

Final Business Case Evaluation Summary

Griffith Base Hospital Redevelopment



July 2022

About this report

This document summarises the final business case (FBC) for the Griffith Base Hospital Redevelopment (the project).

The project is part of the progressive renewal of regional health assets across the State, in support of the NSW Rural Health Plan: Towards 2021.

Griffith Base Hospital (GrBH) is the second largest hospital within the Murrumbidgee Local Health District (MLHD). This project will:

- expand clinical service capacity to address an increase in service needs, driven by an ageing population and high rates of preventable hospitalisation in the catchment area
- enable the consolidation of up to 30 ageing and distributed buildings, into integrated and contemporary facilities. The current building configuration restricts the implementation of new models of care and innovation, as well as the expansion to services, with the site constrained by the existing fragmented design.

The FBC was developed by NSW Health Infrastructure (HI) for the Ministry of Health (MoH) and approved by the NSW Government. This Business Case Evaluation Summary has been prepared by Infrastructure NSW, the Government's independent infrastructure advisory agency.

Strategic context

The project is aligned with NSW Government strategies and objectives that aim to deliver improved health outcomes for regional NSW, including:

- improving ambulatory/outpatient care and reducing unplanned presentations, avoidable admissions and re-admissions, which is a priority for the MLHD
- new service models focused on patient-centred care, reducing avoidable hospital admissions, and keeping people well, aligning with the NSW State Health Plan: Towards 2021 and NSW Rural Health Plan: Towards 2021
- supporting the attraction and retention of staff in a regional area as well as a technology-enabled workplace, aligning with the NSW Rural Health Plan: Towards 2021, NSW Health system: Leading Better Value Care and the NSW Integrated Care Strategy
- improving the perioperative and emergency departments, through new models of care (including a new Emergency Short Stay Unit and model of care changes for day surgery), strategies to improve access to care, efficiencies in service delivery, and reducing hospital waiting times for emergency presentations and planned surgery, aligning to the NSW State Health Plan: Towards 2021.

Project need

There are 3 key drivers of this project: demographic, workforce and ageing assets.

Demographic drivers

Demand for health services at GrBH will increase as a result of the changing and ageing catchment population. This population is characterised by an ageing demographic, a high proportion of Aboriginal and refugee groups, as well as high rates of socioeconomic disadvantage.

Workforce drivers

Workforce recruitment, retention and succession planning of skilled staff are continuing challenges for the MLHD given the remote and rural location of the area. There is currently a heavy reliance on locum and agency staff, which results in inefficiencies across the continuum of care. The facility upgrade could encourage the retention of staff in the MLHD by improving their working environment.

Ageing assets

GrBH, founded in 1922, comprises more than 30 buildings progressively built across the site. These include ageing, distributed and fragmented facilities of various vintages with differing form, structure and clinical suitability. This constrains the GrBH and MLHD's capacity to implement contemporary models of care and optimal patient flows. There is limited capacity for expansion of services in the current ageing, inadequate infrastructure.

Project objectives and design

Objectives

The objectives of the project are to:

- provide additional capacity and improvements for the delivery of ambulatory, acute and aged and rehabilitation care services
- deliver new facilities and buildings which enable the implementation of contemporary models of care
- increased service integration and efficiencies through the co-location of services and departments into a centralised building
- provide asset renewal of existing buildings to address the outdated infrastructure and to improve functionality to support safe, efficient and effective care
- promote service integration – promoting a networked and ‘integrated health campus’, and utilisation of shared services (including with St Vincent’s Private Community Hospital (SVPCH))
- support the hospital to maintain its district ‘hub’ role and support of smaller facilities
- support the wider service network within and outside of MLHD, with improved capability, capacity and self-sufficiency
- improve the experience of patients, carers and staff.

Design

The design creates an integrated hospital campus reflective of contemporary clinical and functional best practice, through a design outcome which reflects a strong sense of place and retains the identity of Griffith.

The key design principles which support the project objectives include:

- consolidating the building form to improve connectivity, efficiencies and integration
- improving wayfinding, legibility, placemaking, flows and security – this includes the creation of a forecourt, meeting place(s), outdoor and cultural zones and a centralised and single point of entry
- developing an integrated health campus by designing for clinical adjacencies which promote a multidisciplinary health service, promoting connections to SVPCH, and considering future expansion and health service connections
- strategic placement on the site to minimise service disruption
- improving access for enhanced safety, accessibility, security and efficiency through refining pedestrian, public vehicle, logistic movement and emergency vehicle access, flows and separation
- formulating an architectural form (including siting, massing and street frontage) that is considerate of the surrounding urban and natural environment, scale and urban design.

Options identification and assessment

The initial master-planning undertaken in 2018 for the Clinical Service Plan resulted in a budget cost of approximately \$290 million. An investment decision template (IDT) was completed in November 2018 and endorsed in January 2019, with an associated funding envelope of \$250 million.

An options development process based on a multi-criteria analysis was undertaken to develop several shortlisted options and configure a preferred option, in alignment with the nominated budget.

Consultation on the options occurred through a series of workshops with an executive user group (EUG), representing GrBH and MLHD. These shortlisted options are as follows:

Option 1

- Delivers the infrastructure requirement through a combination of new build and refurbishment works.
- Under this option, several buildings and departments would not receive any upgrades and some services would remain off-site.
- This option involves an extended construction program to undertake remaining demolition, remediation and landscaping.

Option 2

- Option 2 adds to Option 1 with additional build upgrades for pharmacy and pathology services alongside refurbishment work to medical records and administration buildings. The provision of a new magnetic resonance imaging (MRI) machine would be out of scope for this project option.

Option 4

- This option involves complete replacement of the existing infrastructure with construction on vacant land located to the southern end of the campus (opposite end to SVPCH).
- Due to its location, this option does not enable a strong physical link with SVPCH. Additionally, the sharing of services would be logistically difficult, and the identity of GrBH as an integrated health campus would not be achieved.
- This option has the shortest construction program and the least impact on business continuity.

Option 4.1

- This option involves complete replacement of existing infrastructure with new buildings to be constructed adjacent to SVPCH. An enclosed walkway will improve staff, patient and goods movement between the 2 facilities and enable the current and future collaboration for shared services with SVPCH.
- Under this option, the Ambulatory Care Hub delivered under the early and enabling works will be repurposed to provide on-site accommodation for the Community Health Service to support service integration.

Economic evaluation

A cost-benefit analysis was undertaken as part of the final business case. This economic evaluation included an analysis of the economic, social and environmental impacts of the project.

Benefits

Health benefits – inpatient services and emergency care

A key objective of the expansion is to improve the health outcomes of patients who otherwise would not receive treatment due to capacity constraints at the existing facilities. Improvements in patient health arising from enhanced inpatient and emergency care will increase access to health services through reduced waiting times.

Patients receiving treatment in the expanded inpatient service will experience less disease burden (including pain and suffering), compared with the experience of travelling potentially long distances to receive treatment as a non-admitted patient.

The emergency department is already at capacity and thus expansions will reduce the risk of overcrowding and patient mortality.

Benefits arising from expanded non-admitted patient services

There are 2 key benefits arising from the expansion of ambulatory care services and increased integrated care:

- Avoided operating costs are estimated by taking the difference between the average cost per inpatient admission and the average cost per non-admitted (outpatient) treatment.
- Avoided capital costs are the deferred or avoided capital costs of providing additional bed days in the future to meet the projected demand for services.

Avoided travel time and costs

Avoided travel time and costs will result from improved accessibility for patients and their carers/families who would have otherwise travelled to other hospitals.

Residual value

The new and refurbished buildings are assumed to have an economic life beyond the 20-year analysis period. The economic benefit is represented by the depreciated value of the new and refurbished buildings at the end of the assessment period.

Non-quantified benefits

Qualitative benefits include:

- greater overall integration of service efficiencies will improve the patient experience
- improved amenity for patients and staff
- timely access will improve the performance of the emergency department
- new and more efficient buildings may enhance staff satisfaction, attraction and retention
- increased service delivery via telehealth will improve access to specialist services – the provision of more telehealth services enables greater reach of critical health services for a sustainable healthcare delivery model

- reduced occurrence of work and health safety and security-related incidents, leading to improved patient and staff safety.

Capital cost value of the project

The project's capital costs for Option 4.1 (the preferred option) are 2-staged: \$35 million for Stage 1 works, and \$215 million for Stage 2 works. A combined \$250 million has been allocated to the project development, with capital expenditure calculations in full accordance with the *Health Infrastructure Cost Planning Standards for Infrastructure Projects over \$10 million*.

An investment development template (IDT) was endorsed in January 2019, providing for the \$250 million funding envelope required for the preferred option. This funding is wholly inclusive of contingencies and an escalation of 3.5% per annum, based on benchmarks and recent market intelligence of current and future industry pricing. Escalation is calculated separately for each stage of the project with escalation calculated at the mid-point of construction.

The outcomes of the analysis

The CBA results (presented in Table 3) indicate that all short-listed options would generate positive NPVs and BCRs greater than 1, as required for further consideration. Option 3, not having been shortlisted, is excluded from these results.

Table 3 Cost Benefit Analysis results

Option	Option 1	Option 2	Option 4	Option 4.1
Incremental NPV	101.2	103.7	109.0	147.9
BCR	1.4	1.4	1.4	1.6

Under options 1 and 2, there would be an extended construction program due to the refurbishment works (to existing main services building) and additional recurrent costs due to an inefficient facility layout and resultant disconnection between health services and departments. There would also be higher risks posed to business continuity.

While Option 4 generates the greatest quantifiable benefit, it would be offset by additional costs associated with relocating the Community Mental Health and Drug and Alcohol Service on-site, construction of on-site staff and family accommodation, education/training facilities and CSSD (including staffing increases for CSSD). Option 4 limits future potential sharing of services with SVPCH due to the proposed location of the new building.

The preferred option (4.1) generates the highest net present value (NPV) and benefit cost ratio (BCR). The baseline figures presented in Table 4 are derived from NSW Treasury guidelines: 20-year projection period and a discount rate (i.e., estimated average cost of capital) set at 7% per annum.

TABLE 4 SUMMARY OF SENSITIVITY ANALYSIS RESULTS

	Option 1		Option 2		Option 4		Option 4.1	
	NPV	BCR	NPV	BCR	NPV	BCR	NPV	BCR
Baseline	101.2	1.43	103.7	1.44	109.0	1.38	147.9	1.61
Sensitivity 1: Discount Rates								
• 3%	433.7	2.37	438.5	2.40	481.4	2.33	519.3	2.67
• 10%	-7.0	0.96	-5.6	0.97	-16.7	0.93	21.8	1.11
Sensitivity 2: Capital Costs								
• -20%	114.6	1.55	117.0	1.56	130.8	1.52	164.2	1.77
• +20%	60.3	1.23	62.9	1.24	59.8	1.19	104.2	1.38
Sensitivity 3: Operating Costs								
• -20%	101.7	1.46	104.5	1.47	110.3	1.41	148.0	1.65
• +20%	73.2	1.29	75.4	1.30	80.3	1.27	120.4	1.47
Sensitivity 4: dis-benefit of acute inpatient factor								
• -5% (0 – 5 %)	23.7	1.10	26.2	1.11	31.5	1.11	70.4	1.29
• +5% (10 – 15%)	151.2	1.64	153.7	1.65	159.1	1.55	197.9	1.82
Combined Sensitivities:								
• Worst Case Scenario	-5.5	0.98	-4.2	0.98	-24.7	0.92	20.5	1.08

SOURCE: ACIL ALLEN CONSULTING

The highest net present value (NPV) and BCR figures are generated through Option 4.1, ensuring an effective return on investment for the NSW community, even under severe financial and/or

economic stress scenarios modelled in accordance with NSW Treasury guidelines, as illustrated in Table 4. The build scope for Option 4.1 is outlined in Table 5.

Table 5 Build scope of the preferred option (4.1)

Service/Department	Nett Functional Area (m ²)	Circulation (m ²)	Gross Dept Area Total (m ²)
Ambulatory Care Wellness Centre <i>Includes:</i> <ul style="list-style-type: none"> • Specialist Outpatient Clinics; • Day Medical/HITH; • Oncology; • Renal Dialysis 	1422.9	471.2	1894
Rehabilitation and Allied Health (Ambulatory Care/day)	303.5	97.1	401
IPU – Rehabilitation and Aged Care	806.9	290.7	1098
ED and Emergency Short Stay Unit (ESSU)	861.0	295.5	1157
Medical Imaging (Includes: MRI – ‘warm shell’ 101 m ²)	874.6	300.4	1175
Perioperative	876.5	326.8	1203
Intensive Care (ICU)	397.1	132.4	529
Maternity and Birthing	665.0	222.0	887
Pharmacy	169.8	42.5	212
Pathology	376.0	94.0	470
IPU – Medical and Surgical	1487.1	481.6	1969
Paediatrics and Special Care Nursery (SCN)	592.5	184	776.5
Mortuary	59	11.8	71
Asset Management	334.2	33.4	368
Medical Records	220	33	253
Administration / Office Accommodation - Cluster A (Executive) Cluster B (Clinical & Allied Health)	516.7	129.2	646
Front of House	447.4	97.2	545
Back of House / Non-Clinical Support (Includes 143 m ² external caged areas/secure covered waste storage)	725.9	72.9	799
TOTAL			14453**
** Figure includes shell and external areas.			
Refurbishment Scope			
Community Health (CH) Re-use of the Ambulatory Care Hub* with refurbishment allocation of 200 sqm. (* Refer to table below for Ambulatory Care Hub details)		TOTAL	200

Note: T&E for the Main building 28% and other buildings 23%.

It is therefore highly recommended, on the basis of the above economic analysis, that Option 4.1 be chosen for the project.

Deliverability

Procurement

The early works package was undertaken under a GC21 construction management contract.

An options analysis was undertaken to determine the most appropriate procurement strategy for the main works package. Following this process, the project team (comprising Health Infrastructure, MLHD and the consultants who contributed to the final business case) has recommended a GC21 design finalisation and construct (DF&C) contract based on:

- the ability to commence the initial site works while completing the design and procurement of trades
- the ability to allocate a single point of responsibility for finalising the design and delivering the project
- the opportunity to develop efficiencies in the design, which would generate competitive pricing and design innovation during the tender phase.

The scope of the DF&C contract will include:

- design finalisation of each component of the project scope
- construction of the works in accordance with the contract
- commissioning and handover
- demolition of remaining redundant buildings
- external works including carparking and landscaping.

Key risks and mitigation

A risk management process has involved EUG risk workshops held in consultation with key HI, MLHD and GrBH stakeholders.

This process was undertaken to:

- categorise the clinical and non-clinical risks
- evaluate the impacts of identified risks
- identify mitigation strategies for each risk.

Key risks associated with the redevelopment have been identified under the categories of:

- communications and engagement
- design scope and specification
- planning, procurement and delivery
- finance, legal and budget
- change management
- hospital operations and business continuity
- commissioning and asset management.

Risk mitigation strategies include continuous stakeholder engagement to manage community expectations, the development of a workforce strategy, and clear articulation of the staging process in relation to day-to-day business operations.

The project team, in consultation with GrBH and MLHD, has developed a risk management plan to provide a framework for the identification, mitigation and management of risks associated with the project. This approach is underpinned by the *HI Risk Management Framework*.

A master risk register will serve as an ongoing database of identified risks and their mitigations on the project.

The risk management plan and the master risk register are live documents that will be reviewed at key phases of the project (i.e., during design development, prior to procurement, the initiation of construction following contractor engagement, and at key points through construction and commissioning).

The Infrastructure NSW view

Infrastructure NSW completed a review of this final business case.

Infrastructure NSW found that the final business case demonstrates that the project is being effectively developed and delivered in accordance with the Government's objectives.

While technically a 'brownfield' development, the project is realising a greenfield outcome with 34 ageing buildings being consolidated into 6 new and fit-for-purpose buildings, maximising the co-location benefits associated with being physically linked to St Vincent's Private Community Hospital.

Infrastructure NSW has found that the need for investment is well articulated through evidence-based scientific studies and demonstrated alignment with Government policies. The options have been well considered and the preferred option is an appropriate response to the service need.