

Trust Board Capital Business Case Briefing Paper	
Reference Number:	TB152/10/F
Date of Meeting:	24 th August 2023
Presenting Director:	Kevin McMahon, Director of Surgical and Clinical Services
Subject:	Rapid Diagnosis Centre (RDC) - CT and MRI scanners
Purpose: Approval/ Noting	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, to be implemented in South Tyrone Hospital in Dungannon and Whiteabbey Hospital in Newtownabbey. RDCs will incorporate a number of new clinical pathways, the first of which is a new red flag Vague Symptom Pathway (VSP) clinic. 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 will initially 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 the VSP clinic at 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 VSP examination within the RDC, 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. <table><tr><td>MRI</td><td>Demand</td><td>Scanner equivalent</td><td>In Situ</td><td>Gap</td></tr><tr><td>2022/23 Demand</td><td>134,750</td><td>22.46</td><td>17</td><td>5.5</td></tr><tr><td>2029/30 Demand</td><td>222,167</td><td>37.03</td><td>17</td><td>20.0</td></tr><tr><td>CT</td><td>Demand</td><td>Scanner equivalent</td><td>In Situ</td><td>Gap</td></tr><tr><td>2022/23 Demand</td><td>268,231</td><td>33.53</td><td>26</td><td>7.5</td></tr><tr><td>2029/30 Demand</td><td>459,701</td><td>57.46</td><td>26</td><td>31.5</td></tr></table> It is critical to patient safety that this growing gap is addressed as quickly as possible. The delivery of MRI and CT scanners through RDCs is a key element of the effort to address this regional picture.	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
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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. Note: this MRI Unit is an RDC MRI unit being used to close an acute MRI gap in CAU. A BC is currently being developed for a standalone CAU MRI scanner, which, when in place, will allow this RDC MRI scanner to revert to solely elective activity.																								
Total Capital Costs:	Option 1 is ‘status quo’. Option 2 is placing both 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>£283,713</td><td>£312,593</td><td>£310,027</td></tr><tr><td>Benefits (monetary and non-monetary Scores)</td><td>100</td><td>770</td><td>890</td></tr><tr><td>Cost per Benefit Score £'000s</td><td>£2,837</td><td>£406</td><td>£348</td></tr><tr><td>Risks</td><td>n/a</td><td>M</td><td>M</td></tr><tr><td>Conclusion**</td><td>n/a</td><td>2</td><td>1</td></tr></table> Option 2 requires £3,506,499 capital investment and £1,637,829 in recurrent revenue investment. Option 3 requires £4,017,867 capital investment and £1,661,981 in recurrent revenue investment.		Option 1	Option 2	Option 3	Net Costs (capex and opex) £'000s	£283,713	£312,593	£310,027	Benefits (monetary and non-monetary Scores)	100	770	890	Cost per Benefit Score £'000s	£2,837	£406	£348	Risks	n/a	M	M	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. The capital funding required is £3,466,474 in 2023/24 and £551,393 in 2024/25, and will be provided through a specific allocation from the Department of Health. There has been ongoing engagement with the Commissioner who has been supportive of the need for the investment in RDC.
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. Staffing and goods and services for Vague Symptom Pathway (VSP) clinics, including CT scans, are already in place through what can assumed to be 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).
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. This briefing papers seeks Trust Board approval to proceed with Option 3 upon receipt of capital allocation.