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Health Board



<b>Meeting Date</b>	<b>25 November 2021</b>	<b>Agenda Item</b>	<b>3.4</b>
<b>Report Title</b>	<b>Radiology Informatics System Procurement Outline Business Case</b>		
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<b>Report Sponsor</b>	Matt John, Director of Digital		
<b>Presented by</b>	Matt John, Director of Digital		
<b>Freedom of Information</b>	Open		
<b>Purpose of the Report</b>	To present the Radiology Informatics System Procurement (RISP) Outline Business Case (OBC) for approval.		
<b>Key Issues</b>	<ul style="list-style-type: none"> <li>The current Picture Archiving &amp; Communication System (PACS) contract supporting the delivery of the clinical radiology service in Wales is coming to the end of its tenure, with the first Health Board deployment order expiry in November 2024.</li> <li>The ambition of WG and NHS organisations to achieve a seamless end-to-end electronic solution that enables the Radiology service to deliver a high quality, safe and timely clinical imaging service for the patients of Wales</li> <li>The preferred option in the OBC is to procure a full-service management solution for PACS + Patient Dose Monitoring System (PDMS) + Radiology Information System (RIS) (with the option to incorporate ETR/ results acknowledgment if the current proposed solution is not deliverable in current time scales) with data hosted by the supplier (either via cloud or supplier data centre) or within an NHS data centre.</li> <li>The RISP OBC has been approved by the Business Case Assurance Group (BCAG) and by Management Board</li> </ul>		
<b>Specific Action Required</b> <i>(please choose one only)</i>	<b>Information</b>	<b>Discussion</b>	<b>Assurance</b>
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Recommendations</b>	Health Board Members are asked to: <ul style="list-style-type: none"> <li>Note the necessity to replace the existing PACs system</li> <li>Note the intention to achieve the vision of a seamless end-to-end electronic solution that enables the Radiology service to deliver a high quality, safe and timely clinical imaging service for the patients of Wales</li> <li>Note the non-financial benefits that RISP will enable for the Health Board</li> </ul>		

	<ul style="list-style-type: none"> <li>• Note the estimated capital and revenue implications outlined in the case and the need for these costs to be validated through the FBC process.</li> <li>• Note the requirement for Radiology and Digital Services to identify the opportunities the new shared platform presents to enable transformational change within Radiology service provision</li> <li>• APPROVE the RISP Outline Business Case. This on the premise that the RISP Programme endeavours to procure a solution that is at least cost neutral; and that there is a granular assessment of additional cash releasing benefits produced during the development of the FBC.</li> </ul>
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# Radiology Information System Procurement - Outline Business Case

## 1. INTRODUCTION

The current Picture Archiving & Communication System (PACS) contract supporting the delivery of the clinical radiology service in Wales is coming to the end of its tenure, with the first Health Board deployment order expiry in November 2024. This Outline Business Case (OBC) sets out the need to invest in a Radiology Informatics System Procurement (RISP) Programme, which will achieve the vision of a seamless end-to-end electronic solution that enables the Radiology service to deliver a high quality, safe and timely clinical imaging service for the patients of Wales.

The OBC explores the potential options for how this provision can be delivered and identifies a preferred option that will deliver the clinical requirements with optimum value for money, outlining the commercial arrangements required to deliver it, the resulting financial impact, and the management arrangements for successful implementation.

## 2. BACKGROUND

All Health Boards and Trusts in NHS Wales use the following main systems:

***The Picture Archiving and Communications System (PACS)*** is a storage and distribution platform, which collates all imaging investigations performed on patients. This is the clinical interface that enables the analysis of all imaging performed, including complex reformatting, disease progression analysis and measurement. The ultimate output is the production of a clinical report for the referring clinicians.

***The Radiology Information System (RIS)*** is a national system developed and supported by Digital Health and Care Wales (DHCW). It is known as Welsh Radiology Information System (WRIS) and supports the scheduling of radiology investigations, provides a clinical record of all imaging investigations performed on patients including the radiology report; and holds data that underpins health boards' ability to generate business reports and statistics on performance.

Radiology is a high throughput, capital intensive service so having effective IT systems plays an essential role in delivering efficient radiology services and maximising the use of expensive equipment. The current configuration of Radiology departments, along with their associated systems and infrastructure in Wales, confines the delivery of care within traditional organisational boundaries. Both PACS and WRIS are deployed within health board boundaries and health board reorganisation with the associated organisational arrangements have made transition more difficult because of this siloed approach.

The current radiology IT systems (PACS/ RIS):

- Are disparate, with disjointed approaches to coding, administrative process, data collection and analysis and do not enable service planning on a strategic or national basis
- Do not facilitate cross boundary working resulting in variation in the delivery of radiology services across NHS Wales health boards and trusts that leads to increased waiting time for scans or delays to reporting and diagnosis.
- Make it difficult to share patient information easily between health boards and trusts both within Wales and England, impacting on acute/emergency care, MDT's and

leading to inefficient care. Manual workarounds are in place to enable the right information to be available for use in the right place, at the right time but these are relatively inefficient and contribute to delays and increased clinical risk.

Given these challenges, there is an increasing need to identify an informatics solution that will support the delivery of an imaging workflow that will provide an efficient and effective Radiology service for the population and all patients within Wales.

### Assessment within the case

**Strategy Implications** - The components of the procurement (PACS, RIS, PDMS) are essential to the delivery of diagnostic radiology services. If the contracts are not replaced it will be impossible for services to continue. A range of options are considered in the outline business case. Whilst not aligned directly to any specific HB strategic case or business plan, effective diagnostic services underpin the majority of clinical pathways and as such support for this is key to the integrity of the Health Board service offering.

**Options Considered** - The OBC explores the potential options for how this provision can be delivered and identifies a preferred option that will deliver the clinical requirements with optimum value for money, outlining the commercial arrangements required to deliver it, the resulting financial impact, and the management arrangements for successful implementation.

Options	Option 0	Option 1	Option 2	Option 3	Option 4
	Business as Usual	Do Minimum	Preferred Way Forward A	Preferred Way Forward B	More Ambitious
Scope	Do nothing	PACS + PDMS + DHCW RIS	PACS + PDMS + Commercial RIS (+ options for ETR and results acknowledgment)	PACS + PDMS + Commercial RIS (+ options for ETR and results acknowledgment)	PACS + PDMS + RIS + <u>ETR and results acknowledgment</u> (+ options for other disciplines)

Based on the overall analysis, the OBC recommended that Options 2 and 3 are carried forward as the preferred options. They both involve procuring a supplier full-service management solution for PACS + PDMS + RIS (with the option to incorporate ETR/ results acknowledgment if the current proposed solution is not deliverable in current time scales) with data hosted by the supplier (either via cloud or supplier data centre) or within an NHS data centre. However, the decision to deliver via national or regional deployment will be dependent on the final preferred solution. The programme will be delivered using a combination of capital and revenue funding.

**Benefits** - The main benefits of delivering the RISP Programme outlined in the case include:

- Improved patient safety, with an electronic auditable trail from request to results acknowledgement.
- Reduced risk of repeat examinations and inappropriate radiation dosage.
- Effective and efficient MDT meetings supporting cross health board boundary workings and streamlining patient care.
- Improved imaging workflow, enabling timely delivery of service, and the ultimate output of an imaging examination, a report available to the clinical referrer anywhere.
- Enable cross-site and health board reporting to facilitate service transformation and support the work of the Imaging Essential Services Group.
- Improved data quality and analytics on a local and national level

- Streamlined and reduced training requirements for system use.

The draft implementation plan indicates that SBUHB would go live with the new solution in March 2025.

### 3. GOVERNANCE RISKS AND ISSUES

The RISP Programme sits within the portfolio of the NHS Wales Health Collaborative and is managed in accordance with the OGC Managing Successful Programmes and PRINCE2 standards, which will be tailored to suit the needs of the service.

The Programme Board reports to the Collaborative Executive Group, which comprises the Chief Executive Officers of the health boards, Trusts and Special Health Authorities in Wales. The Programme also reports to the National Imaging Strategy Programme Board.

A RISP Programme Board is well established whose remit is to provide oversight and direction and to review and assure the Programme's progress. The governance arrangements for the Programme are shown below in the Management Case.

The SRO for the RISP Programme is Matt John, Director of Digital for SBUHB. SBUHB is also represented at a national level by Dr Tishi Ninan.

The RISP OBC has been approved by the Health Board's Business Case Assurance Group (BCAG) and by the Management Board (03/11/21) subject to the FBC process working towards a cost neutral procurement and providing a granular assessment of cash releasing benefits.

#### **Key Risks:**

Timescales - As a result of slippage to the procurement timescales caused by delays there is a risk this could impact the current Fuji PACS contract end dates. Potential causes of the delays outlined in the case include:-

- As a result of COVID-19 there is a risk that recovery activity may impact the ability of health boards to release the required resources to join the procurement dialogue teams in Tranche 2. The impact of this could be delays in the procurement process.
- As a result of the lack of certainty around the financial model associated with a possible cloud solution there is a risk the solution may not be affordable for the health boards. This could lead to delays in the procurement process.
- As a result of the lack of clarity on the treatment of capital within the Financial Case there is a risk there may be a delay in completion of the OBC which may delay moving to Tranche 2.

Mitigation – programme governance

- **Financial** – see financial implications below

### 4. FINANCIAL IMPLICATIONS

At the stage of writing the OBC, limited supporting information is available to determine accurate costs, therefore indicative figures have been estimated based on supplier returns that were received in response to a Prior Information Notice (PIN) in May 2021, the Project

Team's knowledge and experience of similar All Wales IT Systems, along with initial market testing information obtained in January 2021.

The estimated financial implications of this are as follows:

- Welsh Government funding required of £20.6m capital and £1.2m non-recurring revenue for the national system.
- Other revenue consequences for NHS Wales
  - Non-recurring revenue £2.1m (which will be profiled between 2021/22 – 2024/25)
  - Recurring revenue costs following implementation of £0.6m p.a. (the net impact of costs of existing solutions vs estimated costs of the new solution)

The allocation of other NHS Wales revenue consequences between Health Boards and Trusts is to be determined depending on the final solution, deployment arrangements and firm costs.

Very high-level estimates for SBUHB at this early stage suggest additional recurring annual revenue costs of £108k in year 1 rising to £206k by the end of year 7. However these are not based on firm supplier numbers and further work will be required during FBC to determine the full financial impact of costs. The Health Board has already included £115k recurrently in its financial plan to the RISP Programme. It is recommended that SBUHB request that the RISP programme work with supplier in the procurement process to ensure that the cost of the new solution compared to the costs of current systems is revenue neutral.

The OBC also highlights that the case does not include any costs of additional All Wales or local infrastructure investment required that is outside the scope of the Programme. Estimated Health Board costs for the implementation and change management have been included. These Health Board costs would have to be considered and validated as part of the Health Board's involvement in the FBC process.

The Economic Appraisal in the case includes an indicative total financial benefit across Wales of £1.9m p.a. related to the following:

- There is a reduction in the administrative processes in managing the patient imaging journey, end to end £780k per annum.
- There is an efficiency benefit in the clinical vetting and prioritisation process leading to a financial benefit in the region of £1.1m.

The OBC recognises that further work is required to validate these cash releasing benefits with the Health Boards and this will be undertaken through the benefits project. The benefits have not been split down to Health Board level within the OBC and this would have to be ascertained as part of the FBC process. The Health Board would require the national RISP programme to ensure that benefits are understood and agreed at a granular level. SBUHB radiology services will have to ensure these benefits are realisable and, as a minimum, offset the additional costs of the new solution. SBUHB radiology services and digital services will also explore the opportunities the new shared platform presents to enabling transformational change in service provision eg. Regional working and the use of Artificial Intelligence and Machine Learning technologies.

## **5. RECOMMENDATION**

**Health Board Members are asked to:**

- **Note the necessity to replace the existing PACs system**
- **Note the intention to achieve the vision of a seamless end-to-end electronic solution that enables the Radiology service to deliver a high quality, safe and timely clinical imaging service for the patients of Wales**
- **Note the non-financial benefits that RISP will enable for the Health Board**
- **Note the estimated capital and revenue implications outlined in the case and the need for these costs to be validated through the FBC process.**
- **Note the requirement for Radiology and Digital Services to identify the opportunities the new shared platform presents to enable transformational change within Radiology service provision**
- **APPROVE the RISP Outline Business Case. This on the premise that the RISP Programme endeavours to procure a solution that is at least cost neutral; and that there is a granular assessment of additional cash releasing benefits produced during the development of the FBC.**

Governance and Assurance		
Link to Enabling Objectives (please choose)	Supporting better health and wellbeing by actively promoting and empowering people to live well in resilient communities	
	Partnerships for Improving Health and Wellbeing	<input type="checkbox"/>
	Co-Production and Health Literacy	<input type="checkbox"/>
	Digitally Enabled Health and Wellbeing	<input checked="" type="checkbox"/>
	Deliver better care through excellent health and care services achieving the outcomes that matter most to people	
	Best Value Outcomes and High Quality Care	<input checked="" type="checkbox"/>
	Partnerships for Care	<input checked="" type="checkbox"/>
	Excellent Staff	<input checked="" type="checkbox"/>
	Digitally Enabled Care	<input checked="" type="checkbox"/>
	Outstanding Research, Innovation, Education and Learning	<input checked="" type="checkbox"/>
Health and Care Standards		
(please choose)	Staying Healthy	<input checked="" type="checkbox"/>
	Safe Care	<input checked="" type="checkbox"/>
	Effective Care	<input checked="" type="checkbox"/>
	Dignified Care	<input checked="" type="checkbox"/>
	Timely Care	<input checked="" type="checkbox"/>
	Individual Care	<input checked="" type="checkbox"/>
	Staff and Resources	<input checked="" type="checkbox"/>
Quality, Safety and Patient Experience		
<ul style="list-style-type: none"> <li>Improved patient safety, with an electronic auditable trail from request to results acknowledgement. (NPSA 16 2007 and HSIB reports on failures to acknowledge and follow-up on radiological imaging reports).</li> <li>Reduced risk of repeat examinations and inappropriate radiation dosage</li> </ul>		
Financial Implications		
<p>High level estimates of up to £206k per annum revenue consequences to the Health Board to be offset by the Health Boards proportionate savings of £1.9m pa across Wales. Detailed financial implications will need to be validated as part of the FBC process</p> <p>See above for more detail</p>		
Legal Implications (including equality and diversity assessment)		
An Equality Impact Assessment (EQIA) has been developed for the RISP Programme.		
Staffing Implications		
Radiology staff will be required to adopt the new system and nationally agreed standards.		
Long Term Implications (including the impact of the Well-being of Future Generations (Wales) Act 2015)		
N/A		
Report History		
Reference Document	1. RISP OBC	
	2. RISP EQIA	