



Out of scope

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# Addendum: New Dunedin Hospital (NDH) Cost Escalation Options

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**Security level:** IN CONFIDENCE      **Date:** 10/03/2022

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**To:** Hon Grant Robertson, Minister of Finance  
Hon Andrew Little, Minister of Health

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1. This addendum addresses supplementary questions in relation to the NDH Cost Escalation Brief (HR20220041 refers).

| Question   | Response  |
|--|---|
| Q1. How much would we save from not building the pavilion now?           | The removal of the Pavilion Building (including link bridges) will save approximately <b>\$60 million</b> .<br>When added to the other cost savings initiatives outlined in Option 1 (\$40 million), this results in a total cost saving of <b>\$100 million</b> .  |
| Q2. What are the knock on effects?                                       | There are currently two separate link bridges designed (one staff/patient bridge and one public) that transverse through the Pavilion and connect the Inpatient and Outpatient Buildings.   |
| Q3. Can I please get more for a rationale as to why we need two bridges? | The staff/patient link bridge enables the easy transfer of staff and inpatients that may require services provided within the Outpatient Building e.g. endoscopy services, without the need to provide an ambulance transfer.<br>The public bridge allows for similar movement of visitors but separates these flows, which is a best practice approach, and supports the long-term masterplan to connect to future developments on the campus link e.g. the Interprofessional Learning Centre.<br>The most critical of these bridges is the staff/patient link bridge, which could be retained but would erode <b>\$11 million</b> each from the \$60 million saving identified. |

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2. The table below outlines the summary of the cost savings for the various options and the pros and cons of each option.

| Option  | Pros / Cons   | Total Cost Saving |
|---|---|-------------------|
| Option 1 plus removal of the Pavilion and both link bridges                                   | <p><b>Pros</b></p> <p>Maximises cost savings.</p> <p>Provides a simple future expansion strategy for the project and enables the opportunity for additional scope to be added in the future as it preserves a large development footprint.</p> <p><b>Cons</b></p> <p>Loss of connectivity for the transfer of inpatient to services within the Outpatient Building such as endoscopy, fracture clinics, ophthalmology, and ENT services. While operational workarounds can be developed, it would result in operational inefficiencies and patient transport challenges between the two facilities.</p> | \$100 million     |
| Option 1 plus removal of Pavilion but retaining two bridges                                   | <p><b>Pros</b></p> <p>Enables the transfer of patients, staff and visitors with separates flows in accordance with the current design.</p> <p>Supports longer term site master plan development – bridge links intended to connect the public through to the ILC and other future developments.</p> <p><b>Cons</b></p> <p>Smaller and more complicated future development zone (comparative to the single or no link bridge option) as any future development in this zone would need build in between two link bridges</p>   | \$78 million      |
| Option 1 plus removal of Pavilion but retaining one link bridge (i.e. the patient/staff link) | <p><b>Pros</b></p> <p>Resolves the critical connectivity issue (i.e., patient/staff flow and logistics) across State Highway 88 (St Andrew St)</p> <p>Preserves development zone which can be built around link bridge.</p> <p>Maintains the resilience of having two independent loading docks serving the NDH.</p> <p>Maintains the ability to run a pneumatic tube for pathology services between Inpatients and Outpatients Buildings (otherwise an alternate solution such as a tunnel will be required).</p>  | \$89 million      |

s 9(2)(b)(ii)

s 9(2)(b)(ii)

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# Briefing

## New Dunedin Hospital (NDH) Cost Escalation

|                        |   |                              |            |
|------------------------|---|------------------------------|------------|
| <b>Date due to MO:</b> | 11/02/2022  | <b>Action required by:</b>   | 18/02/2022 |
| <b>Security level:</b> | IN CONFIDENCE   | <b>Health Report number:</b> | 20220041   |
| <b>To:</b>             | Hon Grant Robertson, Minister of Finance<br>Hon Andrew Little, Minister of Health |                              |            |

### Contact for telephone discussion

| Name                    | Position  | Telephone |
|-------------------------|---|-----------|
| <b>John Hazeldine</b>   | Acting Deputy Director-General,<br>Infrastructure | s 9(2)(a) |
| <b>Richard Blattman</b> | Acting Director, Delivery, Infrastructure         |           |

### Minister's office to complete:

- |   |                                    |  |
|---|------------------------------------|--|
| <input type="checkbox"/> Approved             | <input type="checkbox"/> Decline   | <input type="checkbox"/> Noted               |
| <input type="checkbox"/> Needs change         | <input type="checkbox"/> Seen      | <input type="checkbox"/> Overtaken by events |
| <input type="checkbox"/> See Minister's Notes | <input type="checkbox"/> Withdrawn |  |

Comment:

# New Dunedin Hospital (NDH) Cost Escalation

**Security level:** IN CONFIDENCE      **Date:** 11/02/2022

**To:** Hon Grant Robertson, Minister of Finance  
 Hon Andrew Little, Minister of Health

## Purpose of report

1. The purpose of this report is to inform you of a \$200 million cost escalation for the New Dunedin Hospital (NDH) and seek endorsement on the recommended response to manage the cost escalation risk.

## Summary

2. The budget for NDH is \$1.47 billion, which includes a contingency of s 9(2)(b)(ii)
3. We forecast cost increases for NDH of up to \$200 million (on top of the \$1.47 billion already allocated and maintaining the current project contingency of s 9(2)(b)(ii))
4. These increases have occurred as over the past 12 months there has been heightened levels of construction cost volatility within New Zealand due to increased domestic demand, global market disruptions, commodity price increases and labour shortages (HR20220071, refers).
5. We have explored value management responses that could reduce the cost escalation, but it will not eliminate the cost increase altogether. This value management will not impact the delivery of the Outpatient building. The responses considered are shown in the table below:

**Table 1: Value management responses considered to reduce the cost escalation**

| Response   | Cost reduction to project \$m | Additional funding required \$m |
|--|-------------------------------|---------------------------------|
| <b>Response 1:</b> Minor value management which has minimal impact to clinical service delivery  | 50                            | 150                             |
| <b>Response 2:</b> Response 1 plus removal of the Pavilion building and associated link bridges, facilitated through scope reductions and repurposing of areas within the Inpatient building (delay of Inpatient Building <3 months) | 100                           | 100                             |
| <b>Response 3:</b> Significant reduction in clinical scope requiring the Clinical Service Plan to be re-developed and re-undertaking Concept and Preliminary Design of the Inpatient building (major delay >12 months)               | 150 – 200                     | 0 - 50                          |

6. We recommend Response 2, because:
  - a. it does not delay the delivery of the Outpatient building
  - b. provides a significant capital saving without substantially reducing core clinical scope
  - c. avoids a major re-design of the Inpatient building
  - d. preserves a rational future expansion strategy.
7. All responses require funding. § 9(2)(b)(ii)

## Recommendations

We recommend you:

|  | <b>Minister<br/>of Health</b> | <b>Minister<br/>of Finance</b> |
|--|-------------------------------|--------------------------------|
| a) <b>Endorse</b> the implementation of Response 2 (\$100 million value management), which will address 50 per cent of the projected \$200 million cost overrun and therefore will require additional funding of \$100 million by FY23/24 to enable a Main Works Contract to be entered into for the Inpatient building. | <b>Yes / No</b>               | <b>Yes / No</b>                |

John Hazeldine  
Acting Deputy Director-General  
**Infrastructure**  
Date:

Hon Andrew Little  
**Minister of Health**  
Date:

Hon Grant Robertson  
**Minister of Finance**  
Date:

# New Dunedin Hospital (NDH) Cost Escalation

## Background

1. The approved budget for New Dunedin Hospital (NDH) is \$1.47 billion, which includes a contingency of s 9(2)(b)(ii)
2. Over the past 12 months there has been heightened levels of construction cost volatility within New Zealand due to increased domestic demand, global market disruptions, commodity price increases and labour shortages (HR20220071, refers). This will impact the NDH project.

## Market cost escalation

3. In September 2021, the Health Infrastructure Unit (HIU) engaged the services of consultancy Rider Levett Bucknall Quantity Surveyors (RLB) to re-calculate forecast estimates of escalation. This was done based on the latest construction and supplier market data. These escalation estimates were applied to the health capital portfolio to determine the extent of cost escalation risk (HR20220071, refers).
4. In October 2021, RLB presented to the NDH Executive Steering Group (ESG) a forecast escalation risk range of \$60 - \$120 million.

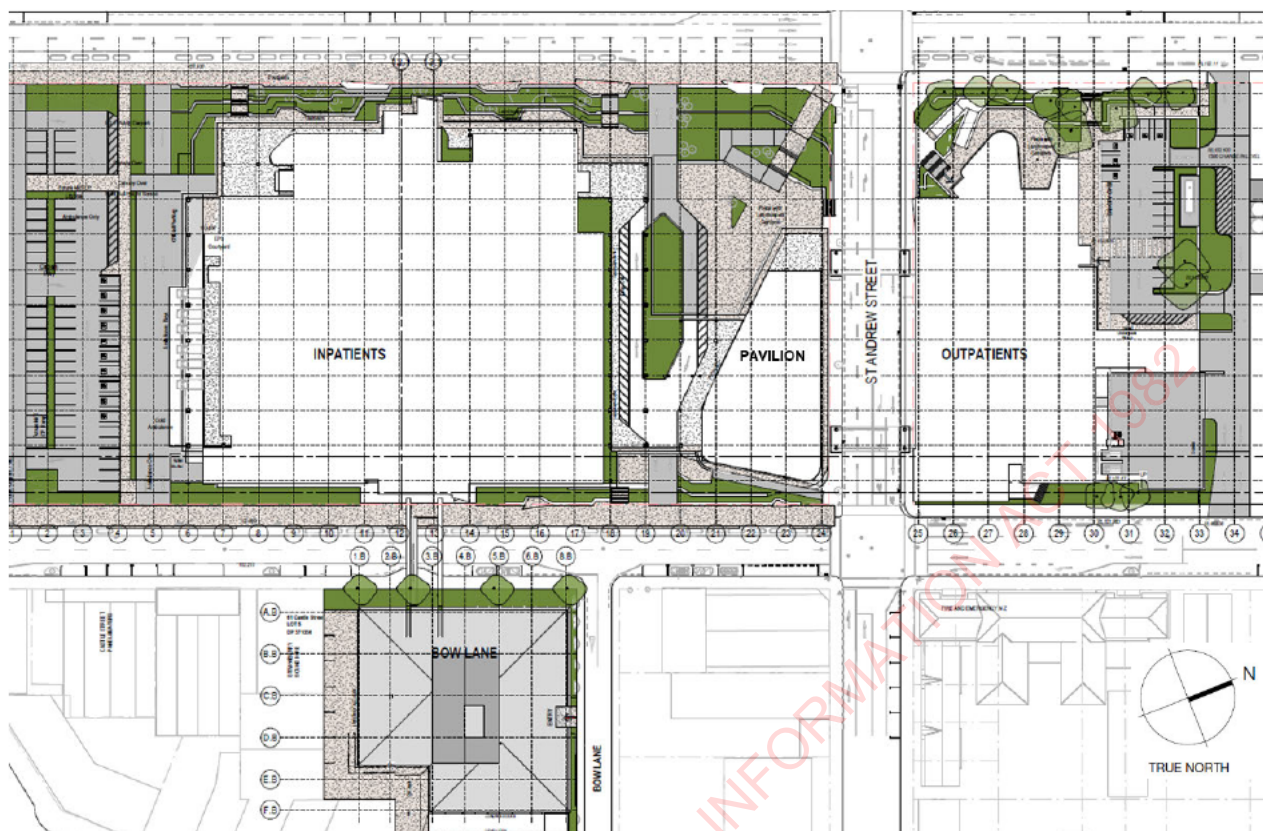
5. s 9(2)(b)(ii)  
While some of the cost risk can be attributed to design-related matters, the vast majority is due to broader market cost escalation.

## Site context

6. The NDH project can be viewed as a connected network of four individual buildings (shown in figure 1 below), comprising:
  - a. Outpatient building – ambulatory and day surgical services
  - b. Inpatient building – acute and clinical support services
  - c. Pavilion building – collaborative staff workspace and operational services, as well as supporting the link bridges between the Inpatient and Outpatient buildings
  - d. Bow Lane (Logistics building) – back of house services.
7. The Interprofessional Learning Centre (ILC) is a tripartite initiative between Southern District Health Board (SDHB), University of Otago and the Otago Polytechnic. It is currently under business case development and being planned as a separate building to the north of the Outpatient building.



Figure 1: NDH Site Plan



### Value management response analysis

- 8. In November 2021, the ESG was presented with a range of strategic options to address the cost escalation risk with respect to scope and procurement of both the Outpatient and Inpatient buildings.
- 9. The ESG endorsed the recommended option to:
  - a. proceed with the Outpatient building as currently scoped and designed to ensure that urgent clinical capacity is delivered on schedule
  - b. undertake a targeted review of the scope and design of the remaining buildings with the intent to reduce building area and associated cost.
- 10. Following this endorsement, we undertook a four-week intensive review and development of value management responses. We concluded that:
  - a. To remain within the initial budget, large 'strategic' moves are required to significantly reduce the gross floor area of the project. Incrementally reducing scope across clinical departments would not provide material cost savings as re-design work and delays would erode these savings.
  - b. Reducing scope by up to \$150 - \$200 million, to remain within the existing budget, cannot be achieved without substantially reducing the clinical scope of the Inpatient building and triggering a full re-design. This would require a re-assessment of the Clinical Services Plan for the facility with consideration of any change in role delineation for services that would/would not be provided at Dunedin. This exercise,



along with re-undertaking the Concept Design and Preliminary Design of the facility, would likely take 12 to 18 months.

- c. There are options available to reduce costs without significant reductions in clinical scope. To achieve the upper end of these savings will require operational value management and compromises, through the dislocation of the Inpatient and Outpatient buildings.
- d. Depending on the extent of value management undertaken, the balance of the cost overrun would need to be accommodated through additional funding (potentially offset through contingency reallocation) and provided for by future Budgets to enable a Main Works contract to be entered into for the Inpatient building.

### Response 1 - \$50 million Value Management

- 11. This response would reduce the capital cost by \$50 million without a major compromise on clinical service delivery or operational efficiencies. This would reduce the cost escalation from \$200 million to \$150 million.
- 12. The table below shows how cost reduction will be achieved:

Table 2: Response 1 (50 million Value Management)

| Components  | Description   | Implementation considerations   | Estimated Savings \$m |
|---|---|---|-----------------------|
| 1) Third party financing of the Interprofessional Learning Centre (ILC)               | \$17 million of crown funding is currently budgeted as a capital contribution to the ILC, which was approved by Cabinet subject to approval of a single stage business case<br>The business case (in draft) recommends that the ILC parties directly fund the capital<br>Otago University has indicated that it may fund the additional DHB \$17 million capital if they secure ownership of the ILC land | Requires input from Health NZ Transition Unit on leasing arrangements<br>Requires University agreement to fund the balance of capital | 17                    |
| 2) Façade value engineering   | s 9(2)(b)(ii) [REDACTED] and there are opportunities to reduce cost through value engineering   | Minimal impact on project   | 15                    |
| 3) Reduction in major medical equipment (MME) budget by 10% (currently \$100 million) | Reduction in MME budgeted through: <ul style="list-style-type: none"> <li>• conversion of second hybrid to standard operating room</li> <li>• staging of radiology</li> <li>• ensuring the transfer regime is applied</li> </ul>  | Needs to ensure MME reduction aligns with operational staging of clinical services  | 10                    |

| Components  | Description  | Implementation considerations   | Estimated Savings \$m |
|---|--|---|-----------------------|
| 4) Shelling or removal of the Mental Health Services of Older People Inpatient Unit (IPU) | This service is currently provided in the community, and this model of service delivery can be continued, resulting in a vacated IPU which can be shelled or removed | Shelling allows for easy future expansion, while removal will be more costly to build in the future | 8 - 12                |
| <b>Total</b>  |  |   | <b>~50</b>            |

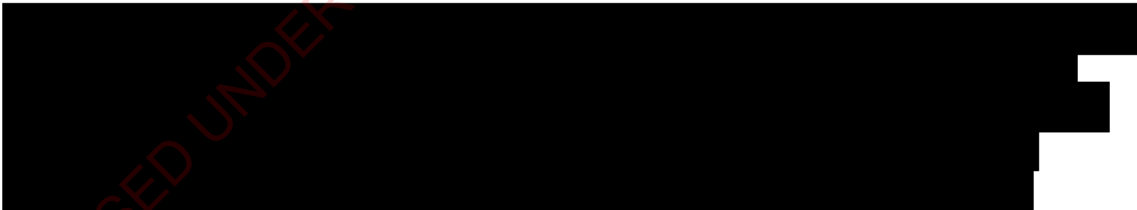
## Response 2- \$100 million Value Management

13. Response 2 reduces the capital cost by approximately \$100 million. This would reduce the cost escalation from \$200 million to \$100 million.
14. This response would incorporate components 1 – 3 of Response 1. The major component of this option is the removal of the Pavilion building (\$60 - 70 million).
15. The table below shows how cost reduction will be achieved:

Table 3 Response 2 (\$100 million Value Management)

| Components   | Description   | Implementation considerations          | Estimated Savings \$m |
|--|---|--|-----------------------|
| Item 1 – 3 of the \$50 million Value Management  |   |  | 42                    |
| Removal of Pavilion building & link bridges between Inpatient and Outpatient buildings | Incorporation of the Pavilion building components into the Inpatient building, enabled through the reduction of clinical and non-clinical areas | The considerations are discussed below | 60 - 70               |
| <b>Total</b>   |   |  | <b>~100</b>           |

16. The Pavilion building can be removed (while preserving the space for future expansion in line with the Master Plan) through incorporation of its components within the Inpatient building by undertaking the following:
  - a. delivering the Mental Health Services of Older People IPU service in the community (as per response 1 item 4), and the space backfilled with staff workspace from the Pavilion building
  - b. pathology is relocated to the Logistics building (which is a lower cost structure) and vacated space re-purposed
  - c. reduction in engineering and select clinical areas, backfilled within staff workspace, which can be converted back to clinical spaces in the future when required.

17. The benefits of this option include:
- no delays to the delivery of the Outpatient building
  - provides a significant capital saving without substantially reducing core clinical scope
  - avoids major re-design delays as it doesn't materially alter the form of the Inpatient building and has fewer consenting risks than Response 3 (discussed below)
  - provides a rational future expansion strategy for the project and enables the opportunity for additional scope to be added in the future (e.g., cancer services) as it preserves a large development footprint and ability for the building to be built higher.
18. The major consequence of this response is the removal of the link bridges that connect the Inpatient and Outpatient buildings. This loss of connectivity would present a considerable operational challenge to Southern District Health Board (SDHB), as it enables the movement of staff, inpatients, and visitors for services within the Outpatient building. This includes endoscopy, fracture clinics, ophthalmology, and ENT services. While operational workarounds can be developed, it would result in operational inefficiencies and patient transport challenges between the two facilities.
19. These concerns were raised by SDHB at the ESG held 17 December 2021 and this option was not supported by SDHB unless the connectivity issues could be resolved or guarantees provided on the reasonable timing for the delivery of the Pavilion building.
20. The Outpatient building (due to be commissioned in 2025) is designed to operate independently as the Inpatient building will not be commissioned until 2028. There are also similar precedents of this independent model of service delivery occurring in New Zealand, including the Christchurch Outpatients building and Greenlane Hospital.
21. The Pavilion building façade design also includes the incorporation of te ao Māori concepts, notably the interpretation of the korowai, which would need to be considered as part of the Inpatient building façade design if the Pavilion building is removed.
22. 

### **Resolving connectivity concerns of Pavilion staging**

23. To resolve the connectivity issues, we have identified some sub-options. These sub-options require further design analysis and consultation with SDHB pending the outcome of this brief. These are shown in the table below:

Table 4: Response 2 (\$100 million Value Management) - sub-options to resolve connectivity issues

| Response  | Considerations   | Recommendation  |
|---|--|---|
| <p><b>Option 2.1</b></p>  |  |   |
| <p>Base Case i.e., removal of the Pavilion building and link bridges between the Inpatient and Outpatient buildings</p>   |  |   |
| <p><b>Option 2.2</b><br/>Move Inpatient building north and reinstate link bridges</p>   | <p><b>Pros</b><br/>Resolves connectivity and reduces length of link bridges</p> <p><b>Cons</b><br/>Eliminates future development zone where Pavilion was located<br/>Future expansion will be to the south which is not desirable as connectivity into Inpatient building on southern side is poor<br/>Loss of civic landscape located on the north west of the site, any adverse visual effects will be required to be addressed as part of consenting<br/>A redesign of the Logistics building will be required as the current connection to Inpatients building relies on immediate adjacency</p> | <p>Not recommended</p>  |
| <p><b>Option 2.3</b><br/>Construct 'clinical' link bridge</p>   | <p><b>Pros</b><br/>Resolves the critical connectivity issue (i.e., patient/staff flow)<br/>Preserves development zone which can be built around link bridge</p> <p><b>Cons</b><br/>s 9(2)(b)(ii)</p> <p>Reduces cost savings outlined in previous table</p>  | <p>Can be implemented<br/>s 9(2)(b)(ii)</p>   |
| <p><b>Option 2.4</b><br/>Inpatient building is shifted south (by 12m) and Outpatient building is moved onto Cadbury site<br/><br/>(Included as option for consideration upon request by SDHB)</p> | <p><b>Pros</b><br/>Optimises connectivity between Inpatient and Outpatient buildings<br/>Increased cost efficiencies through sharing of engineering services</p> <p><b>Cons</b><br/>Substantially delays Outpatient building construction by up to 12 months as redesign will be required as well as consenting delays<br/>Loss of civic landscape currently located on the north west of the site<br/>Re-purposing/re-masterplanning of Wilson site required as well as limiting any expansion on Cadbury site</p>  | <p>Potential solution. However, has significant implications in delivery of Outpatient building and use of the Wilson site.</p> |

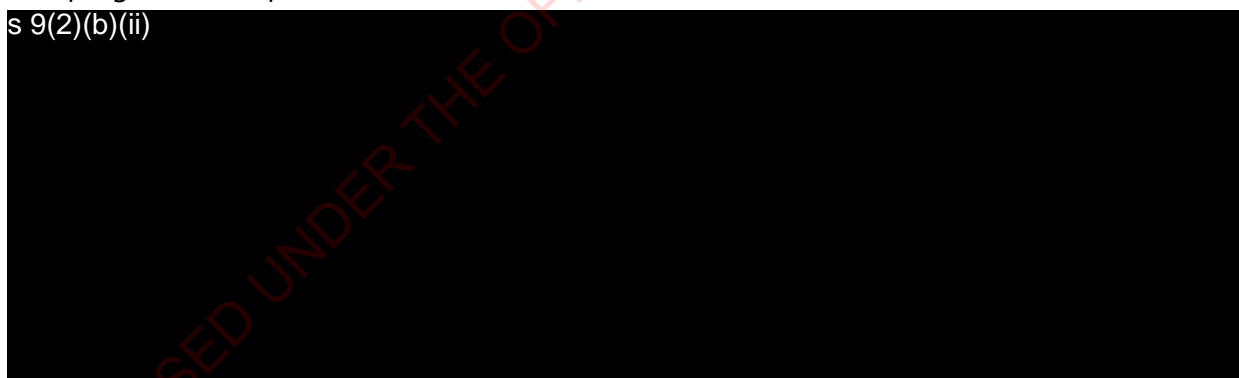
### Response 3 - \$150 - \$200 million Value Management

24. Response 3 reduces the capital cost by approximately \$150 - \$200 million. This would reduce the cost escalation from \$200 million to \$0 - \$50 million.
25. This response would require a considerable reduction in clinical scope and a re-design of the facility. To be considered, it would require the Clinical Services Plan to be reviewed with particular focus on tertiary and specialist services, along with any proposed changes in role delineation of clinical service at Dunedin under Health NZ. That would translate into a revised schedule of accommodation (SoA) that reduces the size of the facility by 5,000m<sup>2</sup> – 10,000m<sup>2</sup> of floor area (in addition to the value management adopted under Response 2).
26. This would be a significant exercise (likely to exceed 12 months). It would necessitate a 'pause' on the Inpatient building design until a revised SoA has been developed. It would then require a process of re-undertaking the Concept and Preliminary Design of the facility.
27. The delay of the construction commencement date would also expose the Inpatient building to further cost escalation if current market pressures are sustained. The Outpatient building, however, can progress unaffected while this exercise is being undertaken.

### Timing implications

28. The Outpatient building is in its final design stage (Detailed Design) and the Inpatient building is at one stage prior to this (Developed Design). The longer the time taken to confirm a preferred level of value management, the greater the cost implications for the programme. In particular:

s 9(2)(b)(ii)



### Consultation: Treasury, SDHB, ESG

29. The Treasury has reviewed and provided input into this report. The SDHB, including the Board Chair, has been consulted through their role on the ESG and does not support a material reduction in scope as outlined in the Preferred Response.
30. The ESG as endorsed the progression of Response 2 for consideration by Ministers, but does not have a position on the preferred value management option, noting that this is a matter for Ministers with consideration of impacts to the Health Capital Envelope.

## Timing implications

31. The proposed next steps are:
- a. further design development of the preferred value management response (Response 2 - \$100 million Value Management) and endorsement through the ESG
  - b. development of key messages for stakeholder engagement for Ministerial endorsement
  - c. consultation with the departmental User Groups impacted by the design change
  - d. ongoing monitoring and reporting of the cost escalation risk for NDH.

ENDS.

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