

Lanarkshire NHS Board  
31 January 2018

Kirklands  
Fallside Road  
Bothwell  
G71 8BB  
Telephone: 01698 855500  
[www.nhslanarkshire.org.uk](http://www.nhslanarkshire.org.uk)



**SUBJECT: Laboratory Information Management System (LIMS) and Order Communication (OCS) Full Business Case**

**1. PURPOSE**

This paper is coming to the Board:

For approval	<input checked="" type="checkbox"/>	For endorsement	<input type="checkbox"/>	To note	<input type="checkbox"/>
--------------	-------------------------------------	-----------------	--------------------------	---------	--------------------------

The Full Business Case (FBC) for the implementation of a Laboratory Information Management System (LIMS) including Order Communications (OCS) within NHS Lanarkshire is being presented for approval.

The primary aim of (LIMS) is to provide a single laboratory system across all disciplines including; Biochemistry, Haematology, Blood Transfusion, Microbiology and Cellular Pathology.

In addition, the Full Business Case includes Order Communications (OCS) to enable electronic laboratory test requesting and results reporting from both Primary Care and Acute Hospital services but excludes Radiology. OCS for Radiology within Primary Care will require the development of a separate business case in future.

**2. ROUTE TO THE BOARD**

This paper has been:

Prepared	<input checked="" type="checkbox"/>	Reviewed	<input checked="" type="checkbox"/>	Endorsed	<input checked="" type="checkbox"/>
----------	-------------------------------------	----------	-------------------------------------	----------	-------------------------------------

By the eHealth Executive Group, Capital Investment Group.

**3. SUMMARY OF KEY ISSUES**

The main LIMS contract with InterSystems came to an end in June 2017. Due to the nature of the contract, the Board was unable to extend the agreement and a re-procurement exercise was approved as the way forward within the Outline Business Case (OBC). A replacement LIMS is required to be commissioned and fully implemented as a priority.

## ITEM 14

NHS Lanarkshire operates the InterSystems LIMS across all laboratory disciplines with the exception of Blood Transfusion where we were unable to achieve “user acceptance” resulting in two systems supplied by Clinisys and Technidata being retained.

The Board reached agreement with InterSystems which ensures that they will continue to support and maintain the existing LIMS until it is fully replaced and ready to be decommissioned. The agreement includes a full financial settlement which will be utilised to fund the support and maintenance costs.

The implementation of a new LIMS presents an opportunity to include the procurement of an Order Communication System able to support electronic laboratory test requesting and results reporting from both Primary Care and Acute Hospital services which, as an integrated component within the LIMS, will optimise the realisation of both clinical and financial efficiencies and deliver significant benefits to the service.

A single LIMS with OCS offers opportunities to enhance the efficiency and effectiveness of current service delivery including multi-disciplinary working, standardisation of operational workflow and improvements in the service to clinicians and patients. The Order Communication System will provide end-to-end electronic data flow with a reduction in manual data entry and consumables as electronic requesting replaces paper forms. A major impact of this is a potential reduction in the number of duplicate or unnecessary tests and specimens due to improved management of test requesting at the GP practice and acute hospital.

Efficiencies and cost avoidance would be realised across GP practices as well as the acute hospital and the laboratory service. A single procurement will ensure the LIMS and OCS systems and contracts are co-ordinated with single supplier responsibility for both components.

These cost avoidance measures potentially have a value of up to £239k (See Business Case Section 5.3).

The procurement of a replacement Laboratory Information Management System will provide the opportunity to realise the vision of a single pan-NHS Lanarkshire Laboratory Information Management System.

### **The key shortcomings identified with the current situation are summarised below;**

- Order Communications: Unable to progress the implementation of Order Communications across Primary and Acute Hospital Care.
- Poor Architecture: Three electronic systems are currently used across laboratory services. The lack of integration results in limited data sharing leading to duplication of data entry and the potential for inconsistent data capture and/or transcription errors.
- Unavailability of Data: Limited data availability to support medical audit, research, clinical risk management, outcome evaluation FOI requests, service evaluation, planning and delivery.
- Inefficiency: Information available at the point of care needs to be gathered from multiple sources. These inefficient processes and data availability reduce time available for patient care and can lead to duplicate tests and investigations.
- Poor Value for Money: All of the above results in an increasing cost of ownership, through inefficiency and duplication of effort.

### **Key Investment Objectives for this FBC were identified as to:**

## ITEM 14

- Support all business and clinical functions and processes currently delivered by NHS Lanarkshire Laboratory Services (excluding Radiology).
- Provide a flexible solution that can respond to future business requirements.
- Support the integration and interoperability of eHealth systems within NHS Lanarkshire.
- Support electronic ordering of laboratory requests and results reporting from both Primary Care and Acute Hospital services.

Steps were taken to prepare for the provision of a new LIMS supplier through the production of an Outline Business Case in February 2017. This considered the options for a replacement LIMS as well as the provision of an electronic Order Communications System supported progression with the recommended option: **Buy an existing Commercial off the Shelf (COTS) LIMS and OCS via an OJEU procurement.**

As a result a Contract Notice for a LIMS and OCS for NHS Lanarkshire was published on 22nd May 2017. Seven suppliers responded to the Contract Notice to provide a Laboratory Information Management System and integrated Order Communication System able to support all laboratory disciplines within NHS Lanarkshire.

Each option was the subject of a structured, thorough and objective evaluation process the format of which was agreed and overseen by an NHS National Services Scotland Procurement Manager. The following activities were undertaken within this evaluation:

1. Financial Appraisal by the NHS Lanarkshire LIMS Project Board
2. Scoring of the supplier response against each of the requirements contained within the Specification for a Laboratory Information Management System (LIMS) for NHS Lanarkshire v1.5
3. Semi-structured teleconference with one or more reference sites provided by each supplier.
4. Supplier demos of their proposed solution to NHS Lanarkshire clinicians, managers and IT personnel where further clarification of functionality was required.
5. One or more site visits to supplier identified reference site(s) within the UK
6. Review and re-scoring of the supplier response against taking account of references, demos and site visits

This resulted in **Technidata** being identified as the 'Preferred Bidder' in our procurement process.

#### 4. STRATEGIC CONTEXT

This paper links to the following:

Corporate Objectives	<input type="checkbox"/>	LDP	<input type="checkbox"/>	Government Policy	<input type="checkbox"/>
Government Directive	<input type="checkbox"/>	Statutory Requirement	<input type="checkbox"/>	AHF/Local Policy	<input type="checkbox"/>
Urgent Operational Issue	<input checked="" type="checkbox"/>	Other	<input checked="" type="checkbox"/>		

#### 5. CONTRIBUTION TO QUALITY

This paper aligns to the following elements of safety and quality improvement:

*Three Quality Ambitions:*

## ITEM 14

Safe	<input checked="" type="checkbox"/>	Effective	<input checked="" type="checkbox"/>	Person Centred	<input checked="" type="checkbox"/>
------	-------------------------------------	-----------	-------------------------------------	----------------	-------------------------------------

The National and Local eHealth strategy have been developed to align and improve the 6 dimensions of care; Safe, Effective, Efficient, Timely, Equitable and Patient Centred.

### ***Six Quality Outcomes:***

Everyone has the best start in life and is able to live longer healthier lives; (Effective)	<input checked="" type="checkbox"/>
People are able to live well at home or in the community; (Person Centred)	<input checked="" type="checkbox"/>
Everyone has a positive experience of healthcare; (Person Centred)	<input checked="" type="checkbox"/>
Staff feel supported and engaged; (Effective)	<input checked="" type="checkbox"/>
Healthcare is safe for every person, every time; (Safe)	<input checked="" type="checkbox"/>
Best use is made of available resources. (Effective)	<input checked="" type="checkbox"/>

## **6. MEASURES FOR IMPROVEMENT**

Measuring improvement will happen in the following ways:

Benefits Realisation – All projects within the eHealth Programme will undergo a benefits realisation exercise to determine if the project has realised the benefits described in the business case.

Common Progress Measures – The eHealth Team are required to submit a Common Progress Measures Report to Scottish Government eHealth Directorate on a quarterly basis. This information is used to highlight progress against the Seven Strategic Aims set out in the eHealth Strategy and is used as part of the Scottish Government’s eHealth annual review process.

## **7. FINANCIAL IMPLICATIONS**

A full business case has been developed for LIMS including OCS. The financial position is summarised in the tables below. Capital funding for this project has been included in the Capital Plan. The revenue consequences of implementation have been included in our on-going financial plan. The summary costs of the LIMS including OCS project are outlined in the table below;

## ITEM 14

		Lims and OCS Implementation Cashflow									
		Total	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26
<b>Capital</b>											
Supplier Licences	460	460									
Supplier Implementation	740	148	592								
NHSL Hardware	186	160	26								
	<u>1386</u>	<u>768</u>	<u>618</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	
<b>Revenue</b>											
Technidata Maintenance and Support	1098			145	149	153	157	161	164	169	Note 1
NHSL Implementation Costs Lims	1119	517	602								
NHSL Implementation Costs OCS	950		33	603	314						
Project Management	156	12	48	48	48						
Depreciation	1386			198	198	198	198	198	198	198	
	<u>4709</u>	<u>529</u>	<u>683</u>	<u>994</u>	<u>709</u>	<u>351</u>	<u>355</u>	<u>359</u>	<u>362</u>	<u>367</u>	
<b>Note 1</b>											
Budget already exists to cover these costs.											

**Note 2:**

Annual RPI increase of 2.6% has been applied to on-going maintenance and support.

### 8. RISK ASSESSMENT/MANAGEMENT IMPLICATIONS

The delivery of LIMS and OCS will be governed through the LIMS and OCS Implementation Board which will be chaired by Judith Park. Risks will be managed through the existing governance processes.

### 9. FIT WITH BEST VALUE CRITERIA

This paper aligns to the following best value criteria:

Vision and leadership	<input checked="" type="checkbox"/>	Effective partnerships	<input checked="" type="checkbox"/>	Governance and accountability	<input type="checkbox"/>
Use of resources	<input checked="" type="checkbox"/>	Performance management	<input checked="" type="checkbox"/>	Equality	<input type="checkbox"/>
Sustainability	<input checked="" type="checkbox"/>				

### 10. EQUALITY AND DIVERSITY IMPACT ASSESSMENT

The impact of the proposed implementation of LIMS and OCS will be assessed as part of the overall programme.

Yes  *Please say where a copy can be obtained*  
 No  *Please say why not*

### 11. CONSULTATION AND ENGAGEMENT

Widespread consultation and engagement has taken place at both a national and local level to support the development of the Outline Business Case and Full Business Case.

### 12. ACTIONS FOR THE BOARD

The Board is asked to:

## ITEM 14

Approval	<input checked="" type="checkbox"/>	Endorsement	<input type="checkbox"/>	Identify further actions	<input type="checkbox"/>
Note	<input type="checkbox"/>	Accept the risk identified	<input type="checkbox"/>	Ask for a further report	

1. Approve the Full Business Case for the implementation of a Laboratory Information Management System (LIMS) including Order Communications (OCS) within NHS Lanarkshire

### 13. FURTHER INFORMATION

Donald Wilson  
General Manager eHealth / ICT  
Telephone: 01698 858006

Judith Park  
Director of Access  
Telephone: 01698 858092