Electronic Patient Administration System in acute and community care

Bolton NHS Foundation Trust reflect on the benefits realised over 10 years after moving to the i.PM electronic patient administration solution in both acute and community settings

(September, 2016)

THE CHALLENGE

Within the acute setting, there was initially as part of a bigger systems review a desire to move away from the traditional Patient Administration System (PAS) 'green screen' environment that was "inflexible" and "lacked data checks", to a more "sophisticated" 'Window's' based solution. As a result, in 2001, the formerly named Bolton Hospitals NHS Trust deployed the iSOFT PAS system, I. Patient Manager (i.PM).

Over time, the requirement to save money and a vision of system interoperability to support future strategic requirements, led the acute Trust to transition from their locally funded version of i.PM to a centrally funded solution in 2008 under the National Programme for IT (NPfIT). The Local Service Provider (LSP) for i.PM changed from iSOFT to the Computer Sciences Corporation (CSC).

Within the community setting, the requirement for improved functionality, which would support strategic and future requirements led to the former Bolton Primary Care Trust (PCT) to deploy i.PM in 2005.

in a nutshell

ACUTE Solution & Implementation:
- iSOFT's i.PM: 2001 — 2008
- CSC's i.PM: 2008

COMMUNITY Solution & Implementation:
- CSC's i.PM: 2008

Funding:
- Acute: Local then NPfIT
- Community: NPfIT

Patient benefits:
⇒ Timely and accurate correspondence, improving safety and experience

Staff benefits:
⇒ Improved staff experience, from the increased availability of information to support service requirements / role

Trust benefits (under the NPfIT):
⇒ Released staff time to administrative tasks (**£912** non cash releasing saving annually)
⇒ Cash releasing saving **£637,535** per year *(NB. This includes i.CM savings also deployed under the NPfIT)*
⇒ Societal savings **£600** per year

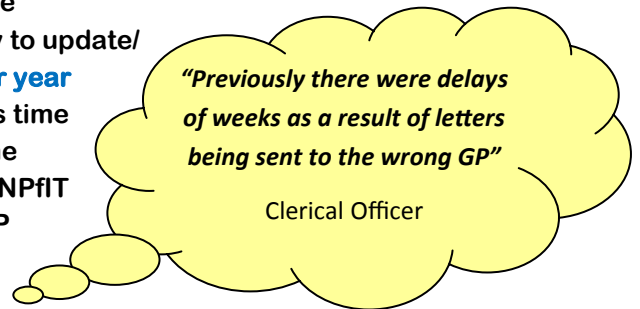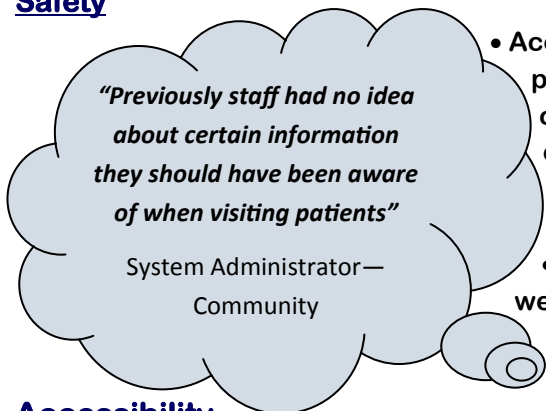# So what are the BENEFITS …

This is a combined reflection for both the acute and community settings, along with demonstrating the benefits of deploying i.PM, irrespective of funding.

Efficiency

- An electronic platform which released approximately **104 staff hours per year** allowed increased administrative efficiency and focused patient contact time
  - Electronic access to patient information and the ability to update/ complete demographic information **saves 52 hours per year** respectively in the acute and community settings. This time saving was particularly associated with the link with the national Spine, functionality made available under the NPfIT i.PM deployment. As a result of this link, patient and GP contact information is kept up to date supporting correspondence in a timely fashion.

> *"Previously there were delays of weeks as a result of letters being sent to the wrong GP"*
>
> Clerical Officer

- Electronic communications to GPs through a virtual print connection with i.PM contributes to a financial **saving of £17,535 per year** and **reducing the organisations carbon footprint by £600 per year**. It was also felt that electronic clinical letters released time, with efficiencies from pre-population of letters to finding, validating and reporting information for both non-clinical and clinical staff, previously processes heavily dependant on finding case notes.
- Legacy system **savings equated to £600,000 per year** in the **acute** environment and **£20,000** in the community with hardware and back ups being managed offsite.
  - ∗ *Note — Such savings are combined with the deployment of i.CM (Clinical Management) which was also deployed under the NPfIT but not included in this case study review)*
- Reduced DNA rate, by linking i.PM with SMS facility and supported by management policy
- Having a 'Window's' based set up, reduced some of the training time required for outside agency staff, particularly useful in areas of large staff turnaround and the need to get staff 'up and running' quickly in their role.

Safety

> *"Previously staff had no idea about certain information they should have been aware of when visiting patients"*
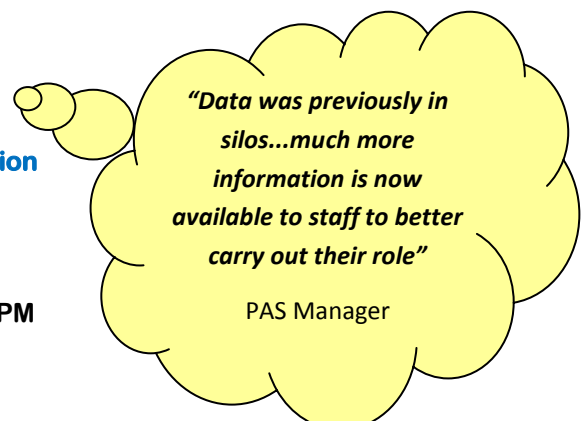>
> System Administrator— Community

- Accurate, complete patient demographic information through the provision of a link to the national Spine, ensures users access the correct and up to date information for planning and recording care safely. As a result, data quality improves, patients are uniquely identified and communication is timely along with being sent to the appropriate patient.
- Through the provision of alerts and electronic information, staff were made more aware of the patients background (e.g. police notes) to support staff preparation for care provision.

Accessibility

- With improved visibility and access to information electronically, patient and staff queries are dealt with quicker improving the experience of both parties.

Effectiveness

- Through having a central administration system, there is a greater amount of information all in one place, with **"one version of the truth"** supporting:
  - Service and performance improvement
  - Auditing and commissioning requirements
- Specific to the change under the NPfIT, system reliability in i.PM improved, supporting timely patient care.

> *"Data was previously in silos...much more information is now available to staff to better carry out their role"*
>
> PAS Manager

IMPLEMENTATION / DEPLOYMENT OVERVIEW

iSOFT's i.PM was first deployed in 2001 to Bolton Hospitals NHS Trust (named at the time) to support patient administration within the acute setting. As part of the NPfIT, i.PM, which was then managed by CSC, was deployed in both the acute and community settings to support patient administration in a single phase approach. In the acute setting, the Trust transitioned in 2008 to the same system but under a central contract. In the community, the change replaced the previous electronic system Comwise, which had been in use for over 6 years. Bolton PCT initially deployed i.PM in October 2005, which subsequently was taken on by Bolton NHS Foundation Trust post Transforming Community Services (TCS).

In preparation for the initial deployment of i.PM outside of the NPfIT, Bolton Hospital NHS Trust hired external contractors to install the Citrix terminals required for running the 'Window's' based solution. In terms of i.PM training, face to face training was provided by the organisations own training team. Tailored system guides were created depending on user roles and a 'sand pit' environment was made available for users to try i.PM. On go-live, there were initially some data migration issues.

A reflection on the system change:

"Not a lot of staff had a 'Window's' based system at home, let alone used a mouse before …. the system change was huge"

Deputy CIO

However, CSC provided extra support to resolve the issues and more generally, floor walking support was made available by the Trust to support users with the system.
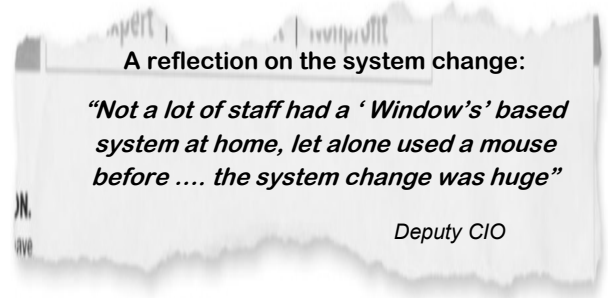
As part of the NPfIT deployment, the application of i.PM previously meant the Trust focused on communicating the changes that would become apparent with the transition to a centrally, rather than locally managed i.PM. A number of awareness sessions were run to detail the changes and bespoke in house training did take place for particular functionality changes , such as waiting list management. From a technical perspective, before i.PM was deployed under the NPfIT, an integration team were set up to develop an integration engine to interface i.PM with other systems run and control data feeds within the Trust.

Within the community setting, the roll out of i.PM under the NPfIT applied lessons learnt from a Wigan Community Trust implementation of i.PM through staff who had been involved in the Wigan deployment . Pre-go live, face to face i.PM training was delivered across a 2 month period at each health centre by a pooled pot of trainers across Greater Manchester, with training tailored by role. Much like the acute Trust, system guides and a test environment were also made available. In terms of data migration, Comwise data had to be converted into separate Microsoft Access databases (e.g. referrals, clinicians, appointments), then each table added back into a i.PM master database. Validation of each upload was carried out in collaboration with CSC and a select group of users the day before go live, to ensure all data had been uploaded correctly. Post deployment, pooled trainers were used as floor walkers on a defined schedule by health centre over a two week period to offer support and guidance.

LESSONS LEARNT

- **To realise benefits as early as possible and a smooth system roll out:**
  - Ensure end user involvement
  - Visit other live sites where possible
  - Standardise the process before rolling out the solution
  - Provide sufficient time to deal with data quality issues pre and post deployment
  - Make sure the hardware can support the performance needs of the service
  - Ensure staff see the 'bigger picture' of the value of the information they are keying into the system, particularly for those required to do new processes

- **For a successful system deployment, key factors included:**
  - Backing of the Board, with the right project team and champions from different services to drive and communicate the change, particularly that the rational for change
  - Previous system deployment experience, which was invaluable in 'getting a head start' and supporting colleagues

- **Key to effective system training:**
  - Be mindful of / don't underestimate the varying levels of IT literacy, before any system deployment and the 'fear factor' associated with system change
  - Localised face to face training by role to help staff really understand what they need to do / know

- **Be aware of any system restrictions. Being a national fit solution, system changes required national user group agreement which presented delays along with additional supporting systems being purchased to link in with an integration engine and support local needs (e.g. Locally Defined Data Items). Unless there are bidirectional data feeds, this can lead to dual data entry and staff frustrations.**

- **If a project appears to be a like for like replacement:**
  - An open mind needs to be kept in terms of expectations / benefits realisation and the level of work required to transition systems
  - Revisit any materials produced to ensure they still apply

- **Due to being significant deviations from the normal ways of work, run the PDS (Personal Demographics Service) and 18 Weeks, Referral to Treatment as separate workstreams.**

FUTURE PLANS

Although the central contract for i.PM ended in July 2016, the Trust took the decision to retain i.PM under a local contract for both the acute and community services provided.

> *A reflection on a local vs national contract:*
>
> *"Being an NPfIT solution we lost control and flexibility which supported local customisation "*
>
> Deputy CIO

By keeping the solution, the Trust intends to:
- Move onto the upgraded version of i.PM, turning on functionality previously not utilised to exploit the benefits of a truly integrated acute and community system (e.g. direct messaging and self-check in)
- Increase i.PM integration with other Trust systems
- Integrate the two instances of i.PM (acute and community) to reduce system maintenance and costs.

Despite benefits being realised within the electronic patient administration i.PM solution, opportunities to continue to improve the system have been identified, and include:
- Making the solution more process friendly in terms of screen flow, increasing the number of mandatory fields and keeping it up to date with the newest Information Standards Notices (ISNs) as well as other standards.
- Reviewing and redefining role based access / edit rights, to avoid users 'dabbling' with information they shouldn't and creating unnecessary negative impacts (e.g. clinical coding). Also linked to roles, tailor system prompts to avoid 'prompt fatigue' and users just 'clicking through' and being complacent.
- Creating a live audit dashboard, to support staff development and improve data quality.

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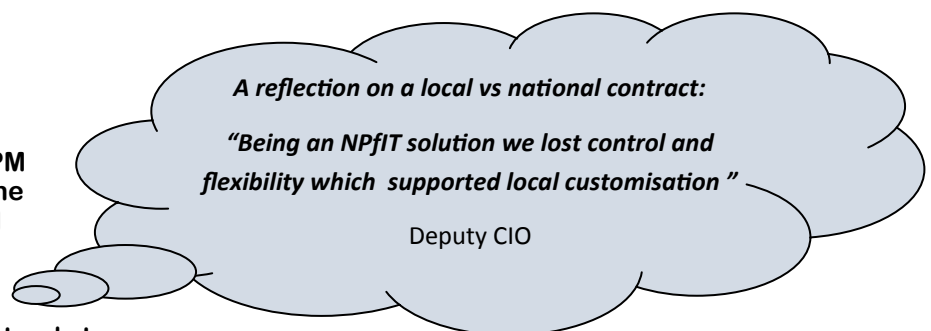
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