1: Letter from Peter Gootjes

26/08/2022

Bridget Dickson
Programme Director
New Dunedin Hospital

By Email: bridget.dickson@southerndhb.govt.nz

Dear Bridget

Laboratory in the New Dunedin Hospital (NDH)

I am writing to share our views on the new development in this saga of where the laboratory should be in the NDH, and how much space is allocated in the current plans. My understanding is that Leanne Giles saw a presentation from you and has responded by email. This response is to be read in conjunction with Leanne's response. She is away this week on annual leave.

1. Sorry that I was not available last week for your presentation. Trevor English and I were both in Auckland for several days at Executive Group and Board meetings. I didn't get a chance to discuss this in detail with Leanne
2. What I understand is in the new proposal
My understanding is that the 1400m² (it was a bit less than this but I will use this number as I do not have the actual number in front of me) is no longer available and instead we are being offered 200m² (maybe a little more but again I do not have the actual number). This is because of cost over-runs and the need to trim up the building size/cost. In addition we could get space in the Current Dunedin Hospital (CDH) ward block, once this is vacant. This space could be anything up to the 4000m² required for the integrated laboratory for the region.
3. History of this saga
In the first plans we were offered 400-500m², then 1100m², then the 1400m². Now it has shrunk back to 200m². Clearly a laboratory does not have much importance placed on it during the design phase of this build. We find this rather strange in a regional tertiary level teaching hospital that we are being offered half the space that we have in the Blenheim Hospital laboratory which serves 30,000 people! We wonder if any clinical staff have been involved in these decisions.
4. What is really required optimally
Optimally we would have 3500-4000m² of space for an integrated hospital/community laboratory for the region. Our new laboratory at Wellington Hospital has 4000m² of space. The SDHB has contracted us to provide this integrated service since 2006 which is based on putting the community and hospital referred samples into a single laboratory and avoid duplication. It currently runs over two integrated sites, Plunket House has all the Anatomical Pathology (histology and cytology), while the Clinical Services building has the rest of the laboratory services (biochemistry, haematology, microbiology, immunology, molecular). We have an efficient model and there is no duplication.




Plunket House
472 George Street, PO Box 6064
Dunedin, New Zealand
Telephone 03-477 6981, Fax 03-477 9160
Freephone 0800 101 444

5. What could be done in the 200m² on offer now?
Not much is the simple answer. 200m² is not enough to run any sort of useful service, even for hospital patients only.
6. What is the minimum useful space in the NDH – ie minimum requirement, and what can be done with this?
If the space was increased to 500m² we could run a small core lab providing biochemistry and haematology/coagulation testing for the hospital patients. In addition there would be room for specimen reception, a cryostat for frozen sections, a couple of offices, a small meeting room and maybe a point-of-care urgent microbiology centre. Everything else would need to be moved to the main laboratory based over the Plunket House and CDH sites.
7. Where the remaining laboratory can be sited
We would continue with Anatomical Pathology in the Plunket House site. This site is about to be upgraded as none of the options has ever had enough space for this to be in the NDH space. The remainder of the Biochemistry, Haematology, Immunology, Microbiology, Molecular laboratories will be somewhere else – possibly in the CDH. This relies on assumptions around movement of samples via couriers, and/or through an air-tube such as a Lamson Tube.
8. Who pays?
So far we have not had any serious discussions around who pays for these new facilities. We assume that:
 - a. Any space in the NDH will be paid for out of the budget for this project. That includes Shell and hard fit-out
 - b. Any new space in CDH will be fitted out appropriately for us.
 - c. The operational cost of running services over three lab sites with the inherent duplication of services need to be priced into our laboratory services agreement.
9. Clinical risk:
It is possible to mitigate most of the clinical risk associated with having services at a distance from the NDH. However we have not had time to consider the details of this and we would need time to work through these details
10. Operational risk:
The operational risk relates to duplication and inefficiency. This is inherently a more costly model and we cannot quantify this at this stage.

I hope that covers off what you have asked us to comment on. We could make a 500m² space work but at a cost. A 200m² space is not viable. I would comment that the biggest issue you may have to deal with is explaining to people how a nearly 2 Billion dollar hospital can be built without a proper sized laboratory included. This to most clinical people would be like building a hospital without operating theatres or without an emergency department. Laboratories and other diagnostic services are integral to modern hospitals – not something that is optional.

Yours sincerely



Peter Gootjes
CEO
Southern Community Laboratories

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Appendix 2: NDH pathology lab peer review

From: Dianne McQueen <Dianne.McQueen@pathlab.co.nz>
Sent on: Monday, September 7, 2020 4:01:27 AM
To: Onno Le Roy <Onno.LeRoy@health.govt.nz>
Subject: FW: Scan data from TgaPrint02
Attachments: 07092020155825-0001.pdf (19.1 KB)

Good Afternoon

Based on our laboratory and throughput I believe the attached is a fair and assessment of critical size required.

If you have any questions of what I have written -I am happy to explain

Kind regards | Ngā mihi

Dianne McQueen

CEO | p +64 7 578 7073 extn 6609 | m +64 27 488 3692 | PO Box 130 | Tauranga | 3144

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Laboratory services – Dunedin Hospital

3rd July 2020

Dunedin Acute Service laboratory Space Allocation

Description	Staff No	Space/sqm
Core lab operations		
Automated Biochem and Haem	32	395
Special Haem	2	35
Fridge spec		48
Fridge reagent		21
Freezer		14
Biochem store		18
Haematology store		16
Urine aliquot		10
Films		21
DI Water		8
Biohazard bins		10
Urgent microbiology	1	10
Frozen sections		10
Rapid molecular	1	10
Specimen reception		
Lamson tube	1	14
Sorting and reception	1	31
Data entry operators	18	92
Specimen flow and holding		50
Trouble shooter	1	6
Courier pickup		8
Staff spaces		
Haematologists	2	24
Chemical Paths	2	24
Microbiologists	2	24
HOD Scientists	3	36
HOD specimen reception	1	12
Quality	1	12
Tea room		133
Toilets, showers and lockers		100
Building		
Circulation		200
Building walls columns etc		?
Totals	68	1392

280

120

10

21

8

10

10

10

30

48

30

6

8

20

20

24

36

12

12

133

100

200

?

991

would you need all on-site.

off site

off site -

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Chapter 8: Pandemic Planning Response

Summary of changes

- Rework of the ground floor to incorporate Back of House (dock) to the southern location on the Cadbury site. Reshaping of the Emergency Department and pandemic entry.
- Expansion of ground floor to the south of the Inpatient Building.
- Implications for the logistics flows of upper floors, particularly into Pharmacy and 23hr ward.
- Proposed reconfiguration of air handling units (AHUs) and return air.

The DBC (section 3.7.2, p.27) stipulates:

A new hospital also offers greater resilience to the Southern DHB (sic) health system. This means that the Southern DHB health system is better able to respond to future growth in demand forecast and to any shocks to the system, such as additional burden from pandemic. This will be achieved through the design of standardised, flexible spaces that can adapt to surges and different clinical uses, with the building being adaptable to the separation of flows and modern flexible ventilation systems.

The Clinical Leadership Group produced a comprehensive Pandemic Learnings Paper in 2021. ESG endorsed in late 2021, within budget and design constraints. The result of this exercise is detailed in the pandemic plan (see appendix 1). Any changes must be consistent with this approach. At this stage, the detail is not there to respond in depth.

Key risks

- Redesign, particularly of ground floor, will have an adverse, knock-on effect on pandemic entry, safe separation of infectious patients, triage points and staff facilities.
 - The opportunity for on-grade temporary facilities spaces to support the pandemic entry may be compromised.
 - Logistics flows in pandemic state may be compromised.
 - Consolidation of AHUs may compromise stage 2 and 3 pandemic planning.
 - Other decisions to reduce resilience or emergency stores will affect post-disaster functionality.
 - Unknown impacts of other VM decisions, e.g., reduced lift capacity.
 - Reduction of single patient rooms, although not specialist isolation rooms, does reduce the separation of patients.

Explanatory notes

- Pandemic entry ground floor:
 - Movement of the resus pod and some support spaces has compromised patient flows into ED and lengthened the journey for ambulance drop offs. The opportunity for a triage space has been lost with the moving of support spaces (meeting room). This may be able to be reintroduced in another location but will not be as convenient.
 - There is a Health and Safety risk for staff and patients mingling around a working loading dock with truck movements in and out of this area.
 - There is no clear route for Ambulance drop off.
- Pandemic Ward L09:
 - Rework will need to be cognisant of the staff facilities that were provided within the east end of the ward and ensure they are still accessible.
 - The move to increasing the number of twin rooms reduces the capacity of the pandemic ward to care for patients in separate rooms but does not disrupt its overall functional intent. One of the main drivers for single rooms for the NDH was to reduce cross-infection.
- Cleaning station L03 (previously located on L04):
 - If needed, will compromise the flows to the pharmacy from the BOH lifts.
 - Also compromises the flow from 23hr ward as this is the route for patient transfer to IPU's (or other service such as radiology).
- Air Handling Units and extract:
 - Combining isolation rooms on to common fans will have an increased consequence in the event of a fan failure. This increases the vulnerability in both pandemic state and in business as usual.
 - Expelling air at level 3 or 4 will require consideration for the risk of entraining air back into the building. Areas with courtyards are of particular concern.
 - Consolidation of AHU's may compromise stage 2 and 3 pandemic responses.
 - Air flows as described in KDIM033C must be maintained.

Further information or investigation recommended

- Reassessment of design once further progressed to ensure pandemic resilience, as endorsed by ESG.

Summary impact statement

- The proposed changes risk disrupting the pandemic response, particularly related to pandemic entry, triage points, logistics flows and lift capacity. However, these may be able to be mitigated with an appropriate design response and careful consideration during any rework.
- Any consolidation of AHUs must still support stage 2 and stage 3 surge capacity (see appendix 1).

Appendices

1. Summary of Pandemic Response 2021

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Appendix 1: Summary of Pandemic Response 2021

Modifications to existing design gave NDH the flexibility to manage isolated cases, right through to whole facility. Physical spaces were aligned with full height fire walls and air handling units to provide streaming and cohorting of patient flows.

Stage	Clinical Areas	Facility response
Stage 1 – cases limited to isolation rooms	Throughout hospital, majority in Inpatient Building.	Individual isolation rooms: 39 N-class (negative pressure) 8 S-class (standard isolation room)
Stage 2 – ‘Red zones’ Case numbers exceed isolation rooms, or there is an early requirement to cohort	ED – two resus bays, one acute pod (10 beds) and services provision (water, drainage, power) to outside ground level. Radiology – ED CT and XR facilities. ICU – one pod of 10 beds. Theatres – two theatres with specialist ventilation. Pandemic ward – 32 beds.	“Hospital within a hospital”. Subsection of hospital, linked by a dedicated lift and with dedicated entrance/exit. Provides highest form of protective negative pressure ventilation and separation of patients. Also provides some ventilation protection for staff working in these areas. Provides anterooms, wash hand basins, PPE stations etc. Includes staff facilities.
Stage 3 – ‘Pink zones’ Case numbers exceed red zone	ED – further pod of 10 beds. Theatres – further 4 theatres, plus half of recovery area. ICU – further one pod of 10 beds. Additional 20 bed rehab/mental health pod on level 6. Additional 32 bed ward on level 9 (beside pandemic ward).	Expansion areas for cohorting infectious patients when red zone exceeded. Separates the care zones and ventilation of infectious from non-infectious cohorts but does not provide additional protective ventilation <i>within</i> the pink zone except in specified areas (see below).
Stage 3 ‘Enhanced pink zones’ (Level 5 Maternity and Children’s Floor)	NICU – extension of two N-class rooms to form a 4-bed pod. Paediatric ward – 6 bed western pod. Birthing - self-contained primary birthing unit contains three birthing and three postnatal rooms.	For specific patient populations where there is no dedicated red zone due to facility design layout. Ventilation has been enhanced to minimize cross-infection between patients within the pink zone.
Stage 4 Whole hospital red’	Whole hospital ‘red’.	Can consider separate use of inpatient and ambulatory buildings for red/green use.
Areas which will require an operational response	Cardiac Intervention Suite MRI Nuclear Medicine Endoscopy Helicopter transfers to red zone	Will need to provide these services for both red and green streams by either: a) moving ‘red’ patients into these areas safely and/or b) moving a service to perform some of these investigations or interventions in red/pink zones.

Chapter 9: Removal of Aseptic Production Unit in Pharmacy

Summary of changes

- Removal of Aseptic Production Unit (APU) from scope, leaving it in its current location in Southern Blood and Cancer Service (SBCS) Building.
- Relocate pharmacy to level 3 and reduce the area to 800m² (c.f. 943m² designed at the end of PD).

The distance between the current APU and the NDH pharmacy is two city blocks requiring the crossing of one state highway.

Key risks

- Pressure on Staffing
 - Increased staff required to operate over two sites
 - Historically difficult area to recruit specialised staff to and difficult to train staff in a specialised area thus constant need to move staff between areas.
 - Aseptic products have short turnaround times based on stability requirements (minutes to hours) so pharmacy staff should be located within or adjacent to the APU.
- Inefficiency introduced into Logistics Flows
 - Duplication of inwards and outwards goods at both sites
 - Potential for wrong delivery site, introducing risk of treatment delay to patients as well as the need for subsequent reassignment across sites
- Viability of Clinical Trials
 - Separation of services
 - Risk of short shelf life for compounded products
 - Not meeting the clinical trials requirements of sponsors which may jeopardise the ability to be involved in clinical trials.
- Unclear that the existing production unit facility is fit for purpose for a further 20 years until Southern Blood and Cancer building redevelopment.
- Areas ordering bespoke time critical aseptic products have not been consulted in this high-level review of risks
- Increased response time if cytotoxic products are spilled or an accident occurs in the APU.

Explanatory notes

Dunedin is a tertiary level hospital and requires aseptic products that need compounding onsite on an acute or planned basis. These short turnaround products include neonatal total parenteral nutrition (TPN), intravitreal injections (such as treatments for macular degeneration – Avastin®, or urgent time critical antibiotics for penetrating eye injury), chemotherapy and pharmaceuticals used for clinical trials. The APU needs to be nimble enough to meet the needs of the acute (often time pressured) requests (for both chemotherapy and sterile products).

Product	Turnaround time*	Comment
Neonatal TPN		Dispensed daily to the ward 3-4pm
Intravitreal	1 hour	Dispensed to theatre. Longer turn around after hours (24hour shelf life)
Avastin		Standing order – stock made daily
Chemotherapy	1 hour	If dose needs changed quickly – patients are typically in the inpatient ward not SBC. Intrathecal required to be collected by Authorised Medical Staff. Paediatric chemotherapy required to be collected by paediatric oncology nurse
Out of town medicine for delivery	30 minutes from receipt to dispatch	Often out of town medicines arrive and need same day delivery around the region. The current connecting courier service only provides for 30-minute turnaround time within pharmacy. These are complex medicines not available for patients to get via community networks.
Clinical Trial		Product shelf life once compounded can be minutes to hours. Transportation between the compounding site (APU) and the clinical area needs to ensure product can arrive with enough time remaining for the infusion to be completed.

*Turnaround time is from time prescription received to product being dispensed from pharmacy.

Based on discussions with our Pharmacy Manager and his Australasian colleagues, the following risks of dislocating the APU from the main pharmacy have been raised:

- Likely to double staffing requirements for APU (currently 1.2 Pharmacist FTE and 2.0 pharmacy technician FTE).
- Experience in Dunedin suggests it takes at least 6 months full time training to get a pharmacy technician upskilled. Similarly, upskilling pharmacists requires at least 3 months (not to be able to compound but undertake the pharmacist checking processes). All staff working in a production unit need to be annually validated upon completion of this training. A production unit cannot be staffed by staff who are not trained.

- If safe staffing levels are not achieved:
 - increased risk of errors if staff work beyond safe capacity and
 - increased risk of service failure due to the inability to staff the unit on a day-to-day basis and recruit and retain appropriately trained staff.
- Less incidental training of staff in this highly specialised area
- Less team cohesion
- Service duplication (double goods receipt and outwards goods area)
- Some infusions of intrathecal and paediatric chemotherapy need to be collected by authorised personnel (Oncology SMO or Registrars and Oncology nurses respectively) from the APU and delivered to the ward or child day unit. An offsite APU will lead to inefficient use of clinical staff time.
- A disjointed clinical trials unit would run the risk of not meeting the clinical trials requirements of the sponsor and could jeopardise the ability to be involved in clinical trials. Dedicated and specially trained pharmacy staff are only able to prepare pharmaceuticals for clinical trials, this includes those made within the APU. Short expiry dates on clinical trial products would cause challenges once compounded. It is likely Clinical Trials will expand and the new and novel therapies are likely to have short expiry dates.
- New logistics flows will need to be established and managed to ensure products get to the right place at the right time as any delays could result in delayed patient care.

Further information or investigation recommended

- The current APU needs a full mechanical and plant review to determine its longevity and whether it is more financially viable to build a new APU or continue to operate the current APU until the SBSCS building is no longer fit for purpose. The current unit was commissioned in 1991.
- Any construction within the existing APU would be extremely complex and result in the unit being decommissioned for that period of time (or a fully enclosed aseptic compounding unit being installed at over \$200K).
- Pharmacy licencing would need to be investigated as this dual site model will potentially require two pharmacy licences.
- If the APU remains in its current location an operational procedure regarding cytotoxic spill will need to be created. Given the separation from pharmacy it will need to be investigated whether SBC oncology staff could be upskilled to attend in an emergency.
- The NDH pandemic planning on the interstitial plant floor will need to be reviewed to enable logistics flows to continue between the red lift core and pharmacy on the western façade.

Summary impact statement

- Te Whatu Ora Southern could support the removal of the APU from NDH scope when a specialist building services review of the current facility is completed and deemed appropriate to use for the next 20 years.
- A split site model is possible but will lead to staff and flow inefficiencies with increased operating costs, yet to be fully defined.

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Chapter 10: Reduced Resilience and Redundancy in backup systems

Summary of changes

Part of the design response to VM option 4.2 was to review whether any savings could be achieved from the NDH's building services component. Wherever possible, Te Whatu Ora Southern has reviewed and considered proposed effects on building services from operational and futureproofing perspectives.

Key risks

- Reducing potable water storage capacity from 48 to 24 hours introduces operational and clinical risk in the event of a major seismic (or other relevant) event
- Vulnerability if broader South Island is faced with water supply issues, coupled with Dunedin's roading infrastructure constraining our ability to address supply requirements.
- We expect that the reduction in floor space for infrastructure assets will have a commensurate, direct effect on the reduction of the service level provided. The effect will be increased risk of both more frequent and increased outage durations to services and higher overall asset life costs being incurred.
- Risk of cross contamination under Business as Usual (BAU) functioning due to proposed changes in air handling unit configuration.

Explanatory notes

Potable water storage

- The DBC states improved seismic resilience as a critical benefit of the NDH. It specifically describes the NDH to function for at least 48 hours following a major seismic event.
- It is noted that the South Island has experienced severe weather and disasters in the last 10 years. Reducing the potable water storage below that described in the DBC makes NDH vulnerable to water supply issues. In addition, NDH's location between two state highways has a knock-on effect whereby Dunedin's roading infrastructure will constrain our ability to address supply requirements in a timely manner.
- This proposal is not commensurate with the generator capacity that is sized to provide a minimum of 48-hour supply.

Reduction in plant floor space

- Reduction in floor space can also result in the combining of areas serviced from an asset. In turn, this will mean less flexibility, greater disruption and costs for future changes to areas as their requirements change with time.
- As is well-evidenced by the current Dunedin Hospital, as the NDH ages, all assets located within it will require increased maintenance and eventual replacement. If the

redundancy or the space surrounding the asset is lost, they will have to be replaced in the same location meaning the function they provide will not be available for a much longer duration as the old asset must first be removed before new can be installed.

Reduction in air handling unit numbers and sharing of return air

- Proposed combining air handling unit (AHU) systems to gain efficiency of scale.
- This development would require careful work through to understand compatible and incompatible departmental relationships where combined AHUs could be considered functionally safe.
- Air Handling units should be configured so that risk of cross contamination is minimised, especially when in pandemic mode.

Increased reliance on boilers

- There will be an overall increased energy cost over the life of the building.
- Further reliance on Boilers and a non-renewable fuel which will increase in cost over the life of the building may also be a consequence.
- Reliance on non-renewable fuels will also be misaligned with the Government's stated Carbon Zero reporting targets and our desire to deliver Five Star, Green Star buildings.

Further information or investigation recommended

- Full risk assessment to be undertaken.
- Confirmation of the Code requirements for an IL4 building for potable water storage.
- The proposal to reduce the resilience by 50% would need to be tested with a full risk assessment by Te Whatu Ora Southern's emergency planning team with input from district leadership.
- Plant floor space levels were established during the functional brief stages of planning and as changes are presented will need to be re-evaluated for their increased risk and the acceptance of it.

Summary impact statement

Te Whatu Ora Southern are unable to make an informed decision on the reduction of water storage below that designated in the DBC until a risk assessment to be completed. Reduction in plant floor space, air handling unit numbers and increased reliance on boilers also requires a detailed risk assessment.

Chapter 11: Impacts on Functional Relationships

Summary of changes

The changes proposed by VM Option 4.3 option will impact on some of the functional relationships, including but not limited to:

- Integrated Operations Centre (IOC)* relocated as a soft fit out on L06
- Clinical Engineering Technology and Equipment store (CETES) relocated as a soft fit out on L06
- Public (blue) bridge link between Inpatients and Outpatients deleted
- Heat pumps relocated to Bow Lane
- Back of House (BoH) dock movement and remodelling has removed service carparks
- Mortuary pick up and BoH have been collocated
- Kitchen relocation to L01 - the same level as mortuary.

The Spiritual Centre remains on L01 and is reorientated to accommodate surrounding planning changes; its connection to staff/patient circulation is modestly reduced.

* IOC includes the following areas: operations centre, telephony, security, orderlies, and information services

Key risks

- Location of heat-pumps on the Bow Lane site severely inhibits future development opportunities to the east as detailed in Te Whakaari – the former Southern DHB’s Health and Education Precinct Site Masterplan.
- Collocation of mortuary garage and back of house services is not considered compatible.
 - Maintenance of culturally appropriate flows, with separation for tūpāpaku flows and relevant logistics flows, introduces significant operational inefficiencies.
 - A high risk of operational breach of proposed flows due to inherent inefficiencies.
- Significant reduction in car parking.
 - Doesn’t meet the requirements of the DBC, including provision of service vehicle carparking to support the Facilities and Property service requirement (four carparks in the FDB). These carparks are viewed as necessary as a mitigation for the previous removal of Building and Property workshops from NDH’s scope.

Explanatory notes

Integrated Operations Centre (IOC) 'the heart of the hospital'

The initial location of the IOC was on L02 where adjacency to staff circulation routes, key clinical areas and neighbouring collaborative workspace was optimal.

- The proposed location maintains good links to public and staff zones. Especially important for the Duty Manager, Security and Orderlies.
- It is critical for the IOC to retain co-location with a portion of collaborative workspace to enable collaboration with relevant staffing groups (such as the RMO Unit staff), and to support the standing-up of an Emergency Operations Centre (EOC) as and when required.

Spiritual Centre

Retains its location on L01 with connection the public front of house circulation and a (somewhat deemphasised) connection to the staff/patient circulation.

- Connection to the courtyard (light-well) is retained, however, the positioning of the Spiritual Centre and its connection to the courtyard is compromised due to partial in-filling of the courtyard on L01 to L03 yielding a less-private orientation.
- The introduction of the Staff Cafeteria, amenity areas and workspace to L01 introduction of busyness and noise in the vicinity of the Spiritual Centre which detracts from the space's function and offering.
- The required orientation minimises available natural light into the Spiritual Centre due to the building overhang above.

CETES

- No concerns with proposed new position. Offers good connection with blue and red lift cores and proximity to the inpatient wards. Full spatial brief met.

Food service

- New L01 location poses logistical challenges with food deliveries to the wards passing by the mortuary. Tūpāpaku flows will need to be reviewed by mana whenua.

CSSD

- The new CSSD floorplate may offer opportunities for a better layout, however the floorplate is slightly smaller which may compromise the ability to provide for a worst-case equipment scenario.
- The reduction in theatre numbers may reduce the daily throughput but if resilience is added to accommodate any future theatres this may be negated as there is no clear expansion space.

Separation of CIS and theatre floors

- The separation of these two floors introduces potential for inefficiencies where staff and logistics have a longer journey when moving between the two. The significance of this is to be determined as fast and efficient lifts may be a mitigating factor.

Deletion of public bridge between Outpatients and Inpatients

- The bridge link was intended to serve two purposes – to emphasise the connectedness between the two buildings as part of one coherent interactive facility, and to provide a safe, weatherproof accessway for the public between the buildings. Its removal may impact on movements across the red bridge and red core.
- We support future proofing the design to allow for the bridge to be built in the future.

Co-design with mana whenua

- Te Whatu Ora Southern values the relationship with mana whenua and supports ongoing dialogue to ensure the impacts of any changes are understood and negotiated with our co-design partners.

Further information or investigation recommended

- Further options for location of the Spiritual Centre should be explored, considering:
 - Access and privacy/sensitivity
 - Connection to nature and natural light
 - Expansion into neighbouring space (courtyard, meeting room or similar) for larger events
- Tūpāpaku flows need to be reviewed to ensure they can be managed in a culturally appropriate manner (collocation of food and mortuary on L01)

Summary impact statement

Integrated Operations Centre (IOC) and Clinical Engineering (and equipment store) located on L06 as a relatively soft fit-out to enable a future expansion plan for inpatient beds creates a complex move with many steps when, operationally, these beds would be required for clinical use. Both IOC and Clinical Engineering (with its associated equipment store) are permanent and critical elements of the NDH. Location of heat-pumps on the Bow Lane site severely inhibits future development opportunities to the east as part of the Health and Education Precinct Site Masterplan. Collocation of mortuary garage and back of house services is not considered compatible, especially the crossing of tūpāpaku and food logistic flows. Significant reduction in car parking as detailed in the DBC. Further options for location of the Spiritual Centre should be explored, considering access and privacy/sensitivity, connection to nature and natural light, and expansion into neighbouring space (courtyard, meeting room or similar) for larger events.

Chapter 12: Reputational Risk and impact on User Engagement

Design of the New Design Hospital (NDH) is advanced, and users have been involved in consultation on the design for some years. Clinical users have a detailed understanding of the design and the data and modelling on which it is based. The proposed design, size and scope of the hospital have been well publicised (1, 2). The Detailed Business Case (3) has been proactively released to the public. Significant changes to the design, and particularly any reductions in size and / or scope, will therefore have a negative impact on the reputation of the project and the NDH among both the public and Te Whatu Ora Southern staff.

Key risks

- Public loss of faith that the people of Southern will get a well-functioning, adequately sized hospital
- Public perception that the burden of providing health services is being pushed onto primary and community providers without adequate planning or resourcing
- Public perception of unfairness and inequitable distribution of access to health services
- Staff loss of confidence in – and/or fatigue with – the design engagement process, leading to poorer design outcomes and potential downstream operational inefficiencies in the NDH
- Staff approaching the media to air concerns and grievances about the process and possible outcome
- Staff losing confidence in the project and the PMO, leading to unwillingness to engage with transition planning and a consequently poorer transition process and outcome in the new facility
- Overstretched workforce being asked to repeat work they have not been resourced to do.

Explanatory notes

Community risks:

The risk to the reputation of the project, Te Whatu Ora and Infrastructure and Investment Group amongst the Southern population across Otago and Southland is significant. The need for a new hospital has been well interrogated, and public interest in the New Dunedin Hospital is high. The Te Whatu Ora Southern district covers a large geographical area with many small rural communities, and residents often travel long distances to access health facilities and services. Therefore, NDH is seen as a district health facility supporting the care of patients across Southern.

Social media sentiment indicates there is already scepticism that the new hospital will be large enough to meet the needs of Southern's growing population. Compounding this is a lack of clarity or confidence about how services in the community will be provided. The

perception that the service from tertiary hospital for the region is being reduced may support the view that access to high quality health services for this district is not being prioritised, therefore increasing inequalities, and added pressure on primary care and community providers.

The size and scope of the New Dunedin Hospital is premised on efficiency assumptions with more services being delivered in community settings. Any reduction in size or services offered within the New Dunedin Hospital therefore implies that there will be the ability and funding to deliver these elsewhere. In a context where health services are perceived as stretched, underfunded and understaffed, these assumptions may increase the risk that the project is seen by the public to be contracting at the cost of increasing pressure on primary and community services, without making corresponding resources available.

In July the local newspaper (2), the Otago Daily Times, reported that Minister of Health Andrew Little had ruled out a reduction in the hospital's size or scope. He said the government had always known there was going to be a cost risk in the project, but the important thing was to have a hospital that met the needs of the population. Any loss of beds or services will be seen as counter to the minister's assurances that scope or capacity reductions were not being contemplated.

Staff risks:

The risk of clinical user disengagement in the design process is well acknowledged. There have already been several points in the project where earlier design phases and steps have been repeated. Clinical staff always busy and under pressure, have been increasingly stretched by the impact of Covid-19 over the past two and a half years. They have stretched themselves further actively engaging with the design team, on the understanding that this would result in the best possible facility for the staff and community of Southern. Even prior to the value management exercise, user disengagement was amongst Southern's top five project risks and has been actively managed by Te Whatu Ora Southern PMO and Clinical Leadership Group (now Clinical Transformation Group - CTG).

As a result of the VM exercise the PMO, along with CTG Exec and the Design Team, have held a series of meetings with key clinical staff from the most affected areas. While these were useful discussions, the impact of learning of the VM exercise at this point in the planning has been evident. There is a sense that information has been withheld from clinical users. Users expressed frustration with the process, particularly the need to unpick and redo design work that has already absorbed a lot of their time. It is worth noting that some users have engaged in research, simulation exercises, writing papers and visiting sites, often in their own time, to inform issues of clinical relevance to the design. Users have said they are concerned that decisions are being made against clinical advice and data and this will lead to poorer clinical and operational outcomes.

Staff have also expressed anxiety around excluding services or facilities from the scope of the project and assuming that alternative funding will be found to provide these elsewhere. The health workforce is well aware of the pressure on health dollars and the historical difficulty in achieving budgets for health projects, however well-supported or needed. Therefore, staff feel there is significant risk that sufficient funding will not eventuate to offer these services in suitable facilities, and the community will suffer as a consequence.

There is a risk that staff will feel they can gain leverage by taking concerns to the media, which will fuel public perception that the facility will not meet the needs of the Southern community.

The VM exercise coincides with the time that Te Whatu Ora Southern needs to start planning for the transition to the new Outpatients Building. Although this building will be largely unaffected by VM, if staff disengage or lose confidence in the project or the PMO they may also withdraw commitment from transition planning. A successful move to the new hospital requires all staff and services to change the way they work and learn new processes. If staff perceive the NDH project as having reduced value following VM it will be harder to motivate change, and likely have negative impacts on the planning, transition and outcomes for the NDH.

Key partner risks:

At the start of the VM exercise in November 2021, for a short period, the \$17 million NDH contribution to the Interprofessional Learning Centre (ILC) was proposed as a savings opportunity. The opportunity soon became unavailable and the background to this is detailed in a memo from Pete Hodgson, August 2022 (appendix 2). Te Whatu Ora Southern has repeatedly reiterated that we consider the NDH capital contribution to the Professional Development Unit in the ILC in scope of the NDH project and fundamental to the opening and operation of NDH from a staff training and credentialing perspective. Consequently, the PDU component of the ILC is not being considered in this VM exercise. The importance of highlighting this is to ensure we have a consistent message externally, to preserve the ongoing local working relationships with our key partners in the ILC development, namely University of Otago and Otago Polytechnic (soon to transition to Te Pūkenga).

Potential mitigations

- Communications plan to be agreed to 'front foot' comms with public and staff
- Ownership of decisions at appropriate levels
- Clear and transparent path for feedback, decisions and escalation
- PMO to manage ongoing relationships with users.

Summary impact statement

Any change in the size or scope of the New Dunedin Hospital, and any demand for significant redesign with accompanying consultant costs and demands on clinical staff's time, will have a widespread negative effect on the reputation and expectations of the New Dunedin Hospital project and facility. It will be perceived as a 'broken promise' if less is delivered than was approved in the Detailed Business Case. The knock-on effects are likely to result in poorer outcomes for the design and clinical services for the people of Te Whatu Ora Southern district.

References

1. *New Dunedin Hospital Website* [The New Dunedin Hospital | New Dunedin Hospital](#)
2. Otago Daily Times (15/7/22) [Minister rules out hospital size reduction | Otago Daily Times Online News \(odt.co.nz\)](#)
3. Detailed business case [2 - new dunedin hospital final detailed business case 0.pdf \(health.govt.nz\)](#)

Appendices

1. Otago Daily Times article (15/7/22) *Minister rules our hospital size reduction*
2. Hodgson P (August 2022), Interprofessional Learning Centre Memo

Appendix 1: Otago Daily Times 15 July 2022

Friday, 15 July 2022

Minister rules out hospital size reduction

By Mike Houlahan

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News > Dunedin > Health



The latest concept design image for the new Dunedin Hospital buildings, supplied by the Government late last year. IMAGE: SUPPLIED

Health Minister Andrew Little has ordered a re-examination of the budget for the \$1.47 billion new Dunedin Hospital, but has ruled out any reduction in the size of the new facility now being built in the central city.

"None of this is being contemplated," Mr Little said when asked if he would look to reduce the size or scale of the new hospital, or change the services intended to be provided within it, as part of that budget review.

"Every infrastructure project is facing potentially major cost escalation because of supply-chain issues, the war in Ukraine and global inflation pressures," Mr Little said.

"In the health sector, I've asked all project leaders to look at appropriate steps to mitigate the risk of cost escalation."

The Government has already upped the hospital project budget to \$1.47 billion, partly in recognition of the ever-escalating cost of building supplies, and put aside contingency funds in this year's Budget.

In June, Mr Little told the *Otago Daily Times* the Government had always known that there was going to be a "cost risk" about the hospital budget, but that the important thing was to have a hospital that met the needs of Dunedin and the Otago and Southland population.

Last month he told the newspaper that cost escalations were a fact of life, and that Health New Zealand would need to manage costs on the project.

Ever since the announcement that a new hospital would be built in Dunedin there have been battles about the size of the facility and what services would be provided within it.

Once proposed as being 93,000sq m, it was scaled down to 89,000sq m, before the final concept design for the hospital settled on 91,000sq m — a figure still considerably larger than the 70,000sq m existing Dunedin Hospital but well down on what some had envisaged might be a 125,000sq m hospital in the project's early days.

An attempt was made in 2020 to scale the proposed new hospital back from the planned two buildings to a single structure as a cost-saving measure, which was repelled but at the cost of some square metreage from the plans.

That attempt to trim the project's budget was inspired by cost issues due to more difficult than anticipated ground conditions.

News that the project budget was once more under scrutiny sparked concern that the size of the hospital might once again be threat, but Mr Little's comments seem to have ruled that out.

He said he was still awaiting advice on the new Dunedin hospital project.

"I expect suggestions will be forthcoming in the next two to three months."

Hospital planners are in the middle of applying for fast-tracked resource consent to build the first of the two big buildings intended to form the heart of a health precinct. Approval has already been granted for foundations and earthworks.

The budget review may well affect what materials will be used to construct the building, especially the exteriors.

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Appendix 2: Interprofessional Learning Centre [ILC]; brief history to date. August 2022

1. This memo records a potted history of the ILC to date with a deliberate focus on funding. Unfortunately it records and hinges on an official error or omission within the Ministry of Health.

2. The New Dunedin Hospital [NDH] has been scoped to include a professional development unit [PDU] from the outset. The ILC was conceived of about 5 years ago in discussions between the Ministry of Health, Southern DHB, University of Otago [UoO] and Otago Polytechnic [OP]. The PDU became an integral part of the ILC, and has been explicitly excluded from the inpatient building since then. For the record, the PDU provides the required amenities (including simulation spaces) and staff to run the mandatory training and credentialing activities for registered and non-registered employees of Southern. It therefore needs to be opened ahead of the inpatients building.

3. The strategic case for the ILC is strong. Interprofessional learning is considered to be a superior way of teaching senior undergraduate health sciences. Internationally, pedagogy research characterises and quantifies such gains. Some interprofessional learning already takes place in NZ. In essence students spend more time learning with peers from other professional groups. Various simulation and real patient experiences are taught to students in interprofessional teams, producing a more rounded, empathetic and better integrated graduate. The impact of 'fiefdoms' or 'professional tribes' in NZ's health system might be expected to diminish over time.

3. Thus the long term value to the health system nationally is both identifiable and quantifiable. It comes at no additional cost to the health system nationally given that a PDU must be built somewhere. Additionally there is value to the local health system in having the professional development unit of the NDH housed in the ILC rather than in the new hospital. One advantage is simply the formal and informal interaction afforded by the physical interaction of clinicians and senior undergrads. A second is that Dunedin's two simulation centres will become one substantive centre and its assets will be sweated harder, to the advantage of all parties. The decision of the OP to relocate health sciences into the ILC has driven that second advantage.

4. Dunedin has an unusual concentration of health science education, which is often underestimated, including locally. It has a wider range of health science disciplines than any other centre, and most clinical schools are among the largest, or are the only, in NZ. Of the UoO's four divisions, the budget of the health sciences division, alone, equals or exceeds the budget of the University of Canterbury or the University of Waikato. Thus, interprofessional education gains for the NZ health system are larger and more readily

secured in Dunedin than anywhere else in NZ. There are benefits to Dunedin too; the city's reputation for quality health sciences education is maintained.

5. Various funding options have been explored over time. The preferred option was settled about two years ago. Each party would pay their own way, proportionate to the space each would occupy. [The early design work to date has been split evenly into thirds.] The MoH had earlier set aside \$17m, being the estimated cost of the PDU, and reflected that in a Cabinet minute.

6. About a year ago it was becoming increasingly clear that the NDH was suffering extraordinary cost pressures. The issue of 'more money or less hospital' was firmly on the table. Coincidentally, at about that time the UoO had to adjust its capital works program considerably because the building code adjustments pursuant to the Kaikoura earthquake had started to take effect. The Wellington School of Medicine needed strengthening, which was unbudgeted, and a cascade of other capital program delays meant that the UoO thought it ended with some 'spare' capital. It also had space constrictions on the Dunedin campus, especially for Advanced Medical Learning [AML], and it had some spare project management capacity.

7. In essence that meant that the UoO could if parties agreed, take over the construction of the ILC, add additional space at its cost for AML, and pick up the MoH share of the ILC. That would allow a saving to be made for the NDH. The details were not ever finalised, though it was recognised that using the UoO as an alternative funding source would cost the health system more over time as the UoO would face a marginally higher cost of capital than the Crown.

8. Towards the end of 2021, probably November, I conveyed the idea to the MoH. There was an urgent effort underway to identify some quick savings and ideas were being sought. It was quickly incorporated in a paper to Ministers that was being drafted up at the time.

9. Regrettably the UoO's 'spare' capital soon evaporated. The UoO was facing the same cost pressures as the NDH and the Tertiary Education Commission withheld a number of borrowing consents across the sector. The UoO therefore withdrew its offer to help on February 24 2022. I conveyed that to the MoH, in writing, as I knew that an adjustment to the paper to Ministers was needed. Here is the email trail from Feb 25 2022:

Hi John

It would now seem unlikely that the University of Otago [UoO] will be able to assist the MoH meet its costs of \$17m toward the ILC.

You will be aware that in recent times the UoO had indicated that, because of changes in its own capital program occasioned by the Kaikoura earthquake and its aftermath, it might well be in a position to fund the MoH portion of the ILC and also undertake to build it. That would have prospectively released \$17m toward funding the emerging shortfall in the NDH budget.

However the UoO yesterday advised that, because of the exigencies of Covid, TEC has deferred consideration of the UoO's borrowing consent until June. Several UoO projects are affected, including the \$17m in question. The UoO's own contribution to the ILC is however not affected. Te Pukenga/Otago Polytech also remains committed to contributing ~\$20m.

Of course the option still exists to have a private developer build and lease. However that would cost more, take longer and would be resisted by OP because Te Pukenga enjoys access to relatively cheap capital.

Accordingly it is our intention to revert to Cabinet's original decision to invest \$17m towards the PDU facility within the ILC.

Best wishes

Pete

Chair, SDHB

Hon Pete Hodgson

s 9(2)(a)

Thanks for the advice Pete.

We will make sure we incorporate that in to advice to Ministers.

Regards

John

John Hazeldine

Acting Deputy Director-General - Infrastructure

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[See More from Pete Hodgson](#)

10. Regrettably ,it seems it was not incorporated into written advice to Ministers either in February 2022 or since. Accordingly the record shows Ministers approving a saving that did not, and does not, exist. This persistent error is costly because it repeatedly damages the trust and goodwill on which the ILC has been conceived. Perhaps a little pointedly, I reflect that had the UoO never made the offer to help late last year, we would not be in this position.

Pete Hodgson

Memorandum

Te Whatu Ora
Health New Zealand

To: Monique Fowler, Director – Delivery, Infrastructure and Investment, Te Whatu Ora

Copy to: Te Whatu Ora Southern Executive Leadership Team;
Marcus Read - Director, RCP
Tony Lloyd - Programme Director, Infrastructure and Investment, Te Whatu Ora
Jim Coard – Project Director, Inpatients Building, Te Whatu Ora

From: Sheila Barnett – Chair, Clinical Transformation Group, Te Whatu Ora Southern
Bridget Dickson – Programme Director, New Dunedin Hospital, Te Whatu Ora Southern
Hamish Brown – Interim District Director, Te Whatu Ora Southern

Date: 3 November 2022

Subject: Response to presentation of Value Management Option 4.5

Kia ora Monique

1. The New Dunedin Hospital (NDH) design team provided an update briefing to Te Whatu Ora Southern's Project Management Office (PMO) and the Clinical Transformation Group (CTG) Executive of Value Management (VM) Option 4.5 on Friday 28 October.
2. Southern attendees would like to thank the design team for their thoughtful responses to the concerns raised in the Clinical and Operational Impact Statement (dated 2 September 2022) when recrafting Option 4.3 into 4.5.
3. The Clinical and Operational Impact Statement responded both to the overarching risks in undertaking this Value Management process, and a series of specific risks associated with Option 4.3. Southern considers that those significant overarching risks to programme, cost and functionality remain, regardless of whether we see Option 4.5 or 4.3.
4. In response to the specific risks associated with Option 4.3 and raised in the Clinical and Operational Impact Statement, Southern welcomes the following significant mitigations presented in Option 4.5:
 - a. The reinstatement of 12 Mental Health Services for Older People (MHSOP) beds. This results in an overall reduction of 9 MHSOP and 3 med/surg beds from the Detailed Business Case (DBC) on opening. There remain the risks that the predicted growth in demand for MHSOP may not be able to be accommodated without further expenditure, and that detailed work on a suitable model of care (including primary and community-based services) is yet to be completed.
 - b. The proposed reduction in 35 med/surg beds from the DBC has now been reduced to a loss of 3 beds on opening (associated with the MHSOP ward).
 - c. Shelled space for a future Positron Emission Tomography (PET) scanner provides some mitigation, but this transfers the costs of the fit out from the NDH project to Te Whatu Ora

Memorandum

Southern. Outsourcing volumes would continue past the opening of the NDH Inpatient Building.

5. The following risks remain unchanged:


- a. Incorporating logistics into the Inpatient Building brings some benefits, but also some inefficiencies, most significantly logistic flows between the dock and Inpatient Building red corridor. Further work is underway to address these.
- b. The total Gross Departmental Area (GDA) of clinical workspace is now closer to brief, at a reduction (from 75% Developed Design) of 6.4% rather than 10% in Option 4.3. The Dairy Building provides workspace but at some distance from clinical areas, which may mean it is less functional and underutilised.
- c. The proposed shelling of 1000m² of supplied workspace is not considered clinically workable. We acknowledge this could be 'activated' later down the line.
- d. Reduction in scope of two operating theatres.
- e. Achieving the re-design in the proposed programme timeframe due to the extend of impact of the change.

6. The remaining risks still require substantial pieces of work before they can be considered mitigated:

- a. Shelling one logistics lift remains a risk until detailed remodeling to account for increased pathology and workspace movements has been completed.
- b. Onsite pathology services remain at acute clinical functions only. There has been an increase in GDA to 350m², but this area has not been independently reviewed by pathology service expertise, noting that Southern Community Laboratories recommended a minimum of 500m² for these functions.
- c. No change to risks associated with the deletion of the Pharmacy Aseptic Production Unit from scope. The key dependency is determining the feasibility (and cost) of extending the lifetime of the current facility in Southern Blood and Cancer Building.
- d. Regarding reduced resilience and redundancy in backup systems, we note the work to update each Key Decision-making Information Memorandum (KDIM) and seek acceptance from facilities management. The detail of the final building services redesign, and therefore the operational and clinical impacts, is not yet known.
- e. Impacts on the Site Masterplan remain. Key examples are the new site for Southern Blood and Cancer, and the use of the Bow Lane site.
- f. The risk to the functionality of the pandemic plan.

7. In considering Option 4.5, we also started to see some potential knock-on effects of, for example, altered riser sizes and location across multiple floor levels. It is anticipated more of these 'unknowns' will become apparent as design progresses.

■ s 9(2)(g)(i)

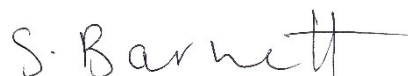


Memorandum

Te Whatu Ora
Health New Zealand

9. We look forward to working through the design-related risks with the Design Team. We acknowledge that several of the outlined risk mitigations would require operational solutions and will continue to liaise with our Executive Leadership Team to plan a pathway forward.

Kā mihi nui



Dr Sheila Barnett
Chair, Clinical
Transformation Group,
Te Whatu Ora Southern



Bridget Dickson
Programme Director,
New Dunedin Hospital
Project (NDH PMO)
Te Whatu Ora Southern



Hamish Brown
Interim District Director
Te Whatu Ora Southern

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Out of scope

- **Cost Saving Options** – key points to note include:

- **NOTED** the update on cost saving options to Joint Ministers is behind schedule.
- **DISCUSSED** the options for external funding, the need to fully explore each option, and the issues of cost and control faced in past infrastructure projects (Christchurch and West Coast) when attempting to use alternative funding sources.
- **NOTED** Pete Hodgson has had discussions with Ngāi Tahu as a potential source of external funding.
- **DISCUSSED** that at least one of the options in any advice to Joint Ministers must fully realise the savings requested.
- **NOTED** the paper has been discussed and reviewed in the SRO meetings, but not yet by ESG.
- **NOTED** the ESG need to review the paper, and provide feedback, before it is provided to the Health NZ Board and CEO.

Next Steps:

Out of scope



Out of scope

4

Programme Director Update

Jim Coard and Marcus Read joined the meeting at 11:40

Value Management:

- **NOTED** a Value Management workshop was held with consultants in May to review the design for potential savings without any service cuts. Potential cost saving options were identified but were not enough. A stricter review is now underway, and RLB have completed a cost estimate, but is not ready to be brought to the ESG yet. Possibly ready within the next 4-6 weeks.

9(2)(b)(ii)

- **NOTED** the current value management/cost saving paper being provided to the Health NZ Board was a high-level update on progress covering both alternative funding types and the value management work being undertaken by the project team. It is not the final paper providing options for cost savings or design changes.

Out of scope

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New Dunedin Hospital Project: <i>Inpatient Building & Logistics Building</i>	Senior Responsible Owner: Helen Telford	STAGE: DESIGN	On Track: ≤3 amber indicators & 0 red indicators	At Risk: 4 or more amber indicators or ≤ 3 red indicators or consenting or demo/construction is red	Off Track: >3 indicators are red or H&S is red	Improve t f r m previ period ↑
	Programme Director: Tony Lloyd					No change f om previous period ↔
	Status Date: June 2022					D te jorated from revious period ↓



s 9(2)(f)(iv)		Workstream	Status	Progress
Programme Director Comment: <ul style="list-style-type: none"> The design team are working on options to achieve a target saving of \$100m. While options are being developed, full analysis of the options will not be available for this meeting. The team are targeting mid-July to have a complete recommendation report available. The actual redesign time will differ depending on procurement options, structure and extent of layout change required to meet the savings target. Out of scope 		Health, Safety & Environment	s 9(2)(f)(iv)	Out of scope The value management exercise remains in progress with the design team targeting to have a draft Options Recommendation Report issued for project team consideration by mid-July, before being presented to the ESG. The Inpatient Building 50% Development Design review and estimate is complete, with minor feedback comments and E&E cost alignment remaining to be resolved. The Inpatient Building Architectural 75% Developed Design issued on 15 June 2022. The Logistics Building design remains on hold following MOH instruction on 23 March 2022 pending the outcome of the redesign work.
Out of scope		Design		
Out of scope		Communications & Engagement		
Out of scope		Consenting		
Out of scope		ECE Engagement		
Out of scope		Procurement		
Out of scope		FF&E		
Budget: Out of scope		Southern DHB ICT	Out of scope	
Key Activities for Next Period <ul style="list-style-type: none"> Progressing the options for value engineering the Inpatient Building and Logistics Building. Progress selected Developed Design activities 				

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New Dunedin Hospital Project	Status Date: June 2022	
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KEY ISSUES					
#	SITUATION / PROCESS	POTENTIAL FAILURE(S) / SUCCESS(ES)	POTENTIAL EFFECT(S)	CURRENT PROCESS CONTROLS / MITIGATIONS	RATING
1	Impact of \$200M in additional market escalation on current NDH scope and risk that high market escalation rates persist longer than currently forecast.	Project budget exceeds approved funding and contingency amounts. Consequential impacts (such as on programme and enabling works) to be determined once preferred option determined. Further fees associated with the design reset stage of Inpatients at this stage, reduces any available savings	Additional funding or descoping or alternatives sources of funding required (3rd party etc). Consequential risks in relation to escalation risks (e.g., Contract Works Insurance, Procure)	Advice on funding options prepared for Joint Ministers in Feb 2022. Redesign of Inpatients Building required to meet the difference between the new NDH budget figure and latest estimate. Ongoing monitoring of global market conditions and forex fluctuations in financial reports. Advice being prepared to ESG on redesign options and to HNZ Board to confirm policy on access to alternative funding.	High
2	MOH Budget Overspends / Budget at risk	MOH Budget forecast is to be significantly overspent	Overspend reduces budget available in other areas	Confirm new structure with reference to addressing potential overspend.	Medium
3	Decision making	Unclear delegations and authorities. Timely	Delays in decision making lead to	Report back to Cabinet on current governance arrangements being	Medium

Out of scope

s 9(2)(f)(iv)

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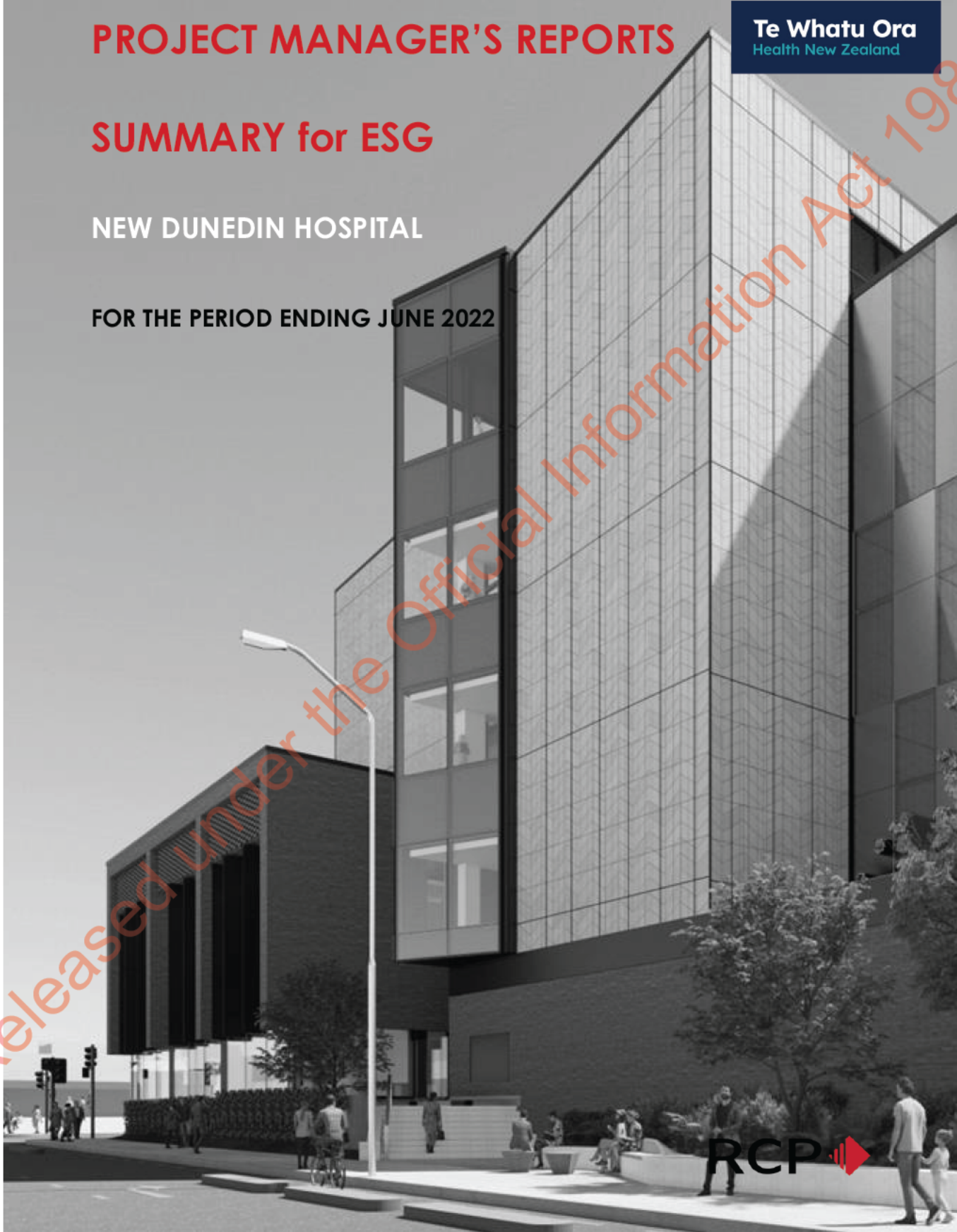
PROJECT MANAGER'S REPORTS

Te Whatu Ora
Health New Zealand

SUMMARY for ESG

NEW DUNEDIN HOSPITAL

FOR THE PERIOD ENDING JUNE 2022



RCP 

PROJECT MANAGER'S REPORT FOR ESG

INPATIENT BUILDING & LOGISTICS BUILDING

June 2022

Status Summary:

Value engineering of the Inpatient Building and Logistics Building to achieve a capital saving of \$100M has remained the priority workstream over the June 2022 period.

Option development has been refined to include the following:

Option 1 – No Clinical Optimisation (Base Case)

Option 2 – Moderate Clinical Optimisation

Option 3 – Aggressive Clinical Optimisation

Noting that each of the above options are also being assessed for alternative structural solutions, including the level of low-damage seismic design, which may offer cost savings and reduced construction risk profile for procurement, trade resourcing and programme.

An options recommendation is anticipated to be drafted by mid July 2022 for PCG consideration and subsequent recommendation to the ESG

Health NZ has elected not to suspend the design team during the value engineering exercise. Instead, the design team has been instructed to continue selected Developed Design activities in parallel. The associated design consultant variation proposals have been received for review and agreement.

Design programme impact due to the value engineering exercise remains to be finalised against the options developed. The programme critical path impact will be determined by the selected structural solution and the ability to accelerate early design deliverables (e.g. foundations and superstructure procurement).

Achievements for the period

- Full team engagement for value engineering.
- Developed Design BAU activities to proceed in parallel with value engineering defined.
- Inpatient Building Architectural 75% Developed Design Issued on 15 June 2022 in line with Master Programme Rev 4.1. Noting this milestone is deferred for all other disciplines.

Key issues and challenges for the period

- Design team resource allocation / mitigation and variation exposure during the value engineering exercise.
- Resource consenting revised pathway (options paper being prepared by Greenwood Roche).

Next period

- Conclude value engineering exercise to enable Health NZ direction.

ECE Progress

Out of scope



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COST MANAGEMENT REPORT NO. 23

1 JULY 2022

NEW DUNEDIN HOSPITAL

HEALTH NEW ZEALAND

Prepared For

Health New Zealand
Wellington

Prepared By

Rider Levett Bucknall Christchurch
PO Box 461
Christchurch 8140
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Project number

CH1595

Submitted on

1 July 2022

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Risk 4	Impact of Design Variations and Delays – Further changes at this stage are now requiring s 9(2)(b)(ii) [REDACTED]. (Refer to Section 4 of this report)
Risk 5	Impacts of Ongoing Russia/Ukraine War – Ongoing impact to supply chains, indirect consequential aspects (fuel, escalation etc), due to ongoing conflict. Unknown duration and impacts currently unquantifiable.
Risk 6	Out of scope
Risk 7	Design Optimisation – Further fees associated with the design reset stage of Inpatients at this stage, reduces any available savings intended to achieve without significant redesign/scope reduction.
Risk 8	Exchange Rates / Fluctuations – Continuing impacts of NZD performing poorly to USD resulting in cost implications (Refer to Section 7 of this report)
Risk 9	Out of scope
Financial Approvals Sought	N/A
Change Control Sought	Out of scope

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1.1 BUDGET REVIEW

The following is a summary of the Project Budget and variance from last report. The current forecast is based on the updated 50% Detailed Design Estimate for Outpatients and 50% Developed Design Estimate for Inpatients. VM has been undertaken for Outpatients and remains ongoing for Inpatients.

As requested, the budgets for Outpatients and Inpatients have been split for construction and professional fees where able. The balance of costs which are nonspecific, remain as a Project cost to be ascertained upon completion of the relevant buildings.

s 9(2)(b)(ii)

Out of scope

s 9(2)(f)(iv)

- Construction Costs (read in conjunction with Section 4 of this report) –
 - Concerns over the ongoing impact of Covid in relation to the market and extraordinary escalation and material supplies (the duration of forecast shortages, significant material increases and when supply chains will normalise due to current Pandemic conditions). A separate paper has previously been prepared for ESG with regard to this issue and following recent Procurements and Preliminary Pricing received from the ECE Contractor, these concerns are crystallizing. This report includes estimated values based on this recent market information against both Outpatients and Inpatients Buildings.
 - Concerns over the current events in Ukraine and Russia and implications these may have if the war is sustained longer term. These cannot currently be quantified.
 - Remaining areas over budget that have not been able to be covered by VM carried out to date.
 - In recent months updated Stats figures have confirmed inflation at 6.9% in the March 2022 quarter and in addition the NZ USD exchange rate position has worsened. Both of these metrics add further risk to the escalation issue that require ongoing monitoring.
 - Concerns of potential delays and impact

Out of scope

Out of scope

- Implications of the Inpatients Design Optimisation is currently unknown as to how this will impact the remaining Inpatients fees however, dependent on the extent of the optimisation, may result in lesser savings being achieved than originally anticipated.

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Out of scope

- The value management paper has been prepared but is not ready for review and comment by the Executive Steering Group.

Out of scope

ford.

4

Programme Director Update

Marcus Read joined the meeting at 11:30.

Darryl Haines, Trevor Boustead, and Ron Hicks joined the meeting at 11:35

Value Management:

- Tony Lloyd provided an oral overview of the current design reset, outlining the difficulties finding savings and being able to forecast. Advised that the team were asked to look at the structures, materiality, FF&E, and procurement options, while still preserving as much of the clinical functions as possible.

Received a presentation from Marcus Read, Darryl Haines, Trevor Boustead, and Ron Hicks which outlined in terms of the Value Management:

- The purpose of the Inpatient Building Design Optimisation and work occurring since the May workshops.
- An overview of the three value management options and the structural design options.
 - Option 1: Current Design
 - Option 2: Accepted Clinical Optimisation
 - Option 3: Additional Clinical Optimisation
- The current site plan vs the site plan for option 3.
- A site cross section for options 2 and 3.

The Chair opened the floor for wider discussion. Key points to note include:

- NOTED** that there could be a 6-to-8-month programme impact, due to re-design, but looking into bringing site works forward to mitigate. The impact on the clinical needs is being reviewed alongside the programme impact and will be included in the final report.

- **NOTED** the team are currently part-way through the value management process. Final options are expected to be ready for presentation early August. It was agreed the presentation of final options would be tabled for the next meeting.
- **NOTED** the Southern District Site Master Plan will need to be reviewed once a value management decision is made.
- **DISCUSSED** that clinical representation in workshops and discussions has been minimal or specific to certain areas. Due to this it was agreed to rename Option 2 from "Accepted Clinical Optimisation" to "Proposed Clinical Optimisation", and more routine feedback to the clinical staff will be looked in to.
- **DISCUSSED** impacts of moving the Logistics Building onto the same block as the Inpatient Building, including the potential impact of limiting direct sunlight into the ICU.
- **DISCUSSED** the need to present a hospital design to the Joint Ministers that includes the \$100m savings that have been requested, whether the design is functional will be reviewed afterwards. The benefits that will not be realised due to the optimisation should be recorded alongside the risk.
- **NOTED** that if the Inpatient Building design remains consistent with what was agreed in the Detailed Business Case then the ESG can approve the change. However, if the Inpatient Building design is not consistent with the Detailed Business Case the decision sits with the Joint Ministers and/or Cabinet.
- **NOTED** that the final report may need to be taken to the Health New Zealand regional level, Te Wai Pounamu, for review.

Out of Scope

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Health New Zealand

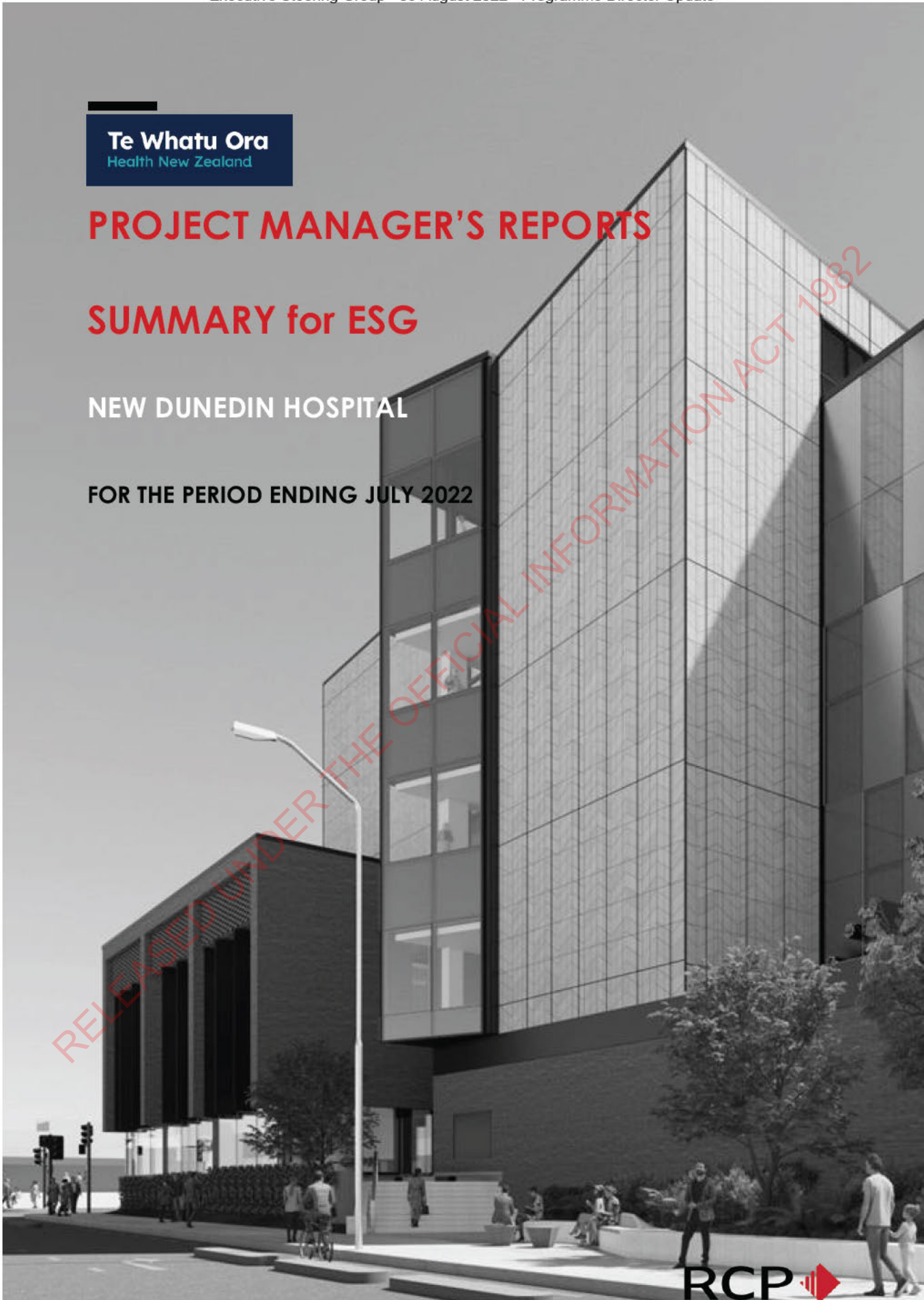
PROJECT MANAGER'S REPORTS

SUMMARY for ESG

NEW DUNEDIN HOSPITAL

FOR THE PERIOD ENDING JULY 2022

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RCP 

DOCUMENT CONTROL & HISTORY

Revision	Date	Description	Prepared By	Reviewed By
Rev1	01/08/2022	ESG Report issued as Draft	M. Allen	M. Allen
Rev2	02/08/2022	ESG Report issued as Final	M. Allen	M. Allen

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PROJECT MANAGER'S REPORT FOR ESG

INPATIENT BUILDING & LOGISTICS BUILDING

July 2022

Status Summary:	<p>Value engineering of the Inpatient Building and Logistics Building to achieve a net capital saving of \$100M has remained the priority workload over the July 2022 period.</p> <p>Achievement of the saving target at this stage of design remains to be a significant challenge without unpalatable reduction of building resilience and clinical services and/or capacities due to the associated redesign fees and time related costs significantly increasing the capital savings required by circa 30-40%.</p> <p>Programme impact due to the value engineering exercise continues to be assessed for each of the options developed. Mitigation opportunities are being actioned and/or investigated to minimise critical path impact – these include:</p> <ul style="list-style-type: none"> ▪ Design team retention to avoid design remobilisation delays – <i>Actioned</i> ▪ Structural design acceleration (noting design and procurement of the superstructure drives front end critical path) – <i>Being investigated</i> ▪ Continuation of “business as usual” (BAU) design activities where appropriate – <i>Actioned</i> <p>Actual programme impact will be subject to the final option selected, however the likely order of delay to assess and implement the target saving is currently assessed as follows:</p> <table style="margin-left: 20px;"> <tr> <td>Sunk time for value engineering:</td> <td>3 months</td> </tr> <tr> <td>Design programme prolongation:</td> <td>8-10 months</td> </tr> <tr> <td>Opening “Go Live”</td> <td>6-8 months</td> </tr> </table> <p><u>Note:</u></p> <ol style="list-style-type: none"> i. Durations are NOT cumulative. ii. Opening “Go Live” assumes structure design and procurement acceleration. <p>Out of scope</p> <p>[REDACTED]</p> <p>Achievements for the period</p> <ul style="list-style-type: none"> ▪ Full team engagement on value engineering. ▪ Out of scope <p>Key issues and challenges for the period</p> <ul style="list-style-type: none"> ▪ Achievement of a net capital saving of \$100M without unpalatable reductions of building resilience and clinical services and/or capacities. ▪ Design team resource allocation / mitigation and variation exposure during the value engineering exercise. <p>Next period</p> <ul style="list-style-type: none"> ▪ Push to conclude value engineering exercise to enable ESG direction. ▪ Out of scope 	Sunk time for value engineering:	3 months	Design programme prolongation:	8-10 months	Opening “Go Live”	6-8 months
Sunk time for value engineering:	3 months						
Design programme prolongation:	8-10 months						
Opening “Go Live”	6-8 months						

Inpatient Building Risks/Issues:

KEY ISSUES					OVERALL REGISTER STATUS (as of 31 July 2022)
#	SITUATION / PROCESS	POTENTIAL FAILURE(S) / SUCCESS(ES)	POTENTIAL EFFECT(S)	CURRENT PROCESS CONTROLS / MITIGATIONS	RATING
1	Impact of \$200M in additional market escalation on current NDH scope and risk that high market escalation rates persist longer than currently forecast.	Project budget exceeds approved funding and contingency amounts. Consequential impacts (such as on programme and enabling works) to be determined once preferred option determined. Further fees associated with the design reset stage of Inpatients at this stage, reduces any available savings	Additional funding or descopeing or alternatives sources of funding required (3rd party etc). Consequential risks in relation to escalation risks (e.g., Contract Works Insurance, Procure)	Advice on funding options prepared for Joint Ministers in Feb 2022. Redesign of Inpatients Building required to meet the difference between the new NDH budget figure and latest estimate. Ongoing monitoring of global market conditions and forex fluctuations in financial reports. Advice being prepared to ESG on redesign options and to HNZ Board to confirm policy on access to alternative funding.	s 9(2)(f)(iv)
2	Issue 01 has resulted in a Minister request for the project to achieve a capital budget saving of \$100m net of redesign and time related costs	Detailed Business Case required Clinical Services and Capacities may not be achieved in full. Programme delay	Project benefits may not be realised in full. Significant scope reduction required to cover associated redesign and time related costs. Design programme prolongation by 10mths +. Project Go Live delay on 6mths +.	Design team prioritising value engineering and options development and design. Design resources retained for immediate start on redesign. Structure design acceleration opportunity under review to mitigate extent of critical path delay. Opportunity to commence redesign ahead of formal approvals being offered.	
3	Te Whatu Ora Budget Overspends / Budget at risk	Te Whatu Ora Budget forecast is to be significantly overspent	Overspend reduces budget available in other areas	Confirm new structure with reference to addressing potential overspend.	

Out of scope

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<p>Risk 4</p>	<p>Out of scope [Redacted]</p>
<p>Risk 5</p>	<p>Impacts of Ongoing Russia/Ukraine War – Ongoing impact to supply chains, indirect consequential aspects (fuel, escalation etc), due to ongoing conflict. Unknown duration and impacts currently unquantifiable.</p>
<p>Risk 6</p>	<p>Out of scope [Redacted]</p>
<p>Risk 7</p>	<p>Design Optimisation – Further fees associated with the design reset stage of Inpatients at this stage, reduces any available savings intended to achieve without significant redesign/scope reduction.</p>
<p>Risk 8</p>	<p>Exchange Rates / Fluctuations – Continuing impacts of NZD performing poorly to USD resulting in cost implications (Refer to Section 7 of this report). Evidence of this can be seen in both the structural steel procurement rates and recently invoiced Procure fees.</p>
<p>Risk 9</p>	<p>Out of scope [Redacted]</p>



	Out of scope
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	Milestone (next 3 Months)	Date
1	Out of scope	
2	Agreement to Way Forward - Inpatients	TBC

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Out of scope

3 SRO Update

Received an update from Helen Telford, Senior Responsible Owner, key points to note include:

- The main topic at the SRO meetings for the past month was the potential impact of the value management work, with a key interest around the clinical impacts. The new 'Option 4', which will be presented in agenda item 4, appears to have a lesser impact on clinical than other presented options.

- **Out of scope** [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

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4

Programme Director Update

Received an update from Tony Lloyd, key points to note include:

- The four major focuses since the last meeting were progressing the redesign of the Inpatient Building

Out of scope

Inpatient Building Update:

- The RCP Inpatient Building status report was taken as read, key points from discussion:
 - **NOTED** that to reduce programme impact some design activities are occurring in parallel by utilising existing resources, rather than standing them down.
 - **DISCUSSED** recent changes in the market have enabled the ability to mitigate time impacts by designing and building in parallel. This is due to fees being more known and the increased likelihood of receiving fixed price lump sums. Noting, however, that there are still some unknowns.

Out of scope

Marcus Read, Darryl Haines, Trevor Boustead, and Ron Hicks joined the meeting at 11:30

Value Management:

Received a presentation from Marcus Read, Darryl Haines, Trevor Boustead, and Ron Hicks which outlined in terms of the Value Management:

- The focus areas and work occurring since the July ESG meeting.
- An overview and comparison of the current value management options and the reduced structural design options.
 - Option 1: Current Design
 - Option 3: Additional Clinical Optimisation
 - Option 4: Building Services Optimisation

	<ul style="list-style-type: none"> • The current site plan vs the site plan for option 3 and option 4. • Plans of each floor for option 4. • A site cross section for options 3 and 4. <p>The Chair opened the floor for wider discussion. Key points to note include:</p> <ul style="list-style-type: none"> • NOTED to reduce space the heat pumps have been moved to the roof, and to reduce noise most are located on the Bow Lane side. • DISCUSSED that there is a limited number of places for the generators to be located. The proposed location for the generators, in the northern corner, would be inexpensive as the cabling can be run under the road. • NOTED that option 4 provides a possible cost saving of \$90-\$100m. The exact number is not yet known as there have been minor changes to the option 4 design since the last cost review, which requires the numbers to be run again, as well as some design decisions still needing agreement from the Southern District. • DISCUSSED that even with a reduced pathology in option 4, a full pathology unit would still need to be located elsewhere, off site, and would likely not be funded by Te Whatu Ora. • NOTED that discussions are on-going around whether a small area for mental health/dementia will be part of the design or if these services will solely be based out in the community. • NOTED the concerns around potential risks relating to reduced services, beds, and workspace when compared to the previous accepted design. • NOTED that if there is a definable reduction in services it should be clearly reported so that those who must make the final decision are fully informed. If the final option is not consistent with the design outlined in the Detailed Business Case, then the ESG cannot approve it and the decision will then need to be pushed up to Cabinet. • NOTED to reduce the impact on the construction programme the review of the current value management options needed to happen quickly, with a detailed report presented to the ESG near the end of the process. • NOTED Dr Nick Baker and Dr Margaret Wilsher should be involved in the review of the value management options to provide an external clinical view. • DISCUSSED the need to work in parallel with mana whenua around the Māori models of care. Marcus Read advised he will discuss the value management options with Justine Camp. • DISCUSSED who should lead the communication phase to liaise with the Southern District teams about the decisions and what the messaging should be. Helen Telford advised she would step into the role and facilitate meetings locally. <p>Next Steps:</p> <ul style="list-style-type: none"> • Facilitate review meetings with the Southern District teams as well as Dr Nick Baker and Dr Margaret Wilsher. • Provide a detailed report back to ESG. <p>The Executive Steering Group members:</p> <ul style="list-style-type: none"> • NOTED the updates on progress. <p><i>Marcus Read, Darryl Haines, Trevor Boustead, and Ron Hicks left the meeting at 12:35</i></p>
<p>5</p>	<p style="text-align: center; color: red; font-size: 24pt;">Out of scope</p>

3 Designers

3.1 Design Process

A preferred design optimisation scheme has been landed for recommendation to ESG (reference separate paper). This scheme comes close to achieving the savings target and has been presented to users' to enable a clinical and operational impact assessment to be undertaken.

In parallel attention is being paid to the sub-structure design programme targeting construction works to possibly commence in summer 2023/24 to minimise significant sheet piling and dewatering costs.

Out of scope

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Appendix 4 – Risk Register Summary

KEY ISSUES					OVERALL REGISTER STATUS (as of 31 August 2022)
#	SITUATION / PROCESS	POTENTIAL FAILURE(S) / SUCCESS(ES)	POTENTIAL EFFECT(S)	CURRENT PROCESS CONTROLS / MITIGATIONS	RATING
1	Impact of \$200M in additional market escalation on current NDH scope and risk that high market escalation rates persist longer than currently forecast.	Project budget exceeds approved funding and contingency amounts. Consequential impacts (such as to programme and enabling works) to be determined once preferred option determined.	Additional funding or descoping or alternatives sources of funding required (3rd party etc). Consequential risks in relation to escalation risks (e.g., Contract Works Insurance, Procure)	Advice on funding options prepared for Joint Ministers in Feb 2022. Redesign of Inpatients Building being progressed. Te Whatu Ora Board and Joint Ministers will need to approve changes. Ongoing monitoring of global market conditions and forex fluctuations in financial reports. ILC to be dealt with separately - may require 3rd party funding.	s 9(2)(f)(iv)
2	Issue INIS-01 has resulted in a Minister request for the project to achieve a capital budget saving of \$100m net of redesign and time related costs.	1. Detailed Business Case required Clinical Services and Capacities may not be achieved in full. 2. Programme delay	1. Project benefits may not be realised in full. 2. Significant scope reduction required to cover associated redesign and time related costs. 3. Design programme prolongation by 10mths +. 4. Project Go Live delay on 6mths +.	1. Design team prioritising value engineering and options development and design. 2. Design resources retained for immediate start on redesign. 3. Structure design acceleration opportunity under review to mitigate extent of critical path delay. 4. Opportunity to commence redesign ahead of formal approvals being offered.	s 9(2)(f)(iv)

Out of scope

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COST MANAGEMENT REPORT NO. 25

31 AUGUST 2022

NEW DUNEDIN HOSPITAL

TE WHATU ORA - HEALTH NEW ZEALAND

Prepared For

Te Whatu Ora - Health New Zealand
Wellington

Prepared By

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Project number

CH1595

Submitted on

2 September 2022

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	<p>s 9(2)(b)(ii)</p>
Risk 5	<p>Impacts of Ongoing Russia/Ukraine War – Ongoing impact to supply chains, indirect consequential aspects (fuel, escalation etc), due to ongoing conflict. Unknown duration and impacts currently unquantifiable.</p>
Risk 6	<p>s 9(2)(b)(ii)</p>
Risk 7	<p>Design Optimisation – Further fees associated with the design reset stage of Inpatients at this stage, reduces any available savings intended to achieve without significant redesign/scope reduction.</p>
Risk 8	<p>Exchange Rates / Fluctuations – Continuing impacts of NZD performing poorly to USD resulting in cost implications (Refer to Section 7 of this report). Evidence of this can be seen in both the structural steel procurement rates and recently invoiced Procure fees.</p>
Risk 9	<h1>Out of scope</h1>
Risk 10	



	Out of scope
Risk 11	

Financial Approvals Sought	N/A
Budget Confirmation Sought	Out of scope
Budget Confirmation Sought	