

1	Date / title of meeting	NHSBT Board – 28 th May 2015
2	Title of paper	NHSBT ICT – Strategy, Overview and Risk
3	Status	Official
4	Tweet (max 140 characters)	Changes to NHSBT ICT delivering strategic framework, measurable improvements in customer service and balanced approach to considerable risks
5	Executive Summary (max 200 words!)	<p>Since its agreement by the Board in November, considerable progress has been made towards the implementation of the new ICT Strategic Framework. A formal approach to the selection and validation of platform solutions for NHSBT has been agreed and the model has been demonstrated to fit the needs of strategic improvements required under both the Blood 2020 and TOT 2020 strategies. At the same time, improvements to the underlying desktop and server infrastructure continue to be pursued.</p> <p>Coinciding with the implementation of the strategic framework, a revised organisational structure has been implemented. This initial restructure was focussed on ensuring that there are clear lines of accountability for NHSBT ICT services and to create space to introduce a service management function which will radically alter the way we approach the delivery of IT services.</p> <p>The number and the scale of risk affecting ICT services is significant with risks arising both from the nature of our existing systems and the need for substantial change over a relatively short period of time. A number of mitigation options are available and approaches which seek to share the risk through strategic partnerships, provide additional internal resources and develop robust and supportive governance and assurance mechanisms are being favoured.</p>

6	Action requested	<p>The Board is asked to:</p> <ul style="list-style-type: none"> ○ Note the progress towards the implementation of the Strategic Framework ○ Note the updated structure of ICT and how Service Management, benchmarking and performance monitoring will inform its future ○ Consider the key risks facing ICT in NHSBT and confirm support for the mitigation strategies being applied
7	Background and customer promise	As per report / presentation
8	Why is this important?	<ul style="list-style-type: none"> ○ The implementation of the ICT Strategic Framework will enable NHSBT to deliver first class digital services to donors, hospital customers and staff. ○ The new ICT organisational structure provides clearer lines of accountability for IT services. ○ The implementation of a robust service management function will ensure that NHSBT's IT services are managed in line with best practise, provide confidence in the maintainability of systems, and reduce the downtime of IT services. ○ Since the scale of risk associated with current systems and the programme of change is significant, a balanced proactive approach to mitigating risk is necessary.
9	Who else has been involved so far?	<ul style="list-style-type: none"> ○ All SMTs have received the ICT Strategic Framework ○ ODT staff have been involved in the creation of the ODT National Hub programme ○ A range of staff from Blood Supply and Tissue Services have been involved in the development of the Pulse Replacement Programme
10	Costs and benefits	<p>Early indications remain that the cost of implementing the ICT Strategic Framework will be in the region of £30 million over 5 years. Potential benefits of 10% of the overall IT costs have already been identified with additional savings to be identified across the business. Detailed costs and benefits will be presented in individual business cases.</p>
11	Significant next Actions	As per report / presentation

12	How does this impact on Equality and Diversity?	n/a
13	What is the impact on sustainability?	n/a
14	Employee impact?	<p>The scale of change required to our IT systems is likely to have an impact on nearly every member of staff in that they will have new systems to use and, hopefully, new processes to work to. While the end result is expected to be positive the scale of change management required should not be underestimated.</p> <p>There are regular briefings to employees on the progress of ICT Strategic Framework, via monthly Webinars</p>
15	Donor/Patient/Customer impact?	As per report / presentation
16	Taxpayer impact?	See section 10
17	Author	<p>Aaron Powell, Interim Director of ICT</p> <p>Karen Packham, Performance and Business Manager</p> <p>James Fishwick, Assistant Director, Solutions Architecture</p> <p>Anthony Snape, Head of Service Management</p>
18	Responsible Director	<p>Aaron Powell</p> <p>Interim Director of ICT</p>
19	NED input	<p>Jeremy Monroe & Roy Griffins have reviewed the ODT National Hub proposal.</p> <p>Jeremy Monroe has been actively involved in the creation of the IT Advisory Board.</p>
20	Additional Documentation Available on Request	<p>See below</p> <p>More detailed specifications relating to the Pulse Replacement Programme, ODT National Hub and Service Management approach are available on request.</p>

NHS BLOOD AND TRANSPLANT

28th May 2015

NHSBT ICT – STRATEGY, OVERVIEW AND RISK

1. EXECUTIVE SUMMARY

Since its agreement by the Board in November, considerable progress has been made towards the implementation of the new ICT Strategic Framework. A formal approach to the selection and validation of platform solutions for NHSBT has been agreed and the model has been demonstrated to fit the needs of strategic improvements required under both the Blood 2020 and TOT 2020 strategies. At the same time, improvements to the underlying desktop and server infrastructure continue to be pursued.

Coinciding with the implementation of the strategic framework, a revised organisational structure has been implemented. This initial restructure was focussed on ensuring that there are clear lines of accountability for NHSBT ICT services and to create space to introduce a service management function which will radically alter the way we approach the delivery of IT services.

The number and the scale of risk affecting ICT services is significant with risks arising both from the nature of our existing systems and the need for substantial change over a relatively short period of time. A number of mitigation options are available and approaches which seek to share the risk through strategic partnerships, provide additional internal resources and develop robust and supportive governance and assurance mechanisms are being favoured.

RECOMMENDATIONS

The Board is asked to:

- Note the progress towards the implementation of the Strategic Framework
- Note the updated structure of ICT and how Service Management, benchmarking and performance monitoring will inform its future
- Consider the key risks facing ICT in NHSBT and confirm support for the mitigation strategies being applied

1. IMPLEMENTATION OF ICT STRATEGIC FRAMEWORK

Since its agreement by the Board in November, considerable progress has been made towards the implementation of the new ICT Strategic Framework. A formal approach to the selection and validation of platform solutions for NHSBT has been agreed and the overall logical model has been demonstrated to fit the needs of strategic improvements required under both the Blood 2020 and TOT 2020 strategies. This will lead to the selection of platforms and commencing the delivery of prototype solutions by September 2015.

At the same time, improvements to the underlying desktop and server infrastructure continue to be pursued. This is both to support the safe move of our data centres from the existing Colindale and Elstree sites by March 2016, as well as ensuring that we have a modern desktop capable of supporting the new cloud based applications. Our target is to reduce the number of physical servers managed by NHSBT fourfold over the next 3 years and to reduce the number of virtual servers managed by NHSBT threefold.

The original ICT Strategic Framework identified costs as likely to be between £24 and £31 million. The budget remains broadly on track.

The first meeting of the NHSBT IT Advisory Board will take place on 17th July. There are currently 5 confirmed external members with three further approaches awaiting a response.

2. PLATFORM SELECTION APPROACH

The IT Strategic Framework identified the need for strategic IT platforms. This project will produce specifications and select the five key platforms and implementation partners required to deliver the first phases of the Pulse Replacement Programme and ODT National Hub and support future needs across NHSBT.

Phase 1, which runs from June-Sep 2015, will select the platforms required to move off Pulse and deliver the ODT National Hub Proof of Concept and NTxD replacement, as well as support future needs across the whole of NHSBT.

It will select:

- Donor Management Platform
 - Replace existing Pulse Donor Management functionality
 - Support Modern Paperless donor journey
 - Provide new functionality to support more targeted and personalised donor engagement
- Manufacturing Platform
 - Replace existing Pulse Manufacturing functionality
 - Replace many manual workarounds and spreadsheets
 - Provide new functionality to improve scheduling and tracking of product
- Customer Management Platform

- Replace existing Pulse functionality and workarounds for receiving and fulfilling orders (inc finance)
- Support ODT waiting list automation, donor registration and triage, and matching and allocation
- Workflow and Operational Data Store Platforms
 - Support Modern Paperless Donor Journey and Donor Management
 - Support ODT waiting list automation, donor registration and triage, and matching and allocation

Phase 2 will start in 2016 and select the remaining platforms.

A separate procurement and selection exercise will be run for each of the five platforms. This will follow a standard G-Cloud process involving longlisting and shortlisting of prospective suppliers before the award of a framework contract. The framework contract will not commit us to a fixed spend but will identify the preferred platform and remove the need for further procurement activity for each project.

The approach will select both the software packages and implementation partners for the five platforms. The purchase of licenses and implementation support will be done by the Pulse Replacement Programme, ODT National Hub Programme and any future projects that use the platforms.

The platform selection project will be completed in parallel to setting up Pulse Replacement and ODT Nations Hub programmes. By doing so, both programmes will be able to start delivering IT on common platforms in autumn 2015 rather than early 2016. As an analogy, the Platform Selection project is building the buildings, which the two programmes will then fit out for blood supply chain and an ODT National Hub.

3. ICT OVERVIEW – STRUCTURE, BUDGETS AND BENCHMARKS

Coinciding with the implementation of the strategic framework, a revised organisational structure has been implemented. This initial restructure was focussed on ensuring that there are clear lines of accountability for NHSBT ICT services and to create space to introduce a service management function which will radically alter the way we approach the delivery of IT services.

The key changes arising from the adoption of a service management approach are the focus on the business value delivered by the technology, rather than the underlying technologies themselves; the breaking down of IT silos; and an overall reduction in the costs of ICT arising both from better management and reduced downtime. Key target measures have been agreed for the service management function.

The restructure has also created the role of Performance and Business Manager, to lead on the development of a balanced scorecard for ICT and to ensure that improvements are measurable and can be benchmarked against external services.

The current ICT organisation structure is included in Appendix A.

Industry standard benchmarks from Ovum suggest that the overall ICT budget, which has remained largely static for the last 4 years, is not inconsistent with similar organisations of our size. The overall headcount has recently been increased by 13% without increasing budget and this too is within benchmark territory. Benchmarks suggest, however, that the relative mix of roles in NHSBT ICT are at odds with those of other similar organisations. Some of this relates to the national and regionalised structure of the organisation, but the benchmarks would suggest a focus on internal solutions development which is not reflected in our peers.

4. SERVICE MANAGEMENT APPROACH

Service Management is a set of specialised organisational capabilities for providing value to customers in the form of services. In terms of IT deployment a Service Management approach delivers the following:

- Implementation & management of quality IT services that meet business needs.
- Performed by IT service providers through an appropriate mix of people, process and Information Technology.
- A tried and tested framework for repeatable success.
- Prioritises technical resource on technical issues and business resource on business issues.

NHSBT has a number of IT challenges and after review of the current position versus an organisation with mature IT Service Management processes and activities in place it is clear that there is room for substantial improvement in the way IT services are delivered. There is a low Service Management maturity level, with only *some* business critical services have *some* processes in place; there are no formally agreed customer Operating Level Agreements (OLAs) in place backed up by supporting vendor Service Level Agreements (SLAs); very few services have identified IT service and business owners and their roles; technology services are not being appropriately designed to deliver the business services they underpin. Alignment to Service Management industry standards and best practise (ITIL V3) is poor.

Implementation and continual improvement of a true service-oriented approach to IT will address the above challenges and deliver significant business value for NHSBT as follows:

- Reduction in unplanned downtime by ensuring reliable and robust IT with appropriate service level commitments.
- Faster delivery of change according to agreed business priorities.
- Maximised value obtained from supplier partnerships.
- Increased user engagement, satisfaction and willingness to adopt.
- Improved visibility and transparency through better communications and processes.
- Reduction in IT costs through efficient use of resources.

In order to demonstrate measurable improvement, the following targets have been defined for the Service Management function, deliverable through the engagement with the wider business and other IT functions:

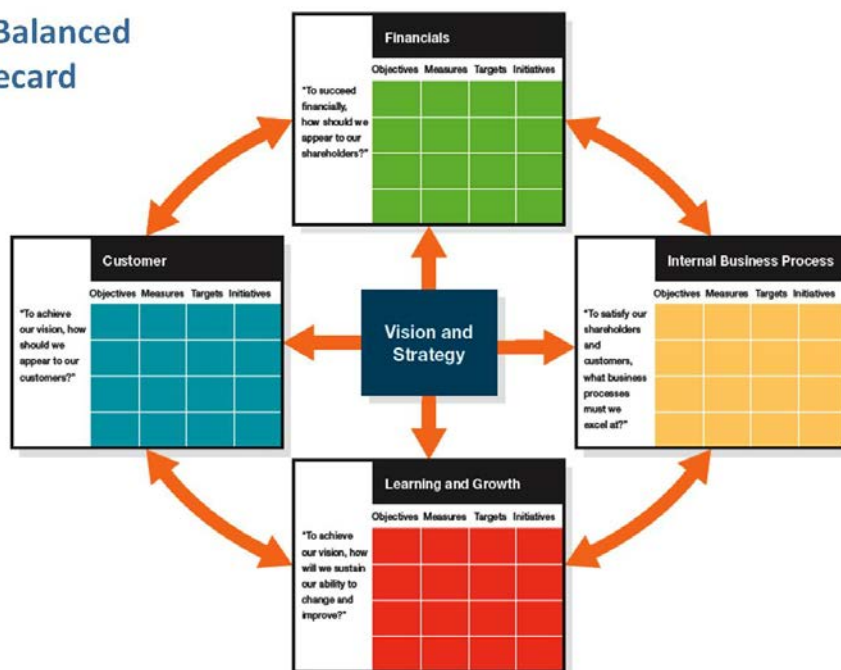
- Implement a Service Management Process Assessment Framework and complete first review by 31st August 2015.
- Reduce IT unplanned downtime by 50% for owned business services by 31st March 2016.
- Implement Operating Level Agreements for all owned services by 31st December 2015.
- Achieve a 70% positive response at the next Your Voice survey for Service Management function.

These targets will be reviewed periodically to ensure that they remain relevant and are delivering the necessary improvement in the provision of IT services to NHSBT.

5. MEASURING SUCCESS

Using the Balanced Scorecard approach, developed by Kaplan & Norton, we are introducing a performance management scorecard focusing on the four elements

The Balanced Scorecard



For Customers we will focus on the key supported services and will measure data on availability of core services and fix times for any downtime. Customers are also concerned about progress against the Platform Strategy as this has a huge impact upon their business transformation plans. Finally, as business partners, we need to demonstrate we understand the requirements of the customer. This would be measured via a regular customer satisfaction survey.

For the Financials, we need to be demonstrating the ability to forecast and manage finances, for both operating budgets and projects. Focus on the management of the mitigation of risks during this period of high activity with the Infrastructure Hosting Project, a potential new networks and telecoms supplier, a new desktop and the start of the Pulse Replacement Programme is key. There will be ongoing use of benchmarks to check relative efficiency

In terms of Internal Business Processes, we need to carry out routine maintenance to our systems to minimise downtime, be able to fix our infrastructure quickly, ensure data is held securely and be able to restore it if required. We need to ensure that we are working to the planned BC/DR testing of our services and that there are no serious incidents which jeopardise our regulatory approval.

The key areas of Learning and Growth apart from the standard measures of mandatory training, PDPRs, absence, vacancies and H&S incidents are to ensure that we are developing the skills we need for the future and that we have the required level of resources.

The benefits of this methodology are to ensure the whole team is aligned with the strategy and understands the needs of the customer as part of our new Service Management approach. This should ensure we can respond to the needs of the business, both now and for the future.

This scorecard will be introduced to ICT from June onwards, but the exact measures of some of the elements will continue to be developed over the next 6 months.

6. KEY RISKS AND MITIGATION APPROACHES

The degree of change required to our technology services in order to bring them up to a level that is reliable and sustainable is significant. In 2012, a presentation to the Governance and Audit Committee identified the risk arising from our solutions becoming end of life. Unfortunately, action to address this has been slow and we now find ourselves having to both update and move existing systems while also delivering new, digital services. This situation is exacerbated by a lack of formal change and incident management processes and evidence of poor housekeeping. In a sense, the systems could be described as a patient that started to become rather ill 4-5 years ago, ignored doctors' advice to have significant treatment as too expensive and challenging, and also neglected to take medicine which might have controlled some of the symptoms.

The number and the scale of risk affecting ICT services is significant and can broadly be grouped into the following categories:

- Business Continuity

- Information Security and Data Quality
- Uncontrolled change
- Scale and complexity of change required:
 - Impact of the Data Centre move
 - Impact of the new desktop
 - Impact of the Pulse Replacement Programme

Ordinarily, we would not choose to address each of these areas at the same time but the delays that have already occurred in moving to new systems, or even current versions of existing systems, limit the options for further delay.

Individual risks and actions to mitigate them are recorded in the NHSBT Corporate Risk Register and are regularly reviewed (at least quarterly) at ICT Senior Management team meetings. The current highest ranked risks are:

- Loss of a data centre or major processing location, with an inherent risk score of 25 (the maximum) and a residual risk score of 20. The further mitigating actions relate primarily to executing controlled failover testing between sites, moving out of the existing data centres, and carrying out a review of resilience at local sites such as Filton.
- A failure of the NTxD or EOS systems for a length of time which causes patient harm. This also has an inherent risk score of 25 and a residual risk score of 20. The further mitigations are to perform minimal change on the existing NTxD database and to migrate away from it in line with the ICT Strategic Framework.
- The number, size and impact of the change projects being pursued and their requirements for ICT resource. This has an inherent risk score of 20 and a residual risk score of 16. Mitigating actions are as per the approaches defined below.
- A failure of the Hematos platform making it unavailable for a period exceeding 2 hours which results in patient harm. The inherent risk score is recorded as 20 and the residual risk score 16. Mitigations also relate to the implementation of improved resilience in our data centres.
- A loss of critical data contained in insecure file servers, with an inherent risk score of 20 and a residual risk score of 16. There are related risks in respect of Information Security more broadly. Further mitigations relate to the actions to be taken following the recent and upcoming PwC internal audits.

At a higher level, there are a number of broad approaches to risk mitigation which could be pursued. These have been evaluated as follows:

Option	Current View	Comments
Do less – accept the risk of continuing with some unsupported applications and defer key elements of the strategy	Unacceptable	<ul style="list-style-type: none"> • We have already allowed substantial delays. • The current programme will take 3-5 years by which time the risk would be grave. • Potential for severe patient impact and reputational damage
Reduce the number of supported services – focus IT on the core services only and require the business units to support niche applications	Undesirable	<ul style="list-style-type: none"> • Risk that we make the problem worse by introducing more unsustainable IT • Inefficient use of resources • Business units do not have capacity or expertise
Secure additional internal resources to meet the requirement	To be pursued	<ul style="list-style-type: none"> • Benefit of increasing the skill sets of the team • Resource would not be required long term • Types of skills may only not be readily available at NHS pay scales
Secure additional external resources by the development of strategic partnerships with specialist suppliers	To be pursued	<ul style="list-style-type: none"> • Allows us to share the risk, but we cannot outsource it entirely. • Need to ensure we manage relationships well • Could be used to transfer skills to internal resources
Put in place supportive governance and assurance mechanisms, such as IT Advisory Board, use external testing and validation approach.	To be pursued	<ul style="list-style-type: none"> • Needs robust performance and service metrics • Requires action planning and service ownership accountabilities

The latter three are considered most likely to deliver a successful solution and are the approaches currently being taken.

Aaron Powell
Director of ICT (Interim)

May 2015

APPENDIX A – ICT Organisation Structure

