

Trust Board Capital Business Case Briefing Paper	
Reference Number:	TB151/12/F
Date of Meeting:	22 nd June 2023
Presenting Director:	Kevin McMahon, Director of Surgical and Clinical Services
Subject:	Main CT Replacement Causeway Hospital 2022-23
Purpose: Approval/Noting	To provide an update to the summary of the Capital Business Case that has previously received Trust Board Approval
Background:	This proposed imaging investment has been prioritised by The Capital Equipment Sub Group of the Regional Medical Imaging Board from a list of imaging proposals submitted against the available capital funding. This proposed investment will form part of the total approved CRL allocation for 2022/23 which is currently £21,050,341 for the region. The Department of Health has asked that business cases are ready and in a position whereby funding can be allocated and used promptly. This proposal aims to replace the aging CT equipment in Causeway Hospital with modern fit for purpose low dose scanners to maintain existing services – including the Emergency Department on Causeway Hospital, enhance the CT specification to accommodate cardiology patients in response to current NICE guidelines (CG95). A secondary component of the preferred `option is to reposition the existing CT scanner from Causeway to Mid-Ulster Hospital to refresh the CT scanner on that hospital site. This component of the project will be taken forward at a later date if an increase in recurrent revenue to support increased maintenance costs is identified (£18k per annum). The project includes costs for enabling works to upgrade each site and the costs of repositioning the older scanner to Mid-Ulster Hospital.
Benefits:	This proposal will: Maintain existing services in Causeway Hospital including 24/7 ED access to CT. Upgrade and modernise existing scanner in Causeway Hospital.



	If possible at a later date, modernise the 14 year old the Mid-Ulster CT scanner by replacing it. Work towards the National Diagnostic Reference Levels formally adopted by the Department of Health establish to improve radiation protection practice for patients. Support provision of a sustainable and resilient CT service across the NHSCT geographical area for the full range of NHSCT referrals. Support provision of examinations of an appropriate quality to satisfy modern NICE guidelines, at doses which are As Low As Reasonably Achievable (in particular for Paediatric patients). Provide a safe imaging service to patients and staff. Deliver Cardiac CT scanning to a high specification as required by CG95.				
Total Capital Costs:		Option 1	Option 2	Option 3	Option 4
	Net Costs (capex and opex)	£422,526	£1,094,416	£1,244,078	£1,435,127
	Benefits (monetary and non-monetary Scores)	380	560	660	680
	Risks	H	LM	LM	MH
	Conclusion**	4	1	2	3
	Capital cost of preferred option is £804k.				
Affordability:	The capital costs of Option 2, £804k, will be funded from the ring-fenced 'Imaging Diagnostics' Capital Allocation for 2022/23. Revenue costs required for the second part of Option 3 are a one-off cost of £28,321 for scanner transfer and installation in MUH, and a recurrent £18k per annum for maintenance costs. This component of the project will be pursued if the recurrent funding becomes available at a later date. Estimates of enabling costs for this option are currently an estimate, but have been largely overestimated and based on the cost of similar projects.				
Risks:	High capital cost – this risk is mitigated as low risk – capital funding has been provided by the Department of Health.				



	Disruption to Imaging services within the Radiology Department during equipment replacement timescale – this low risk as there is some potential for disruption to services. The new CT scanner must be ‘low dose’ scanners with modern technology. This risk will be mitigated through an effective specification and procurement process. Procurement of scanners and completion of project must take place within financial year 2022/23. This risk will be mitigated through the timely allocation of funding and effective procurement process.
Conclusion:	The preferred option is option 3 as it fully addresses the objectives of the proposal. Option 3 can provide mitigation for the existing constraints and presents manageable risks to the successful conclusion of the project. Option 3 provides the greatest non-monetary benefits for patients. However, the recurrent revenue required for the increased annual maintenance costs in Mid Ulster are not currently available. <u>As such, Option 2 becomes the Option of choice.</u> Option 2 allows completion of part 1 of Option 3, which is the replacement of the CAU CT scanner. Should the required recurrent revenue of £18k become available, then part 2 of Option 3, the Mid Ulster component, will be completed. This briefing papers seeks Trust Board approval to proceed.

Addendum to briefing paper (as at 25 August 2022)

On commencement of the project, following a planning meeting with NHSCT Estates, contracted design team, and equipment provider, further details surrounding the required enabling works for the scanner were discussed. Items discussed included:

- New anti-slip flooring, resin base below the scanner, ceiling, lighting and decoration etc will be required. New recessed floor ducting / cable trays.
- A new dedicated power supply will be required to service the machine.
- The existing cooling system is not connected to the BMS, and therefore does not meet the 'new build' requirements for a COVID environment etc. The room will therefore require a new air handling installation c/w heat recovery and BMS connection. Cost for this component is £54,000 (included in mechanical costs below), but is related to new COVID requirements, rather than CT replacement itself.

Original enabling costs had been estimated at £27,750.
Updated cost of enabling works details are as follows:

- Building - £62,500.00
- Mechanical - £57,500.00
- Electrical - £30,000.00
- Fees (20%) - £30,000.00
- Total - **£180,000.00**

The new Capital costs for each option are as follows:

	Option 1	Option 2	Option 3	Option 4
Net Costs (capex and opex)	£422,526	£1,228,951	£1,378,612	£1,569,661
Benefits (monetary and non-monetary Scores)	380	600	620	680
Cost per benefit score	£1,112	£2,048	£2,224	£2,308
Risks	H	LM	LM	MH
Conclusion**	4	1	2	3

Option 2 remains the option of choice. The additional capital cost of £152,250 will be met through 'slippage' from the



	existing NHSCT Diagnostic Imaging CRL. It is not believed that this will have an impact on other planned capital projects.																				
Second Addendum to briefing paper (previously submitted on 17 October 2022)	Further to receipt of the additional capital allocation following the first addendum listed above, the project design team has continued the in depth work on this project. This in depth work has identified additional costs of £152,000. The cost increase is attributable to the extensive ventilation system that must be installed in order to comply with the current ventilation guidance document (HTM03-01). The scale of the system requires an external plant room to adequately house the equipment. The design has been rigorously reviewed by the design team and the Trusts' ventilation strategy group. Enabling costs allocation currently stands at £180,000. The new Capital costs for each option are as follows: <table><tr><th></th><th>Option 1</th><th>Option 2</th><th>Option 3</th><th>Option 4</th></tr><tr><td>Total capital cost</td><td>£0</td><td>£1,108,250</td><td>£1,136,025</td><td>£1,428,025</td></tr><tr><td>Risks</td><td>H</td><td>LM</td><td>LM</td><td>MH</td></tr><tr><td>Ranking of</td><td>4</td><td>1</td><td>2</td><td>3</td></tr></table>		Option 1	Option 2	Option 3	Option 4	Total capital cost	£0	£1,108,250	£1,136,025	£1,428,025	Risks	H	LM	LM	MH	Ranking of	4	1	2	3
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