

04012
Project End Report

Project End Report
For
EDI for Blood Stocks Management Scheme
NBS Project Code
04012

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2 Distribution

2.1 Project Sponsor

Gerry Gogarty – Acting Director of Public and Customer Services

2.2 Project Board

NAME	TITLE	By	NAME	TITLE	By
Gerry Gogarty	Acting Assistant Director of PCS	E			
Neil Hogg	General Manager IT	E	George Philp	Telepath / iSoft Representative	E
Peter Baker	Hospital Representative (Royal Liverpool University Hospital)	E	Judith Chapman	BSMS Manager	E

2.3 Project Team

Name	Role	By	Name	Role	By
Judith Chapman	Senior User	E	Sam Bolton	Project Manager	E
Stuart Halson	EDI Lead	E	Sarah Raymond	Lead Quality Specialist	E
Richard Cook	IT Lead	E	Graham Williams	Change Control	E
Rob Hick	Senior User	E	Kai Liu	Network Security	E

3 Issue History

Version	Date	Review	Name	Page(s)	Description
0.1	06-07-07		04012_PENR_20070706		Version 0.1 for Project Board review

4 Project Overview

4.1 Project Objectives

The primary objectives of the project are -

- The selection of NHS software systems and user hospitals as directed by the identified needs of the pilots by the project team.
- To develop the necessary software and hardware solutions to allow electronic transfer of data between participating hospitals and the BSMS.
- To pilot the electronic transfer of data information between participating hospitals and the BSMS.
- Monitor the efficiency, accuracy and quality of data transferred throughout the project and the potential impact for BSMS, software suppliers and hospitals of new system.
- To report on the effectiveness of the pilots, making recommendations for the use of the system with other BSMS participating hospitals.
- To determine a process to be used when integrating other software systems and hospitals into the system.

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4.2 Method of Approach

The project team will approach Laboratory Information Management System (LIMS) software suppliers for expressions of interest in a FOD pilot. Hospitals that are using each LIMS will then be recruited for the pilot, in conjunction with their LIMS supplier.

Following the pilot, the outcomes will be analysed and recommendations for the future direction of FOD will be made.

5 Project Objective Details

5.1 The selection of LIMS and user hospitals as directed by the requirements of the project.

The Project Board determined that the project should encompass three LIMS suppliers: Technidata (TDLims), iSoft (Telepath) and CliniSys (LabCentre). Each LIMS supplier would nominate two user hospitals and then, subject to Project Team approval, the hospitals would be approached to participate in the pilot. It was felt that two hospitals per LIMS would provide sufficient activity to highlight any issues, whilst maintaining a manageable workload for the Project Team.

In the early stages of the project, two hospitals were successfully recruited to participate in the pilot. These were Royal Liverpool Hospital (RLUH), which uses Telepath, and Hull Royal Infirmary (HRI), which uses the LabCentre system. Unfortunately, despite regular contact with LIMS suppliers and their best attempts to nominate appropriate hospitals, no new hospitals were recruited for about 4 months. The Project Team suspect that the reasons for the slow uptake included:

- The requirement for a hospital to upgrade to the latest version of the LIMS software to include the FOD functionality. This has both cost and workload implications.
- The unsuitability of many hospitals due to local management procedures and insufficient personnel.
- The lack of any perceived benefits of participation.
- A lack of enthusiasm for the pilot caused by the perception that it would cause a significant increase in workload.

As a result of this situation, the Project Board agreed to change the approach and continue with a pilot using only the two recruited hospitals. The pilot would be used to formulate a process by which new hospitals and LIMS could be recruited to FOD in the future. The new format pilot would have two stages:

1. Ensure that the FOD files could be transferred to the NHSBT and processed successfully.
2. A two-week data checking process that involved a comparison of the data returned via FOD with data collected manually by the hospital

Shortly after this decision, the John Radcliffe Hospital (JR) was recruited as a second Telepath user. Unfortunately CliniSys were unable to nominate another hospital within the timeframe of the pilot and so only HRI were able to participate.

A. Board Decision Required:

Whether CliniSys can be exempt from piloting a second hospital given that the HRI have been sending FOD data successfully for over 4 months.

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5.2 To develop the necessary software and hardware solutions to allow electronic transfer of data between participating hospitals and the BSMS.

The software and hardware solution was specified by the Project Team, led by Rob Hick, and was codified in the User Requirements Specification (URS). The development work was led by Richard Cook. The solution is described in the URS Response (doc ref). The acceptance testing was led by Rob Hick. It was agreed that a beta test of the software by external users was not required as this would form part of the pilot.

One potential problem for hospitals seeking to use FOD is the set up of the FTP transfers between the hospital server and the NHSBT FTP Server. Experience has shown that many hospitals are not able to easily set up FTP transfers due to a number of technical reasons, most notably hospital firewall restrictions. It was therefore decided to provide a backup file transfer mechanism that did not rely on FTP (the preferred transfer method). This system was provided as part of the software solution. In order to test the backup transfer mechanism, the JR undertook the pilot using this system.

The software solution received an acceptance certificate from Angille Heintzman on 15 June 2007.

There were no issues associated with the transfer of files during the pilot.

The software solution specified and developed was done so with a view to ensuring a successful pilot. From the operation of the pilot, it is clear that a number of modifications to the software are required before FOD can be made widely available. These include

- Rewrite the software into .net to give the solution a longer operational life and to make it compatible with VANESA.
- Move the system for managing the transfer and processing of files onto a live server. Also develop the system further to allow for more regular transfers and ad-hoc runs.
- The ability for the software to send emails to specified users when the file processing fails and to include details of the failures.
- Other developments to improve the user interface for BSMS staff and hospitals

5.3 To pilot the electronic transfer of data between participating hospitals and the BSMS.

During the pilot, FOD data was available from all three participating hospitals on most days. The major reason for missing data was missing files; caused by forgetting to run the FOD process at the hospital in the morning. Another, more intermittent reason was that the FOD file did not process because it failed the validation checks.

A discussion of the causes of the data issues and their impact on the project is contained in sections 5.4 and 5.5 of the report below.

5.4 Monitor the efficiency and accuracy of data transferred throughout the project and assess the potential impact for BSMS, LIMS suppliers, and hospitals of the FOD system.

The transfer of files was found to be efficient and effective. The only notable problem was in the files received from the JR which were occasionally corrupted and therefore failed to process. This was identified as local issue caused by the transfer of files from Telepath and it would be possible to rectify the problem for a live system.

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The data check part of the pilot was not conducted with RLUH due to absence of Rob Hick and Peter Baker. It is noted though that files have been received and processed from RLUH since 13 March 2006.

The data checks at HRI and JR were conducted and revealed a number of issues. These were generally around the quality of the wastage data. The issues at HRI were resolved during the pilot and all differences were accounted for; thus HRI are deemed to have had a successful pilot. At the time of writing, the wastage data at the JR is still presenting a number of unresolved issues and as such the JR cannot be considered as a successful pilot.

There were two reasons that the data returned by FOD was incorrect; these were:

- Incorrect identification of products – LIMS maintain their own product tables in which it is possible to allocate multiple barcodes to a single product. There was therefore some initial misidentification of products which was rectified by comparing the local product table to the NBS Product Portfolio.
- Unable to use appropriate wastage classification – LIMS systems are not able to code wastage according to the FOD definition. Particularly, they aren't able to reclassify time expiry wastage (required for MORNU/SORNU/STEX in platelet wastage). They are also unable to define specific sets of wastage classifications for particular product groups.

B. Board Decision Required

Should the FOD implementation simply require a validation check of the hospital product table to ensure it is correct or does the use of local product tables need to be reconsidered in light of EU guidelines?

C. Board Decision Required

Does the wastage classification system need to be redesigned to fit in with existing LIMS wastage systems? This would mean that the existing VANESA wastage system would also require modification to ensure that manually entered data was compatible with FOD data.

5.5 To report on the outcome of the pilot, making recommendations for the use of the system with other BSMS hospitals.

In general, the pilot was a success but revealed some potential barriers to wider rollout. The issue of data quality, i.e. ensuring that FOD is sending correct data, needs to be addressed for each hospital be addressed, either by rigorous implementation procedures or data checking periods.

In order to establish the veracity of the FOD data, the actual unit information needs to be made available via VANESA to the hospital. This will allow them to chase up any unusual information.

The pilot was very labour intensive, both in data entry and data checking. At most it would only be possible to concurrently pilot about 10 hospitals in a similar way. This would also require the development of a software solution that facilitated the comparison of manual data and FOD data and the recording of any reasons for differences.

The process for managing files that have failed to process needs to be streamlined so that the hospital is able to resend or rerun the FOD process quickly.

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D. Board Decision Required

A number of files were missing because the hospital didn't remember, or wasn't able, to produce the FOD file. In light of this, should the FOD system be revised to recommend that a file is automatically produced at 09:00 every day?

E. Board Decision Required

Once hospitals have been approved to use the system, is there a requirement to check the quality of data periodically to ensure on-going quality?

5.6 To determine a process to be used when integrating other LIMS and hospitals into the FOD system.

The pilot has only allowed the project team to highlight areas which may cause a hindrance to a rollout of the FOD system. At the beginning of any rollout phase, it is therefore recommended that a document is produced that defines the exact process by which a hospital implements the FOD system. A similar process is required to approve each LIMS supplier that wants to implement a FOD solution.

6 Recommendations for Future Developments of FOD

1. The FOD software and hardware solution is redeveloped to support a wider rollout of a live system
2. VANESA is developed to allow reconciliation of units. This would allow hospitals to trace units from the point of dispatch from the NBS to their eventual fate (wasted or transfused) in the hospital. Any unreconciled units could be flagged for attention.
3. VANESA is developed to support other operational aspects of inventory management in hospitals.
4. The FOD protocol is revised to include clinical information about transfusions

7 Board Decisions Required

- A. Whether CliniSys can be exempt from piloting a second hospital given that the HRI have been sending FOD data successfully for over 4 months.
- B. Should the FOD implementation simply require a validation check of the hospital product table to ensure it is correct or does the use of local product tables need to be reconsidered in light of EU guidelines?
- C. Does the wastage classification system need to be redesigned to fit in with existing LIMS wastage systems? This would mean that the existing VANESA wastage system would also require modification to ensure that manually entered data was compatible with FOD data.
- D. A number of files were missing because the hospital didn't remember, or wasn't able, to produce the FOD file. In light of this, should the FOD system be revised to recommend that a file is automatically produced at 09:00 every day?
- E. Once hospitals have been approved to use the system, is there a requirement to check the quality of data periodically to ensure on-going quality?

8 References

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