Electronic Document Management in Healthcare
# Contents

Electronic Document Management in Healthcare

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>EPR – the holy grail</td>
<td>4</td>
</tr>
<tr>
<td>Medical record libraries</td>
<td>4</td>
</tr>
<tr>
<td>EDM as the first step towards EPR</td>
<td>5</td>
</tr>
<tr>
<td>Scanning options</td>
<td>6</td>
</tr>
<tr>
<td>Joined-up patient care</td>
<td>7</td>
</tr>
<tr>
<td>Conclusions</td>
<td>8</td>
</tr>
<tr>
<td>A case in point:</td>
<td>9</td>
</tr>
<tr>
<td>The Ipswich Hospital NHS Trust</td>
<td></td>
</tr>
<tr>
<td>About Kainos</td>
<td>11</td>
</tr>
</tbody>
</table>
Improving the patient experience is one of the five national priorities set out in the NHS Operating Framework for 2009/10 and beyond, along with driving up healthcare quality generally. However, this must be achieved within the constraints of an already stretched 2010-11 budget, and in the knowledge that the NHS will experience severe funding cuts over the next few years.

One well accepted means of improving patient care is by freeing up the flow of vital information between the different points of care. This enables clinicians - whether in GP surgeries, hospitals, care homes or independent treatment centres - to use the most complete and up-to-date patient record to inform their care decisions. Indeed, intelligent information and knowledge sharing, and a more joined-up experience, is now a critical priority right across the UK health service, particularly with the aim to move more care out of the hospital.

Evidence of the benefits of improved information sharing and integration is abundant. TheAudit Commission estimates that clinicians spend over 25% of their time finding, recording and communicating information - mainly on paper. A saving of just 10% of clinical time spent on patient administration could release around £6 billion per annum to be reinvested in patient care. The average Acute Hospital in the UK, meanwhile, spends in the region of £2 million a year pushing paper around the organisation. Technology initiatives involving electronic information consolidation promise to reduce this paper-based administration burden to a minimum.

But, for many in the health sector, the promise of the electronic patient record (EPR) and a paper-free health service feels unachievable. The available EPR solutions require a difficult and dangerous ‘cold turkey’ switch from paper to 100% electronic information management, and the transition involves surrendering vital historical paper-based information to inaccessible medical record libraries. Many hospitals fail to understand the need to continue to incorporate paper-based information as part of their journey towards a full EPR. A successful transition can only be achieved through a comprehensive electronic document management (EDM) initiative which recognises the need to phase out paper gradually.

This white paper is designed to provide a reality check, looking at how Trusts can launch themselves on this crucial journey without subjecting themselves to unnecessary risk.
The central role of technology in transforming healthcare has not been lost on the powers that be. The National Programme for IT (NPfIT), and specifically the nirvana of the fully electronic patient record (EPR), is designed to enforce a transition away from old, laborious paper-based processes which jeopardise the speed, accuracy, quality and cost-efficiency of care, to a scenario where all patient information is stored and accessed online, quickly, and at the point of need, wherever that might be.

Yet the EPR solutions promoted by NPfIT are not as straightforward to implement as they seem, and cannot alone solve the problem of the flow of patient information within and beyond the hospital. A significant amount of patient information still exists in paper-based medical records, and the likelihood is that some vital patient information will continue to be produced on paper for years to come. The fact that paper-based medical records co-exist with hospital ICT systems creates a real problem for the vision set out by the NPfIT.

**Medical record libraries**

Medical record libraries are the vital, central repositories of all paper-based medical records stored on hospital premises. Depending on the size of the hospital, the number of records stored in them can run into many hundreds of thousands. As well as taking up hundreds of square metres of valuable floor space, these archives require a lot of resources to manage them, often needing to be in full operation 24 hours per day, 365 days a year.

In almost every way, these library systems are far from efficient. In addition to the costs involved in storing and managing bulky paper records, it is almost impossible to share their contents with more than one person at a time, or to access files remotely. In most hospitals, protection of the records in the event of a fire, flood or document loss is a significant and largely unmanaged risk, too.

If accurate, up-to-date patient information cannot be located quickly, this has a direct bearing on the quality of patient care, with potentially serious implications. The 2000 Audit Commission report found that an estimated 1,000 deaths annually are caused by medical errors - most notably by clinicians not having the right patient information at the point of care. It is reckoned that modern computerised systems could save 75% of these lives.

Alarmingly, it is also thought that as many as a million outpatient consultations in the NHS each year are conducted without the clinician having access to the patient’s notes.
Driven by Government targets, many hospitals are now procuring electronic patient record (EPR) systems in the expectation that they will simplify and automate inefficient and slow processes. The aim is that patients will be registered electronically, theatre slots will be automatically checked for scheduling clashes, and formularies will be verified in real time for the prescription of generic rather than branded medicines. The belief is that EPR will, at a stroke, release the hospital from its reliance on paper.

However, as NPfIT has found to its cost, the reality of EPR installation, in anything but a green-field hospital site, does not live up to the EPR vision. Rather, hospitals have discovered that:

The majority of a Trust’s current records exist on paper;
Most of its business and clinical processes have been built around a paper-based information flow; and
Even after EPR installation, some processes still remain wedded to paper as the medium of preference.

The consequences are that data migration to the EPR environment is complex, time-consuming and ultimately unsatisfactory - since large sections of paper-based information cannot realistically be rekeyed or converted to an electronic medium. Meanwhile, the business process change management challenge is greater than most organisations can absorb without a detrimental impact on everyday operations during and after EPR installation. In an effort to create a totally paper-free environment, hospitals have had to construct cumbersome electronic solutions.

In short, EPR installations have rarely - if indeed ever - removed the need for hospitals to maintain a sizable and active medical record library service.

Implementing a specialist electronic document management (EDM) system can help significantly, here, by bridging the gap between the current paper-heavy scenario to the holy grail of a 100% electronic information environment. This is because of the ability to intelligently scan, file and process previous and new paper-based records, so that these can be accessed alongside new, purely digitised documents.

Such a strategy accepts and allows for the previous and ongoing need for paper, allowing Trusts to reduce physical medical library archives and phase out established, paper-based processes and practices gradually.
While one approach to scanning and digitising paper-based records is to use a specialist external scanning organisation to do the work off site, a more effective approach is to establish an enterprise-strength scanning operation within the Trust’s own medical record library.

This ensures that all content remains on site at all times, that library staff retain control over the way documents are stored, indexed and presented, and that internal techniques and skills are developed which the Trust will always have access to. These will be needed as new paper documentation continues to be produced.

A robust, fit-for-purpose scanning operation will be able to prioritise records, so that acceptable targets can be met for digitising large volumes of paper-based content. It will also incorporate intelligent scanning features, such as cover-sheets and barcodes, to ensure that the process of scanning large numbers of medical records is completed as efficiently as possible.

Once historical paper-based content has been captured, Trusts will gain an appreciation for what else can be achieved once key information is available electronically, which they can use to drive new processes and new efficiencies. For example, when library records are required for clinic appointments, these will no longer have to be physically delivered on a trolley. Once scanned, they can be easily located and accessed online, ensuring the content remains available to other clinicians too.

In this sense, the medical record library becomes a lynchpin in and high-profile symbol of the hospital’s modernisation process.

The related cash-releasing benefits are potentially substantial. NHS Acute Hospital Trusts typically spend at least £1-2 million each year on patient records management; this can be reduced substantially through the implementation of an effective EDM solution.
In the longer term, healthcare providers will need to extend their vision, to encompass a more joined-up information management and sharing experience which extends beyond their own organisational boundaries and which, crucially, allows care to be moved out of the hospitals, in line with Government plans.

The extended ability of the EDM solution to integrate with other hospital systems such as appointments and results, can improve processes, reduce delays and potentially support the delivery of better health outcomes.

Ultimately, the aim is to achieve:

- A single view of full patient demographics with a live link to Patient Administration Systems;
- Scanned and intelligently indexed case notes;
- Direct feeds to systems of clinical value, such as pathology results and radiology reports; and
- Electronic feeds of summary data

By choosing an EDM solution that is standards-based and integrates easily with existing healthcare IT systems, Trusts can ensure they are aligned with and well on the way to delivering against all of these objectives.
The journey facing UK NHS Trust hospitals, as they strive to modernise and boost patient care within the constraints of potentially brutal budget cuts, is an onerous one. This, coupled with the specific demands of NHS IT programmes, demands that hospitals digitise their records, so that critical information can be disseminated quickly and efficiently to the point of need in any given situation.

Whatever the ideals, however, healthcare establishments can only do what's possible within the inevitable constraints that tie their hands - both organisationally and financially. Projects must be initiated in manageable phases, according to the funds and staff resources available to them.

Customised EDM solutions, which integrate with EPR systems, offer a practical middle ground, allowing Trusts to move forward today, without jeopardising legacy investments and practices, or limiting future potential.

Cultural and practice-based considerations must not be neglected, certainly. Over the years, across and beyond the health sector, computerised information systems have often quite spectacularly failed to deliver the expected benefits. Typically this has been because they were not willingly adopted by the people required to use them – usually because too much was attempted too soon, taking already stressed and time-pressed staff out of their comfort zones.

The key to success is to manage a phased transition which embraces the new while acknowledging and accommodating old and familiar ways of working. This means including stakeholders from the outset, and harnessing locally 'owned' and designed systems - which meet the operational requirements, are aligned with local strategies but do not impose additional burdens. This way, Trusts can ensure greater acceptability and adoption.

Such an approach will not hamper the transition to EPR; rather, by rejecting the 'big bang' approach to the EPR in favour of a more pragmatic and natural transition, Trusts can expect to experience maximum benefits in the long-term, and a more seamless and pain-free journey to get there.
One of the first hospitals to embrace electronic document management (EDM) technology as part of a longer-term migration to an electronic patient records (EPR) strategy is The Ipswich Hospital NHS Trust, one of the largest general hospitals in East Anglia which provides healthcare services to nearly half a million people.

The Trust, whose premises span 45 acres, was struggling to manage more than half a million case notes housed both on and off site. The sheer storage demands and the level of security and management involved were substantial. The retrieval and management of notes, so that they were with the right clinician in the right department at the right time, was time-consuming, unreliable, difficult and stressful.

To tackle the problem and kick-start a move to a more efficient, electronic records strategy, the Ipswich Trust took the decision to invest in a specialist, next-generation EDM solution, Evolve. This provides Trust employees with instant, secure online access to digitised patient records at every stage in the care process - enabling a smooth transition to electronic patient records through a comprehensive range of integrated solutions and services.

First, Ipswich implemented a specialist scanning facility on the Trust’s hospital premises, which is now managed by Trust staff. This captures existing paper case notes and transforms them into intelligent searchable electronic patient case notes. These are held in a central repository and connected to real-time data from other Trust systems such as patient administration systems (PAS).

A secure portal makes it easy to find and view all related patient case notes, plus structured electronic forms and workflow, while another application that forms part of the solution, Evolve eDischarge™, promptly transmits discharge summaries directly to GPs, in accordance with new Government targets.

continued overleaf...
Within less than four months of the EDM system going live, all new case notes were being created electronically. An impressive 83% of all discharge summaries are now delivered to GP surgeries within 24 hours, (and this is increasing month on month), while over 8,000 case notes, each extending to more than 160 pages, have been carefully scanned and captured by medical records staff. Not one set of ‘green’ case notes has been created on paper since November 2009.

Access to these electronic case notes has already been extended to Trust staff working on remote NHS network sites too, delivering on the promise of simultaneous case note access.

As a result of its early successes, Ipswich is now enjoying a lot of interest from other Trusts keen to learn from its experiences.

“Already, benefits in reduced time, improved accuracy, better service levels and improved healthcare are very visible. Having instant access to accurate case notes saves hours/days/months of filing- or indeed risking misfiling, which can produce a potential loss of income of more than £30,000 a month. This is the tip of the iceberg of what we are now eliminating with our new system.”

- Neil Turnbull, IM&T department, Ipswich Hospital NHS Trust
Kainos designs and implements IT solutions that make businesses perform better. As a specialist supplier of eDRM solutions to central and local government for more than 20 years, Kainos has an excellent track record of success.

The company was founded in 1986 and is headquartered in Belfast with offices in Dublin, London and Gdansk. Kainos employs over 260 consultants and its customers include some of the biggest names in both private and public sector throughout the UK and Ireland, including Northern Ireland Health, the Audit Commission, Information Commissioners Office, RICS and Cushman & Wakefield.