

Image Exchange Portal – supporting clinicians and improving patient care

The Image Exchange Portal (IEP) is a web-based application that allows healthcare professionals to securely transfer patient images from one hospital trust to another. The system has been deployed in increasing numbers of trusts since January 2010 and significant benefits are already being realised for both hospital staff and patients.

IEP was designed to eliminate the costly production of CDs, streamline radiology reporting and improve the patient experience. It's expected that 120 trusts will be using IEP by June 2010. By this time some 20,000 patient studies will have been transferred using the system, significantly reducing the number of patient images that have to be burned to CD and sent via costly courier services.

PACS medical director Erika Denton says that IEP "is a major step towards ensuring that diagnostic imaging information can be shared along a patient's care pathway in a secure way".

A model of user engagement

Key to the success of the IEP to date has been the involvement of trust representatives during all phases of its development. Clinicians and PACS managers from NHS North East were consulted for their requirements and this meant that the scope of the service was realistic and achievable.

Matthew Trehwella, Clinical Director of Radiology at North Tees and Hartlepool, says: "It meant everyone involved had a vested interest in making it a success. Where we are now with the solution is exactly where we planned to be."

Originally intended as a solution for image transfers between NHS sites and independent sector healthcare providers, it quickly became apparent that IEP would be equally valuable for transferring PACS images between NHS sites.

Consequently, in late 2009 the PACS team at NHS Connecting for Health began deployment of 120 free IEP licences to trusts on behalf of the Department of Health. Fast forward to June 2010 and those 120 sites are now live and sharing images with one another. Additional trusts have elected to buy the solution themselves and are now being connected.

The ease with which IEP has been implemented reflects the high level of user input into its development. Operation of the solution is very simple:

- The requestor completes a simple request form on IEP containing the important patient identifiable data. This enables the providing trust to ensure it is sending the correct images back.
- The operator at the providing trust receives the request for the patient study in IEP and identifies the relevant study on their PACS workstation. They then send this to IEP.
- The study is attached from the PACS to the request, and then sent to the IEP server.

Within minutes (depending on the urgency of the request) the study is available at the requesting trust. The providing trust is notified when the study has been successfully made available for the requesting trust.

This ease of use means that over the last six months trusts have already begun to reap huge benefits from IEP.

Striving to minimise CD usage across the NHS and improve patient care

Image transfers between trusts have often involved 'burning' patient images onto encrypted CDs and then transferring them to requesting sites via a taxi (if urgent), through the post or along with patients.

Not only is there a significant cost for this to the NHS (an estimate of £12.50 per CD, thousands of which are produced every year) but there are risks that the CD may never arrive. Often they need to be re-sent, either because they have been lost in the post or have not been delivered to the right person in the hospital.

Mark Williams, PACS Manager for Calderdale and Huddersfield Foundation Trust, confirms that IEP has introduced a solid and safe audit trail for the transfer of images. "Using CDs usually involved sending the disc off and then keeping your fingers crossed that it would get to the right person at the receiving site," he says. "With IEP we are able to confirm that the images have arrived at their destination."

In the short time that the IEP has been available there have already been several examples of how the IEP is improving staff and patient experience by eliminating the need for CDs.

Steve Evans – University Hospitals of Morecambe Bay

"A child suffered a head injury in a car accident and after initial treatment at our trust he was transferred to a children's hospital in Manchester, which needed to see his images urgently.

"Before IEP we would have had to burn the images onto CD and use a taxi to take them to Manchester, which would have increased the risk to the patient (perhaps due to traffic or the CD being given to the wrong person) and also incurred a cost for the trust.

"With IEP we were able to send the images to Manchester within minutes and the clinicians there were able to view them straight away, knocking a couple of hours off the treatment time and giving the patient the best possible chance for a full recovery.

"On another occasion, a patient broke their leg in London, was treated at South London Healthcare NHS Trust and then discharged, with a follow-up appointment made at our Lancaster hospital.

"Had we not had IEP, the patient would likely have arrived at the fracture clinic in Lancaster for their follow-up and the staff would then have to begin the process of requesting the images from South London, leading to a frustrating delay for the patient.

"The workflow improvements that the IEP has allowed, the staff at South London could make the images available soon after they treated the patient, and the images were ready to be looked at as soon as the patient arrived at the Lancaster fracture clinic."

Mark Williams - Calderdale and Huddersfield Foundation trust

"Calderdale Hospital needed to send a patient over to Sheffield but the consultant there wanted to see the images first before they could agree to a transfer.

"Usually this would mean a CD and a £200 taxi to Sheffield whilst the patient was lying around and waiting for an answer.

"With IEP in place the consultant over at Sheffield saw the images straight away and the decision to move the patient was made quickly. This has the added benefit of freeing up the bed at Calderdale for other patients."

Improving reporting rates for clinicians

As well removing the need for CDs, IEP is also enabling clinicians to streamline their work processes and providing for more efficient radiology reporting.

For instance, when a patient has a scan their images are often then discussed at multidisciplinary team meetings (MDTs). Previously, due to the time taken to access the images it would often be a couple of weeks before a patient's images would be discussed.

Colin Hockaday, Infrastructure Lead for NHS North East, has seen evidence that hospitals are now using IEP to make images available more quickly to those involved in MDTs. "This allows much more fluidity in the way that patients' studies are scheduled for review," he says.

Matthew Trewhella agrees: "IEP is streamlining the pathway so that users at MDTs can access the images for themselves. Studies get to the recipients much quicker so patient diagnosis can be brought forward one or two weeks."

The next steps for IEP

With the initial deployment of IEP nearly complete, the PACS programme is now focusing on encouraging other trusts to deploy IEP, and to improve the functionality of the solution itself.

Release 4 of IEP will add functionality to all versions of the solution and will contain some of the following features:

- Support for direct images transfer from PACS workstations
- Revised user interface including navigation and search functions
- Option to forward a transaction (including studies and report) to another user, to support onward referral to tertiary care
- Support for clinical networks

Also, the national PACS programme is currently working with the emergency clinical networks in London (trauma and stroke) to identify how IEP can assist with their image sharing needs.

IEP is providing significant benefit for image sharing across the NHS. If you require any further information about IEP or are thinking of deploying the solution in your trust then please contact

John.Sidman @dh.gsi.gov.uk

or Tim.Ridley @dh.gsi.gov.uk

[Web link : www.image-exchange.co.uk](http://www.image-exchange.co.uk)