Internal Audit

JAC Implementation

February 2014

Overall Opinion	Satisfactory

Executive Summary

Overall opinion	Satisfactory

Risks	Control Opinion
Project structure does not support effective delivery	Fully satisfactory
JAC does not prove to be stable and secure	Satisfactory
Pharmacy or eHealth is unable to operate or support JAC	Satisfactory

Overall opinion

The project has been set up following a well established structure, with an experienced Project Manager from eHealth and firm commitment from Pharmacy.

The standard version of JAC being implemented within NHS Lothian is already being used by other health boards. While the project has been delayed due to serious reservations with the quality of the Drugs File built by JAC Computer Solutions, the company has agreed to dedicate resource to rectify the situation. Before implementation, key tasks remain to be completed including checking the revised Drugs File, user acceptance testing, configuring hardware and drafting fall-over procedures.

While other health boards already use JAC, Pharmacy still needs to determine how JAC will operate across NHS Lothian. Actions to be addressed include writing guidance notes, updating Standard Operating Procedures, assigning user access profiles and training staff.

The Project Manager and Associate Director of Pharmacy have revised project plans with the aim of implementing JAC over two phases starting in May.

Project structure

The project has been set up following a well established structure, with the Medical Director as Project Sponsor and an Associate Director of Pharmacy chairing the Project Board. Recently, an Operations Group has been set up to consider specific stages of the project, with leads from Pharmacy nominated for specialties such as dispensing, stores and aseptic services. In addition, an experienced Project Manager has been appointed from eHealth, with the project following PRINCE2 methodology.

As well as the Project Manager's overall project plan, a sub-plan covering tasks required by Pharmacy is maintained by the Associate Director of Pharmacy. The plans have recently been revised and aligned to reflect the rescheduling of implementation dates. While appearing reasonable, the resource and time required for critical tasks can only be estimated, eg verifying the Drugs File, user acceptance testing and manually inputting stock balances. The Project Manager holds a Risk Register covering higher level risks and issues which the Project Board might find useful to review.

In line with NHS Scotland's national framework, NHS Lothian's contract is with ▮▮▮▮▮▮▮ (the supplier of TrakCare), rather than directly with JAC Computer Solutions. Nevertheless, the Project Manager and Associate Director of Pharmacy report acceptable levels of interaction and support from JAC Computer Solutions. The contract sets out milestone payments to be made to ▮▮▮▮▮▮▮, with the capital costs financed by eHealth and annual support costs to be paid by Pharmacy.

Rather than abdicating responsibility to eHealth, the commitment of Pharmacy staff towards supporting the project was clearly evident. As well as positive comments by the Project Manager, Pharmacy staff demonstrate strong ownership and determination to implement JAC successfully.

Stability and security

As part of a national framework, JAC is already being used within four other health boards. Rather than any bespoke changes, the same standard version of JAC is being implemented within NHS Lothian.

Disappointingly for the project team, the target date for implementation has recently had to be rescheduled after the Drugs File provided by JAC Computer Solutions was found to be significantly incomplete and inaccurate. With JAC Computer Solutions agreeing to dedicate resource to rectify the situation, Pharmacy now expects to receive the corrected Drugs File in mid-February, with several weeks required for verifying and validating the contents. Also, the Drugs File will require to be updated to reflect changes since the core data was provided to JAC Computer Solutions in September.

The contract with ████████ sets out a comprehensive framework for user acceptance testing, including Test Strategies, Test Plans, Test Specifications, Test Reports, Test Issue Management Logs, Test Quality Audits and Test Certificates. Rather than following that framework exactly, a simpler structure for user acceptance testing is planned using test scripts that are still to be developed by Pharmacy, with examples to be provided by JAC Computer Solutions. The Project Manager considers the risk of JAC failing user acceptance testing to be low, especially as JAC is already being used by other health boards.

With implementation originally planned for March, Pharmacy has agreed with Finance for the annual stock-takes at Pharmacy stores to be done at the end of February. During the implementation weekend, stock balances are to be taken from Ascribe and Pharmiss and manually input to JAC. The practicalities and time required for this significant task are to be tested in advance of the implementation weekend.

The configuration, installation and testing of hardware for running JAC remains to be completed. While the aim is to make JAC available using SunRay, initial testing of SunRay has resulted in a fatal error being reported, linked to a timing issue when trying to connect to the server. If SunRay is to be used, the associated hardware will require to be fitted across Pharmacy's sites. Otherwise, JAC application software will require to be downloaded onto Pharmacy's existing network of PCs.

For contingency and disaster recovery, JAC is to be installed on servers at the Royal Infirmary of Edinburgh and Western General Hospital, with one server maintaining a real-time mirror image of the live system. Also, standalone versions of JAC are to be installed at each Pharmacy site in case of network failures. Fall-over plans remain to be finalised and tested, including processes for reverting to the networked system after using standalone versions. Nevertheless, fall-over plans are expected to be very similar to plans already in place for Ascribe.

Implementation is now being planned to take place in two phases. The first phase is to take place in early May and implement JAC at St John's Hospital, Royal Edinburgh Hospital and Roodlands. The second phase is to take place one week later and cover the Royal Infirmary of Edinburgh, Western General Hospital and Royal Hospital for Sick Children.

Operations and support

As part of the contract, JAC Computer Solutions provided 6 training spaces during December and January covering the 7 modules within JAC, with Pharmacy varying the attendees for particular modules. Only one member of staff attended almost the full training, with none of the attendees subsequently having access to JAC's training system. Pharmacy intends to cascade training to other staff under a train-the-trainer model, with plans still to be finalised. Also, while JAC Computer Solutions has provided some guidance notes for using JAC, user guides need to be written and Standard Operating Procedures updated to cover the use of JAC within NHS Lothian.

With the standard version of JAC being implemented, Pharmacy has identified some operational limitations for which workarounds need to be developed. For example, JAC does not readily support functions or volumes of activity within NHS Lothian such as over-labelling, non-stock requests and paediatric Total Parenteral Nutrition. With Pharmacy specialists, the project team is considering options for addressing these matters.

The contract with ████████ allows for 75 concurrent users of JAC. Although no specific analysis is available, Pharmacy advises that this number of users is in line with current operational requirements. At present, Pharmacy is starting to consider the mapping of users against the 4 core user profiles provided within JAC (compared with 8 standard profiles within Ascribe), with analysis required to confirm that users are granted the correct authorities. Meanwhile, Pharmacy is recruiting a dedicated Systems Administrator for JAC.

With the implementation of JAC delayed, Pharmacy has needed to extend licences and support for Ascribe and Pharmiss. Meanwhile, Pharmacy is planning for the level of archiving required from Ascribe and Pharmiss, eg transaction histories, stock-levels and financial reports. In particular, historical clinical data on prescriptions is be stored in a database for one year.

Background, Objective & Scope

Background

Pharmacy operates 4 main stores: Royal Infirmary of Edinburgh, Western General Hospital, St John's Hospital and Royal Edinburgh Hospital. In addition, stock is held in Pharmacy stores at other locations including Royal Hospital for Sick Children and Roodlands.

Pharmacy is currently replacing the Ascribe and Pharmiss systems which have been used to record stock holdings and movements. Under a contract with ███████████, the new IT system, JAC, is being provided by JAC Computer Services at a capital cost of █████ and ongoing annual support costs of █████. Pharmacy is obtaining JAC under a national framework contract maintained by NHS Scotland. The system includes functionality for stock control, such as stock holdings, order levels, reorder quantities and dispensing information. Also, JAC is to interface with Finance's systems to support procurement and payment processes.

Pharmacy intends to implement JAC in two stages starting in early May. During stage one, JAC is to be implemented at St John's Hospital, Royal Edinburgh Hospital and Roodlands. During stage two, JAC is to be implemented at the Royal Infirmary of Edinburgh, Western General Hospital and Royal Hospital for Sick Children.

Objective

The objective of the audit was to evaluate the adequacy and effectiveness of internal controls for managing the project to implement JAC.

The audit focused on specific risks.

- Project structure does not support effective delivery.
- JAC does not prove to be stable and secure.
- Pharmacy or eHealth is unable to operate or support JAC.

Scope

The scope of the audit included:

- project framework and plans;
- contract management with the system's supplier;
- system and user acceptance testing;
- populating data into JAC;
- user access rights and authority levels;
- training and manuals for Pharmacy and IT staff;
- interfaces with business areas and IT systems, eg Accounts Payable;
- implementation and back-out plans;
- decommissioning of Ascribe and Pharmiss, including data archiving;
- disaster recovery and contingency plans; and
- budgets and finance.

The scope excluded:

- options appraisal and selection of JAC; and
- functionality within JAC.

Definition of Ratings

<u>Audit Opinions</u>

- Fully satisfactory - the control framework is fully adequate and effective to manage the main risks within acceptable limits.

- Satisfactory - although improvement is possible, controls are adequate and effective to manage the main risks within acceptable limits.

- Requires improvement - significant issues exist with the adequacy or effectiveness of controls which could result in disruption, loss or reputational damage.

- Unsatisfactory - the control framework is generally inadequate or ineffective with issues that require immediate attention to prevent disruption, loss or reputational damage.

Audit Team

████████████, Principal Auditor
████████████, Chief Internal Auditor

Distribution List

Tim Davison, Chief Executive
Susan Goldsmith, Director of Finance
David Farquharson, Medical Director
Alex McMahon, Director of Strategic Planning, Performance Reporting & Information
Alan Boyter, Director of Human Resources & Organisational Development
Alex Joyce, Employee Director
Angela Timoney, Director of Pharmacy
Martin Egan, Director of eHealth
████████████, Associate Director of Pharmacy
████████████, Associate Divisional Medical Director
████████████, eHealth Programme Manager
████████████, Senior Project Manager
Stuart Wilson, Director of Communications & Public Affairs
Audit Scotland, External Audit

This report has been prepared solely for internal use as part of NHS Lothian's internal audit service. No part of this report should be made available, quoted or copied to any external party without Internal Audit's prior consent.