

Trust Board Capital Business Case Briefing Paper	
Reference Number:	TB148/12/H
Date of Meeting:	26 th January 2023
Presenting Director:	Kevin McMahon, Director of Surgical and Clinical Services
Subject:	Rapid Diagnosis Centre (RDC) - CT and MRI scanners
Purpose: Approval	To provide a summary of the Capital Business Case for Trust Board Approval
Background:	The Elective Care Framework and the Cancer Strategy both contained an action to develop Rapid Diagnosis Centres (RDC). At the launch of the 10 year Cancer Strategy in March 2022 the Health Minister made a commitment for two Rapid Diagnosis Centres (incorporating a new red flag Vague Symptom Pathway) to be implemented in South Tyrone Hospital in Dungannon and Whiteabbey Hospital in Newtownabbey. These will address action 15 in the Cancer Strategy to develop new pathways and diagnostic services to improve diagnosis. RDCs aim to reduce the time to diagnosis and improve overall patient experience. RDCs provide a diagnostic route for patients with serious and vague symptoms who do not fit into a standard Urgent Suspected Cancer (USC) pathway, because of the absence of clear "red flag" symptoms. Patients who are eligible will attend an RDC, will receive a clinical examination, a CT scan, and any additional blood tests that are required completed at a single attendance. The patient will be contacted with their results later the same day. It is anticipated that CT will be the first line RDC examination, with MRI required for a number of follow-up examinations. It is recognised that, in order to provide the capacity to deliver additional CT and MRI examinations without impacting on existing pathways, new capital equipment is required. The introduction of additional demand in CT and MRI must be seen in the wider context of the regional CT and MRI equipment base. The following table lists current MRI and CT regional demand in both patients and equipment numbers required; current capital equipment in situ; demand for 2029/2030; and the potential gap that will develop if urgent capital requirements are not met.

	MRI	Demand	Scanner equivalent	In Situ	Gap
	2022/23 Demand	134,750	22.46	17	5.5
	2029/30 Demand	222,167	37.03	17	20.0
	CT	Demand	Scanner equivalent	In Situ	Gap
	2022/23 Demand	268,231	33.53	26	7.5
	2029/30 Demand	459,701	57.46	26	31.5
	It is critical to patient safety that this growing gap is addressed as quickly as possible. The delivery of MRI and CT scanners for the RDC is a key element of the effort to address this regional picture.				
Benefits:	This proposal will: • Improve patient experience presenting with vague symptoms by streamlining rapid access to a cancer pathway including CT and MRI; • Each cancer diagnosed through RDC will allow these patients to be treated at an earlier stage. These patients would otherwise have been added to routine or urgent waiting lists, prolonging diagnosis; • Earlier diagnosis will improved treatment options and allow more timely treatment options and will subsequently have an impact on cancer prognosis; • Reduction in multiple attendances at both primary and secondary care, with a lower number of tests being necessary • Improved Regional capacity for CT and MRI capital sessions, which is required to address the existing pressure on Regional CT and MRI services • Future proof Regional CT & MRI services with planning for long term increases in demand Additional opportunity: MRI is increasingly becoming a core diagnostic tool in Emergency and Acute Care. MRI is not currently available on Causeway Hospital Site, and as a result 849 patients required an ambulance transfer from CAU to AAH and back in 21/22. This number will continue to grow as ED/acute demand rises. As MRI is not a 'same day' diagnostic test for RDC patients due to stringent MRI safety requirements, it is possible to place the RDC MRI scanner at Causeway Hospital to address the Emergency/acute issues without impacting the performance of the RDC. MRI access for RDC patients will still be available				

	through either AAH or CAU, whilst also offering greater geographical options for patients. Immediate access to MRI for emergency ED patients in CAU and local same day access to MRI for IP will improve diagnostic turnaround times, length of stay, outcomes, and experience for patients, and significantly reduce the operational pressures within NIAS.																								
Total Capital Costs:	Option 1 is ‘status quo’. Option 2 is placing the CT scanner and the MRI scanner at Whiteabbey Hospital. Option 3 is placing the CT scanner at Whiteabbey Hospital and the MRI scanner at Causeway Hospital. <table><tr><th></th><th>Option 1</th><th>Option 2</th><th>Option 3</th></tr><tr><td>Net Costs (capex and opex) £'000s</td><td>£107,433</td><td>£110,296</td><td>£109,317</td></tr><tr><td>Benefits (monetary and non-monetary Scores)</td><td>100</td><td>630</td><td>850</td></tr><tr><td>Cost per Benefit Score £'000s</td><td>£107</td><td>£175</td><td>£129</td></tr><tr><td>Risks</td><td>n/a</td><td>L</td><td>L</td></tr><tr><td>Conclusion**</td><td>n/a</td><td>2</td><td>1</td></tr></table> Option 2 requires £3,299,195 capital investment (£3,079,195 for equipment and £220,000 for enabling) works, and £240,185 in revenue investment. Option 3 requires £3,951,835 capital investment (£3,079,195 for equipment and £872,640 for enabling), and £247,581 in revenue investment.		Option 1	Option 2	Option 3	Net Costs (capex and opex) £'000s	£107,433	£110,296	£109,317	Benefits (monetary and non-monetary Scores)	100	630	850	Cost per Benefit Score £'000s	£107	£175	£129	Risks	n/a	L	L	Conclusion**	n/a	2	1
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Affordability:	The preferred option is option 3 (CT in WAH, MRI in CAU) as it fully meets the objectives of the proposal. Option 3 provides the greatest non-monetary benefits for patients. However, Option 3 exceeds the funding currently available for this project. <u>Because of insufficient funding Option 2 becomes the option of choice.</u>																								

	The capital funding required is £1,339,195 in 2022/23 and £1,960,000 in 2023/24 £220,000 enabling works funding will be sourced from the NHSCT CRL Capital allocation for 2022/23 using slippage from the NHSCT diagnostics allocation. The balance of funding will come from the Department of Health who have made £3,140,000 available for investment in the RDCs. The cost of Option 3 is £811,835 over the available £3,140,000 funding available from the Department of Health. Commissioner support has been agreed in principle. A letter confirming Commissioner Support for this additional revenue will be included in the BC submission to DoH.
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 is low risk as there is little potential for disruption to services due to preferred locations. Procurement of scanners and completion of project must take place within financial year associated with each allocation. This risk will be mitigated through the timely allocation of funding and effective procurement processes. The following comments regarding revenue funding are pertinent to both options 2 and 3: 1. Staffing and goods and services for Vague Symptom Pathway (VSP) clinics, including CT scans, are already in place through a fully funded recurrent VSP Revenue Business Case investment and provide for 2 sessions per week commencing April 2023. The per annum revenue costs for this are £311,337 (excluding 2022/23 pay award) 2. Staffing and goods and services to utilise MRI sessions on the new scanner are effectively already in place, funded through existing NHSCT MRI SBA. NHSCT will divert an element of this existing revenue funding to operate the new MRI scanner.

	3. Historically, capital allocations for new radiology equipment were accompanied by the associated revenue for increasing activity. In this case, only the capital allocation is being made available by DoH (albeit with revenue for equipment maintenance etc.). The revenue impact associated with the additional capacity created by the procurement of the MRI and CT Scanners has not been quantified in terms of resources required to utilise the equipment or the costs calculated. The additional revenue required will be provided through subsequent service bids. In the short term this could be seen as underutilisation of the equipment, however this unusual approach is required as a result of the sheer scale of capital equipment requirements of Radiology across HSCNI over the next few years.
Conclusion:	The preferred option is Option 3 (CT in WAH and MRI in CAU) as it fully addresses the objectives of the proposal. Option 3 delivers significant additional clinical benefits for NHSCT (access to emergency and acute MRI on site) and revenue benefits for NIAS (transfer of patients from CAU to AAH and back for MRI is no longer required). Option 3 provides the greatest non-monetary benefits for patients. However, the existing capital allocation is insufficient to cover the full costs of Option 3. <u>As such, Option 2 becomes the default option of choice.</u> However, should the required capital funding become available, or if the cost of Option 3 should reduce sufficiently, then Option 3 will be immediately progressed by the Trust. This briefing papers seeks Trust Board approval to: 1. Proceed with Option 2 upon receipt of capital allocation; 2. Continue to strive for an increase in the capital allocation and/or identify options for cost reductions and, if costs align, to allow Option 3 to proceed.