

Single Solution:**Echocardiography****Pacing****Cath Labs**

Client Case Study

Multi-discipline CardioPACS

County-wide NHS Trust

Solutions Change provided Programme and Project Management in the lead up to Go-live in Adult Echo at this NHS Trust. A county-wide NHS Trust providing Cardiology services across three sites invested in a specialist Cardiology PACS to improve workflow and meet growing demand for services.

Requirements

The NHS Trust in this case study required a CardioPACS as a dedicated archive to be installed together with dedicated Cardio workstations and 'best-of-breed' applications for interpretation and reporting of examinations.

Collection and interpretation of data: Cardiology departments' workflow in the UK has often been added-on to existing, standard PACS workflows using Radiology PACS workstations. However, cardiology reporting also requires specialist applications for accurate interpretation and measurement, many of which are now collected at the modality using DICOM Structured Reports (DSR). The Trust wished to take advantage of the electronic transfer of data collected and use structured reporting combining the clinical data and measurements alongside patient diagnostic images provided by the PACS study archive.

Multiple data sources supply clinical information for diagnosis and reporting: Cardiology data is not just limited to Angiography but includes non-invasive disciplines such as:

- Echocardiography;
- ECG Monitoring;
- BP Monitoring;
- Event Monitoring;
- Exercise tests;
- MV02 – cardio pulmonary exercise tests;
- Pacing;
- Electro physiology.

Electronic patient record: The Cardiology department which today largely continues to exist with the collection and distribution of paper records can become fully integrated into a Trust-wide electronic patient record for the rapid distribution of results. This type of solution has been delivered with other electronic clinical systems with great success. There is typically a significant reduction in lost records and a reduction in the need for repeat examinations with all the costs (patient impact and financial) associated with these inefficiencies.

Best of breed applications: In the past all of these disciplines would typically be using different IT systems. However, in recent years the Cardiology PACS applications have evolved such that IT suppliers have either expanded their proprietary offering or collaborated with other "best of breed" application providers. An integration of "best of breed" solutions has enabled all of the above disciplines to be integrated into a single Cardiology solution for image review together with utilising standard RIS functionality to ensure the patient identification information meets national standards. The Trust wished to take advantage of these "best of breed" solutions to optimise the integration of their workflow.

How did the Trust approach the Project?

The Trust was required to follow the Official Journal for the European Community (OJEC) rules for going out to Tender. The process involves publishing the Invitation to Tender (ITT) together with a detailed Outline Business Specification (OBS).

CLIENT CASE STUDY

**COLLABORATIVE WORKING:
EXPERIENCE, EXPERTISE, SKILLS,
KNOWLEDGE, LEARNING FROM
SELF AND OTHERS.**

STATISTICS

- 3 sites
- Approx 6,000 staff

How did the Project do it?

Quality standards were applied and the PRINCE2® methodology was used, this included:

- work packages being assigned to specialist groups e.g. applications, networks, hardware and software installation, testing and training;
- a Clinical Champion was identified. They were the reference point for decisions that needed to be made with regard to the content and layout for diagnostic reports. They also supported the project by providing a communication channel with clinical colleagues regarding the progress of the implementation;
- risks and issues logs were created and maintained throughout the project;
- a formal go/ no-go review took place following formal documented testing of the systems.

Solutions Change worked in a collaborative style and acted as the interface between the Supplier and the Trust to ensure that the Contract, once agreed, was delivered as specified.

Challenges

This project delivered the Suppliers' "first-in-country" deployment of leading application software for the post processing of ultrasound images captured at the time of patient examination. The complexity involved in this therefore presented a number of challenges:

Workflow: Careful and thorough analysis of existing workflow had to be undertaken to ensure that all requirements were captured for all sites, who were for the first time attempting to work on the same workflow and using the same imaging.

DSR Measurements all captured at Cardiology workstation: It was vital to the envisaged workflow that all DSR measurements that could be captured during an Echogram could be subsequently analysed at the Cardiology workstation.

Modality compliance with DSR standards: These measurements varied according to the manufacture of the modality and where these measurements could not be post-processed due to non-compliance with DSR standards, a Request for Change was to be made so that potential development can take place between the manufacturers of the equipment and the application developers.

How did we help?

Solutions Change provided Professional Services to deliver the deployment of the new systems.

Project Board: Communication of the status and progress of the Project was reviewed at regular Project Board meetings. This required our attendance at Project Board meetings and on-site support of the implementation process to ensure that tasks assigned for Supplier staff could be carried out as planned.

Formal testing and documentation: We also were responsible for overseeing formal testing and documentation handover to the Trust and the Supplier Service Management function. Formal testing was conducted by engaging both the Supplier applications and technical teams and end-users of the system from the Trust. Formal test scripts were followed, results documented and acceptance of the system was signed by the Trust.

Project Management and Project Planning: As overseas representatives of 3rd party application suppliers were required to be on site, careful planning and communication was required to make sure that all relevant staff could be available to support the tasks identified on the dates specified to maximise the productivity of all concerned with the deployment of the project.

Risks and issues management: A consolidated list of all project risks and issues from the Supplier and Trust perspective was created and maintained. This was reviewed and updated regularly.

About Solutions Change

Solutions Change is an organisation providing Professional Services and Solutions to the Healthcare Sector, primarily in the UK. We specialise in Project and Programme Management in addition to many other Professional Services related to programmes of work involving changes in people, process and technology. We sub-specialise in RIS and PACS for Radiology and Cardiology. The organisation has existed since 2002, employing individuals who are highly experienced in large, complex projects and programmes.

Further information and contact at:
www.solutionschange.com

Successes

The project achieved its goals and the successes included:

Go-live date achieved: The project went live at all 3 sites on the dates agreed with the Trust;

Full application training and remote technical support: This was available throughout the go-live period to support the users in their new workflow arrangements and no new issues were identified;

An integrated clinical workflow: An integrated workflow for reporting on multiple data sources was implemented;

Successful integration of "Best of breed" applications: Clinical reporting systems were integrated successfully with the PACS study archives and RIS scheduling system as a "first of type" in the UK;

EPR integration: Integration with the electronic patient record was implemented.

