

Northern Health and Social Care Trust: Trust Board Meeting Cover Sheet

Subject:	Microbiology Automation Business Case		Date of Meeting: 26 June 2025													
Prepared By:	Karen Shields, Microbiology Manager															
Presenting Director:	Lynne McCartney, Divisional Director for Surgery & Clinical Services															
Purpose																
			Approval	✓												
			Assurance													
			Update													
			Noting													
Strategic Objectives																
Build Northern Partnerships and Integrate Care	Continue to improve Outcomes & Experience	Deliver value by optimising Resources	Nurture our People, Enable our Talent & Build Our Teams	Improve population Health & address health & social care inequalities												
Y	Y	Y		Y												
Body of Paper (insert own headings as required)																
Background NHSCT's Microbiology Laboratory is one of the region's busiest, processing over 290,000 samples annually, including the highest number of urine samples in NI. It is vital in detecting and managing infections like sepsis, MRSA, CPO and C. difficile. However, the lab operates with outdated manual processes under an extended 2016 contract. This results in delays, inefficiencies, and unsustainable overtime reliance—a model long outdated in the UK. To address this, we propose a strategic investment in full end-to-end laboratory automation. Critically this procurement opportunity is the only time point within this decade that will allow us to make this step change in the safe provision of these essential services Though more costly upfront, the preferred option delivers transformational service benefits and long-term savings: <table border="1"> <thead> <tr> <th></th> <th>Capital</th> <th>Additional Revenue over 8 years</th> <th></th> </tr> </thead> <tbody> <tr> <td>Preferred Option</td> <td>£3,103,851</td> <td>£3,008,339 incl inflation (£2,749,303 no inflation)</td> <td><i>Increased volume of equipment and annual maintenance costs</i></td> </tr> <tr> <td>Like for Like</td> <td>£798,286</td> <td>£522,091 (no inflation)</td> <td></td> </tr> </tbody> </table> Key Benefits Aligned to Strategic Priorities 1. Improved Clinical Outcomes & Reduced Length of Stay - Automation enables faster organism identification and antimicrobial susceptibility testing, cutting turnaround by up to 24 hours. - Peer-reviewed evidence shows automation reduces hospital stay by 1–2.6 days and improves survival in sepsis.						Capital	Additional Revenue over 8 years		Preferred Option	£3,103,851	£3,008,339 incl inflation (£2,749,303 no inflation)	<i>Increased volume of equipment and annual maintenance costs</i>	Like for Like	£798,286	£522,091 (no inflation)	
	Capital	Additional Revenue over 8 years														
Preferred Option	£3,103,851	£3,008,339 incl inflation (£2,749,303 no inflation)	<i>Increased volume of equipment and annual maintenance costs</i>													
Like for Like	£798,286	£522,091 (no inflation)														

We provide compassionate care with our community, in our community

Trust Board Reference Number: TB165/19/N

- For 26,000 inpatients on antibiotics annually in NHSCT, a 0.5-day reduction in stay could save up to £16.8M/year. (based on fully absorbed average bed day cost of £1,297 for NHSCT general surgery from 2023/24 SPPG published costs).

2. Payroll Efficiency & Workforce Sustainability

- Automation reduces 6,136 hands-on hours in Year 1.
- Annual overtime saving potential: £168,833. (per CP report for 2024/25)

3. Better Antimicrobial Stewardship

- Meets NICE NG15: Earlier targeted therapy, reduced broad-spectrum antibiotic use.
- Automated negative result release at full incubation supports rapid clinical decision-making.

4. Improved Outbreak Control & Infection Prevention

- Faster diagnostics support real-time MRSA/CPO/C. diff response.
- NHSCT had double the MRSA bacteraemia target in 2024/25; automation improves containment capability.

5. Futureproofing & Accreditation Compliance

- Aligns with ISO 15189:2024—full traceability, audit readiness.
- Supports integration with WinPath & Encompass.
- Investment includes enabling works that will maintain laboratory estate for years.

Risk if Not Progressed

- Service failure: Equipment beyond end of life; manual processes prone to error.
- Compliance risk: New Public Health Bill mandates timely lab notifications; failure could incur £5,000 fines.
- Workforce strain: Continued reliance on unsustainable overtime practices.
- Lost opportunity: Automation cannot be added again until next regional tender in 2034.
- Regional disparity: Other trusts progress while NHSCT is left behind.

Timeline to date:

March 2023	Pre-Tender Meeting for the renewal of contracts: 168085 Supply & Delivery of Automated Microbiology, Blood Culture, identification and Susceptibility Testing Systems
March 2024	Notice published under regulation 72 of PCR2015 to extend existing contract 168085: Extension 30 th June 2024 – 29 th December 2025 with an option to extend for a further 3 x 6 months beyond this
March 2025	Costings for Tender sent from PaLS to DoH
June 2025	Completion and sign off of business cases
July 2025	Aim to publish tender documentation
April 2026	Aim to award contract

Financial Summary

Seven shortlisted options:-

- Option 1 – Do Nothing
- Option 2 – Capital purchase of replacement equipment
- Option 3 – Lease of replacement equipment
- Option 4 – Capital purchase of replacement equipment with streakers & reduced overtime
- Option 5 - Lease of replacement equipment with streakers & reduced overtime
- Option 6 - Capital purchase of replacement equipment with automation & reduced overtime
- Option 7 - Lease of replacement equipment with automation & reduced overtime

Preferred Option:

We provide compassionate care with our community, in our community

Trust Board Reference Number: TB165/19/N

The preferred option is Option 7 - Lease of replacement equipment with automation & reduced overtime.

Total Capital Costs:

The funding required is £3,103,851:

- £2,078,529 (IFRS 16 CRL funding requirement has been highlighted to DOH as part of the IRFS 16 2025/30 Capital Request)
- £1,025,322 (Estates enabling and IT, has been highlighted to the Department (on the above return) as an associated funding requirement)

Investment in estates and ICT integration is essential for all of the do something options so that the building remains fit for purpose beyond the lifetime of this contract and that any new equipment will integrate with the new regional LIMS (WinPath) and Encompass platforms

Affordability:

Additional recurrent revenue funding of £3,008,339 (including inflation) is required for the preferred option, broken down annually below:

Option 7 - Additional revenue costs including lease costs	Option 7 8 yr lease (excl infl)	Option 7 8 yr lease (incl infl)
FY 25/26	£0	£0
FY 26/27	£96,710	£98,172
FY 27/28	£381,962	£393,775
FY 28/29	£371,072	£388,968
FY 29/30	£359,893	£383,995
FY 30/31	£348,177	£378,608
FY 31/32	£336,004	£372,892
FY 32/33	£323,031	£366,505
FY 33/34	£309,542	£359,732
FY 34/35	£222,911	£265,692
Total	£2,749,303	£3,008,339

Revenue costs submitted via RCCE to SPPG. If unfunded, NHSCT bears cost under cost centre B9X079.

Conclusion

Option 7 (Full Automation via Lease) is essential for:

- Delivering safer, faster diagnostics.
- Reducing pressure on staff and resources.
- Aligning with strategic goals and compliance mandates.
- Securing NHSCT's position as a modern, resilient, and regionally vital laboratory service.

Failure to proceed risks operational, clinical, financial, and reputational harm.

We provide compassionate care with our community, in our community

Trust Board Reference Number: TB165/19/N