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Wales

Name of Meeting
Board
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24/01/2019
Agenda item:
9.2.240119

**Laboratory Information Network Cymru (LINC)
Programme
LINC Outline Business Case (OBC)**

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Approval/Scrutiny route:	NHS Wales Health Collaborative NHS Wales Chief Executive Forum

Purpose

This Outline Business Case (OBC) makes the case for investment in an electronic solution and services for Pathology across Wales, at the heart of which is the procurement of a new laboratory information management system (LIMS) service. This investment is required as the contract with InterSystems for the current LIMS, TrakCare Lab (TCL), expires in June 2020.

The Laboratory Information Network Cymru (LINC) programme is an enabling programme to support the delivery of a modern, high quality Pathology (including Microbiology) service as part of a wider transformation set out in the Pathology Statement of Intent. A key driver is the need to standardise as far as possible to deliver a sustainable service. Electronic test requesting (ETR) is critical to deliver key benefits including financial savings.

On a revenue only basis, the overall estimated cost is £42 million and £4.8 million per annum. Alternatively, with a minimum of £8 million capital, the revenue cost is £37 million and £4 million per annum. The combined cost of the three current LIMS (TrakCare Lab (TCL), Telepath and Masterlab) is £4.2 million so, excluding benefits, the new Pathology solution will be £0.6 million per annum more or £0.2 million per annum less depending on the funding model.

It is currently estimated that a potential £4 million per annum can be realised in benefits that, with capital monies, would cover the cost of the new LIMS. Further detailed work on the financial costings of the programme are ongoing and Public Health Wales is engaged in this work.

Recommendation:

APPROVE <input type="checkbox"/>	CONSIDER <input type="checkbox"/>	RECOMMEND <input type="checkbox"/>	ADOPT <input type="checkbox"/>	ASSURANCE <input type="checkbox"/>
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The Board is asked to:
(1) **approve** the LINC Outline Business Case, which will allow the procurement process to proceed;

Link to Public Health Wales [Strategic Plan](#)

Public Health Wales has an agreed strategic plan, which has identified seven strategic priorities and well-being objectives.

This report contributes to the following:

Strategic Priority/Well-being Objective	5 - Protecting the public from infection and environmental threats to health
Strategic Priority/Well-being Objective	Choose an item.
Strategic Priority/Well-being Objective	Choose an item.

Summary impact analysis

Equality and Health Impact Assessment	This is an OBC, an Equality or Health Impact Assessment has not been undertaken at this time.
Risk and Assurance	The provision of a suitable enabling programme to support the continuity of delivery of a modern, high quality Pathology (including Microbiology) service is relevant to risk 2 and 3 as described on the Board Assurance Framework (BAF).The limitations of the current LIMS system and requirement to upgrade from a Microbiology service perspective are included on the divisional risk register.
Health and Care Standards	This report supports and/or takes into account the Health and Care Standards for NHS Wales Quality Themes Theme 2 - Safe Care Theme 5 - Timely Care Choose an item.
Financial implications	Consideration of the final financial implications for each NHS organisation is currently ongoing.
People implications	There is no potential impact on workforce or staff survey plans.

1. Purpose / situation

This Outline Business Case (OBC) seeks approval to invest in an end-to-end technical solution and services for Pathology across Wales at the heart of which is the procurement of a new Laboratory Information Management System (LIMS) service. This will contribute towards the development of a modern, high quality, sustainable Pathology (including Microbiology) services.

This paper sets out the OBC background and scope, anticipated benefits, progress to date, strategic risks and issues, any local issues and financial implications. Each Health Board and Trust is considering a report and are asked to support the LINC OBC.

2. Background

The current system (also known as WLIMS1) was procured in 2010 as a single, national system on a seven year contract, extendable for up to three years until June 2020. There is no available legal basis to further extend this contract. A system licence was procured, with NHS Wales Informatics Service (NWIS) responsible for the system hardware and hosting arrangements in NHS data centres.

A LINC Programme Board has been in place since December 2017, managed on behalf of NHS Wales through the NHS Wales Health Collaborative, with representation from all Health Boards running Pathology services, Public Health Wales, the Welsh Blood Service, Point of Care Testing, All Wales Medical Genetics Service, Strategic Programmes, NWIS, National Pathology Network, Directors of Therapies and Health Sciences, Laboratory Services Sub-Committee and Associate Directors of Informatics. Adrian Thomas, Executive Director of Therapies and Health Sciences, Betsi Cadwaladr University Health Board is the Senior Responsible Owner and Judith Bates is the Programme Director.

At the heart of this, the option to procure a new LIMS service is a legal requirement that has demonstrated the best value for money. There are risks associated with any delay in the programme.

3. Description/Assessment

Outline Business Case Scope

The OBC scope is for an end-to-end electronic solution and services that seeks to modernise and transform Pathology (including Microbiology services) as high quality, sustainable services. Building on the lessons learned from WLIMS1, this scope is broader than the replacement of the current LIMS licence and includes:

- Procurement of a new LIMS service, where the supplier is responsible for the hosting arrangements, potentially using cloud services;
- Standardisation of Pathology services as far as possible;
- Electronic test requesting (ETR) from acute and primary care services;
- A national quality management system and team;
- Improved business intelligence;
- Enhanced NWIS management of the LIMS as a national application.

The OBC considers an extensive longlist and evaluates three shortlisted options: (1) business as usual, (2) implementing the latest InterSystems solution (TCL Enterprise) without a procurement, and (3) procuring a new LIMS service.

Option 3, to procure a new LIMS offers the best value for money.

Anticipated Benefits

Workshops have been held to assess the benefits that can be delivered from the proposed investment. These include financial benefits (cash releasing), economic benefits (non-cash releasing) and quantitative benefits.

- *Financial savings* will arise from electronic test requesting (ETR) and the implementation of a simpler, more standardised LIMS that eliminates inefficient workarounds in place with the current LIMS;
- *Economic savings* will be made from improved demand management (e.g. reduced unnecessary repeated requests) and business intelligence, enhanced operational, service and document management, improved cross-site working, minimal system downtime, improved environment and interface management and easier sample tracking;
- *Qualitative benefits* will arise from improved patient care, pathways and outcomes with faster turnaround times, better audit facilities, reduced transcription errors and fewer clinical incidents.
- Potential financial benefits are estimated as 3% of the total costs of Pathology Services, which equates to approximately £4 million per annum.
- A Benefits Project will be established to put in place robust mechanisms to assess and realise benefits and these will be included in the full business case.

Progress to Date

During 2018, significant supplier and stakeholder engagement has taken place, including:

- Programme Director providing monthly updates to and attendance at the NHS Wales Collaborative Executive Group (CEG);
- Market soundings following a Prior Information Notice and supplier engagement day in February;
- Engagement with the service and NWIS including ~40 workshops
 - To develop the outline business case;
 - To develop the requirements for the new LIMS service;
 - To develop the Pathology requirements for ETR and complete a gap analysis with the Welsh Clinical Portal.
- Presentations to the Welsh Clinical Informatics Council, Associate Directors of Informatics, Directors of Planning and Deputy Directors of Finance;
- A monthly newsletter widely circulated to keep the service up-to-date with progress.

Risks and Issues

The key risks and issues faced by the LINC Programme are:

- Requirement to upgrade current LIMS
- Programme timeframe
- The apportionment of costs
- Programme costs
- Treatment of capital
- National Informatics Management Board (NIMB) feedback

Requirement to upgrade current LIMS

There is a requirement to maintain the current LIMS for up to three years after the contract with InterSystems expires and until the new LIMS is fully deployed. The technical platform supporting the current LIMS (Microsoft Windows Server 2008) is end of life in 2020 and requires a system upgrade from TCL 2011 to TCL 2016 at an estimated cost of £2.5 million.

In addition, due to the delay in the implementation of blood transfusion, there may be a requirement for some Health Boards to upgrade their original Telepath LIMS for this service. This is because, at the end March 2019, Telepath is also end-of-life, with significant risk of failure without investment in hardware. Given the investment being made, Health Boards that need to make this investment may not wish to migrate to TCL and stay with Telepath until the new LIMS is available. Therefore costs may be incurred to maintain dual running of both LIMS until the new LIMS is fully deployed.

Programme timeframe

The programme timeframe is estimated to be five years from March 2019 to March 2024. Extensive work has been undertaken and scrutinised in the

development of the OBC. A delay in the sign off of this OBC will delay the procurement and the programme as a whole and add to the risks. In recognition of the importance of this programme, the NHS Wales Collaborative Leadership Forum has advised that it does not wish the timescale to be delayed and OBC approval is therefore essential to allow the programme to proceed.

The apportionment of costs

The CEG approved, in principle, the costs presented in the OBC and approved the costs of the programme at their meeting on 23 October 2018. They requested that an approach to the apportionment of costs to be agreed with the Directors of Finance (DoFs). An options paper has been submitted to the Deputy DoFs in the first instance. For the purpose of costing in the OBC, a working assumption of organisations' financial allocations has been used for the apportionment of costs. Public Health Wales are not currently included in the detailed apportionment of costs.

Programme costs

The cost of the programme over the five years is estimated at £6 million. This does not include the cost that will be incurred by the Pathology service to support the programme. The CEG agreed at their meeting on 18 December 2018 that these costs should be estimated and included in the programme costs. This cost is currently being evaluated.

Treatment of capital monies

The OBC does not currently include the treatment of capital monies, which is awaiting specialist financial advice from NWIS finance team. The OBC includes both revenue only and capital / revenue cost options. However, International Financial Reporting Standard (IFRS) 16 regulation in relation to a managed service, would imply that a capital approach will be required. Financial advice is awaited as to the extent to which the costs can be capitalised and so a minimum of £8 million capital has been included, to be requested from Welsh Government.

NIMB feedback

The LINC OBC was considered at the NIMB meeting held on 11 December 2018. NIMB did not approve the OBC but did not wish to delay its progress. It will be taken to the Welsh Government scrutiny panel and to all Health Boards / Trusts for consideration in January 2019. NIMB requested two main changes to the document:

- (1) to remove the option to deliver electronic test requesting (ETR) either via the Welsh Clinical Portal or by procuring a separate tool and to decide on the way forward in the OBC rather than as proposed, in the full business case (FBC), and
- (2) to provide a more robust benefits analysis despite the difficulty of obtaining accurate baseline information and the delay this could cause.

The CEG, at their meeting on 18 December 2018, disagreed with the recommendation to decide on the option for ETR in the OBC as this would impact the confidence of the Pathology service in the LINC Programme. They preferred to retain both options and for a decision to be made in the FBC. They further accepted that the benefits realisation is work in progress that can also be enhanced in the FBC.

Local Public Health Wales Issues

The LIMS is integral to the processing of the 2.3M samples processed annually across microbiology in Wales (~1.6M in Public Health Wales laboratories). In addition, the LIMS is critical to most of the microbiology/infection surveillance delivered by Public Health Wales. Data from LIMS are uploaded into DataStore, which feeds both surveillance systems and the Tarian case management system.

WLIMS1 is a good system, but has not appropriately supported Microbiology due to:

- inadequate initial configuration
- change management arrangements that prevented timely development/configuration of the system
- an inadequate business intelligence solution (DeepSee).

To ensure that the future Microbiology solution for LINC delivers for Microbiology services, there is a need for:

- Appropriate configuration resource that is under the control of microbiology.
- A change management process that ensures that changes can be made rapidly within the microbiology configuration without impacting (or being impacted by) other disciplines.

Recognition, in principle, of this need is contained within the detail of the OBC and process to follow.

Financial Implications

The estimated whole life costs of the preferred option to procure a new LIMS is £42 million revenue only or £37 million revenue plus £8 million capital to be requested from the Welsh Government. In addition, the costs of the programme are £6 million.

The annual running costs of the new service is estimated at £4.8 million (revenue only option) or £4 million (revenue/capital option). This compares to the annual running costs of the current LIMS (TCL, Telepath and Masterlab) of £4.2 million. The new LIMS will therefore incur an additional cost per annum of £0.6 million or a saving of £0.2 million across Wales.

If realised, total potential savings of £4 million per annum have been estimated, which would release £3.4 million savings (revenue only model) or £4.2 million (capital and revenue model).

The whole life costs and costs per annum for each health board are summarised in

Table 1. The per annum costs also show per health board:

- The costs of the current LIMS (TCL, Telepath and Masterlab).
- The potential savings as a consequence of the investment.

Further detailed work on the financial costings of the programme are ongoing and Public Health Wales is engaged in this work.

3.1 Well-being of Future Generations (Wales) Act 2015

This work has been put together following the five ways of working, as defined within the sustainable development principle in the Act, in the following ways:

 <p>Hirdymor Long Term</p>	<p>The OBC is relevant to the provision of high quality, sustainable, long term provision of Pathology (including Microbiology) services</p>
 <p>Atal Prevention</p>	<p>LIMS is integral to the processing of the 2.3M samples processed annually across microbiology in Wales (~1.6M in Public Health Wales laboratories) and is critical to infection surveillance used to prevent infectious disease in the population.</p>
 <p>Integreiddio Integration</p>	<p>The work is linked to the integration of Pathology services through the Pathology Programme Board</p>
 <p>Cydweithio Collaboration</p>	<p>A LINC Programme Board has been in place since December 2017, managed on behalf of NHS Wales through the NHS Wales Health Collaborative, with representation from all Health Boards running Pathology services, Public Health Wales and others</p>
 <p>Cynnwys Involvement</p>	<p>All relevant NHS organisations have been involved in the OBC process to date. Wider stakeholder involvement forms part of later stages of process.</p>

4. Recommendation

The LINC OBC makes the case for investment in an end-to-end technical solution and service for Pathology across Wales. It will contribute towards the development of a modern, high quality, sustainable Pathology service. At the heart of this, the option to procure a new LIMS service is a legal

requirement that has demonstrated the best value for money. There are risks associated with any delay in the programme.

The Board is therefore asked to:

- (1) **approve** the LINC Outline Business Case, which will allow the procurement process to proceed;

Table 1: Whole life and per annum costs of the Pathology solution and LINC Programme

Health Board / Trust	Revenue Only £k						
	Whole Life Costs (2019/20 - 2026/7)			Per Annum Costs of Pathology Solution £k			
	Pathology Solution	LINC Programme	Total Cost	New Annual Cost	Costs of Current LIMS'	Potential Savings	Additional Costs / Savings
ABM UHB	7,249	1,037	8,286	830	859	716	-745
Aneurin Bevan UHB	7,916	1,133	9,049	906	688	784	-566
Betsi Cadwaladr UHB	9,374	1,341	10,716	1,073	765	928	-620
Cardiff and Vale UHB	5,833	835	6,667	668	803	579	-714
Cwm Taf UHB	4,333	620	4,953	496	386	429	-319
Hywel Dda UHB	5,125	733	5,858	587	483	506	-402
Velindre NHST	0	0	0	0	220	0	-220
Powys Teaching HB	1,833	262	2,095	210		59	151
Grand Total (Revenue only)	41,663	5,961	47,624	4,768	4,205	4,000	-3,436

Health Board / Trust	Capital and Revenue £k						
	Whole Life Costs (2019/20 - 2026/7)			Per Annum Costs of Pathology Solution			
	Pathology Solution	LINC Programme	Total Cost	New Annual Cost	Costs of Current LIMS'	Potential Savings	Additional Costs / Savings
ABM UHB	6,483	1,037	7,521	690	859	716	-884
Aneurin Bevan UHB	7,080	1,133	8,213	754	688	784	-718
Betsi Cadwaladr UHB	8,384	1,341	9,726	893	765	928	-800
Cardiff and Vale UHB	5,217	835	6,051	556	803	579	-826
Cwm Taf UHB	3,875	620	4,495	413	386	429	-403
Hywel Dda UHB	4,583	733	5,317	488	483	506	-501
Velindre NHST	0	0	0	0	220	0	-220
Powys Teaching HB	1,640	262	1,902	175		59	116
Grand Total (Revenue)	37,263	5,961	43,224	3,968	4,205	4,000	-4,236
Welsh Government							
Grand Total (Capital)	8,000		8,000.00				