

FOR HEALTHCARE LEADERS

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FORBIDDEN CLICKS

**HOW TO SPOT STAFF
MISUSING ACCESS TO
PATIENT DATA**



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TECHNOLOGY



New technology has the potential to empower patients as never before by, for instance, allowing them to look at their own health records and even share it with relatives or carers. But this will require an infrastructure that allows the seamless flow of information between NHS organisations, social care providers and patients. Page 2

EFFICIENCY



Birmingham and Solihull Mental Health Foundation Trust has largely dispensed with paper for board meetings. Instead, members use software running on iPads to distribute and view documents. This has not only saved on costs such as photocopying but also encouraged collaboration between board members. Page 8

SERVICE IMPROVEMENT



Many trusts are now looking at systems that identify patients at risk of deterioration, systems that can also cut error rates associated with paper-based monitoring. New technology also means that nurses on the move can use tablets to monitor patients. Meanwhile, managers can see in real time what is happening on the wards, helping them to tackle challenges such as infection control and winter overcrowding. Page 10

SERVICE REDESIGN



NHS England clinical informatics director Jonathan Kay expects all GP test requests and reports to be computerised by 2018. Systems for managing test requests and feedback should cut costs and help to ensure reports arrive – and are dealt with – on time, speeding up diagnosis. They also offer the opportunity to do new things such as share test results with patients electronically. Page 12

DATA PROTECTION

Even staff with access rights to patient records may look at them when they shouldn't – for instance looking up relatives' data out of curiosity. But Wales's new national monitoring system should flag up such unethical behaviour. Page 6





“ A gauntlet was thrown down for NHS organisations to become paperless by 2018 – but is this the real challenge or should we think bigger?

As a clinician I believe that the vision should be about more than going paper free; it should be about embracing the digitalised world.

Patients increasingly demand that information should be available in digital format and expect data transparency with convenient access to their information.

This will only grow with the shift to personalised medicine and care. Healthcare organisations must think differently about this challenge for new solutions to emerge and lead the way forward.

The historical approach to getting patient information digitised has been piecemeal, time-consuming, painful and costly.

Electronic patient records have been catalysts for more data collection and advanced data management. This supports the trend towards population health management.

For many years, the diagnosis and

‘Patients demand that information be available in digital format’

treatment of patients was performed on a personal basis – one doctor, one patient with the diagnosis and treatment options carried in the clinician’s head or the small “black bag” of simple instruments.

With the advent of pharmaceuticals and laboratory testing, clinicians expanded their roles to both administer these treatments (eg pharmacists) and perform these tests (eg pathologists). This has increased the size of the community and spawned additional information to be stored and processed.

The requirements for collecting, storing, and processing all of the information relevant to health has come to depend on establishing a personal and ubiquitous relationship. Today, we have the opportunity to establish healthy relationships by providing both individual and wearable devices for use in our personal lives and enterprise systems to discover, predict, and inform the community.

This will require innovative technology and customisable solutions involving five trends: cloud, mobility, big data, software-defined anything and evolving security threats. All impact how organisations plan, deploy, and manage IT and offer a roadmap to a truly digital healthcare world that will impact patient outcomes.

These are the areas, and visions, which are needed to drive the NHS forward. We must be more than paperless, we have to be digital.

Dr Masood Ahmed is UK leader,
Dell Healthcare.
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TECHNOLOGY

INSTANT ACCESS

Seamless flow of information between patients, NHS bodies and other organisations is now achievable – and one result should be much greater patient empowerment. Matthew Shelley reports

The next great medical blockbuster won’t be a superdrug but the emergence of the empowered patient.

That’s the view of GP and information technology pioneer Dr Amir Hannan, but it’s an opinion which is rapidly gaining traction elsewhere.

The consumer appetite for digital fitness trackers, for shopping, banking and chatting online shows a willingness to adopt technology that many believe should be warmly welcomed by the NHS.

Healthcare companies across the world are looking far beyond the idea of paperless environments to a future that is truly digitised – and even digestible.

Effective use of digital solutions offers opportunities for service providers to meet rapidly growing demand, and an area of great promise is to involve the patient more closely in their own care.

But there are hurdles – Dr Hannan argues that there is a huge difference between giving people data and making them truly informed. As a Tameside and Glossop Clinical Commissioning Group board member for information management and technology, Dr Hannan is nationally known for his advocacy of patient record access and understanding.

“In an information age people want to find out more and more about their health and also be part of the process,” he says.

One third (nearly 4,000) of his patients have signed up to his PIN controlled online “tethered” record system which allows them to access and interact with their information.

The approach he has developed over the last decade has been well ahead of government targets for patient access to online records by 2015. It has extensive safeguards to ensure that patients are guided to reliable sources of explanation about the data in their records.

“Research by the British Library a few years ago showed that while the Google generation is very good at browsing information online they are less good at appraising it. So this is not about just reading what your ‘rhubarb’ levels are, it’s about finding out what those ‘rhubarb’ levels actually mean,” says Dr Hannan.

With proper groundwork in place he sees big opportunities for engagement between the NHS and the public, and believes the targets for a paperless NHS do not provide enough of a push for change.

“The next superdrug will not be a drug at all but the empowered patient,” he says, before adding: “This year I want to see us reaching out to many more patients... If we set a target like 2018 for things to happen, then it will be 2025 before they do.”

Dr Hannan and others recognise that empowerment can only flourish when the NHS itself makes effective use of technology.

The advantages of electronic records, and better use of IT more generally, were trumpeted in 2013 when a Pricewaterhouse Coopers report (just ahead of Jeremy Hunt’s 2018 paperless NHS challenge) projected savings of £4.4bn a year.

But progress is patchy, even in computerising records. Emma Stockwell, a partner in the health business group at law firm Hill Dickinson told the Westminster Health Forum last year: “Many NHS bodies that I work with at the moment have a dual system of paper records and electronic records... You’re going to have this dual system potentially for some years. Where that system is used there’s scope for errors – potentially for records to go missing.”

A white paper by Dell Healthcare, exploring the challenge of going paperless, emphasised that it had to be part of wider developments and “cannot be achieved in isolation and neither can the decisions on the types of technology in which to invest”.

Click to share: in the future patients may be able to choose to give relatives or carers access to scans and other information



“A truly agile and paperless organisation will require the people and technology infrastructure to exist that supports the new ways of working. Therefore, any decision on investment must facilitate employee and patient choice in how and where care is provided,” the paper said.

Brett Cooper, a senior IT consultant at Dell Healthcare, says the NHS needs to look to the consumer market: “People are taking technology into every aspect of their lives.

“Of their own volition they wear bands which count paces, measure heartbeats and all sorts of things and then share it with their friends. We need a healthcare IT economy which builds on the consumer model.”

The number of wearable devices linked to the internet is expected to reach 25 billion by 2020 and there are already 100,000 healthcare apps available for smartphones.

The next range of developments could well be through ingestible sensors and smart pills, which will help in areas such as monitoring whether patients are taking their medication properly.

But technological potential can only become everyday reality with the seamless

‘People will want to know why they can transfer money in moments but can’t get blood test results for a week’

flow of information between NHS organisations, social care providers and patients.

This already happens in other domains, for example Dell provides the software behind BACS payments for bank accounts.

Information flow

“The key is the underlying infrastructure, the stuff behind the scenes, the stuff you don’t see,” says Mr Cooper. “Getting that right is what’s most important. The financial sector could simply not function without instant information.

“Why isn’t this the case for a blood test? People will increasingly want to know why they can transfer money round the world in

moments but can’t get the results from a blood test for a week. The test takes hardly any time at all. The issue is the efficient flow of information.”

Once this is in place he believes that genuine transformation is possible, including far greater engagement between clinicians, patients and carers.

And in a world where people are well disciplined in dealing with sensitive financial matters online, he thinks there is ample scope for secure and responsible sharing and augmenting of health information. This might include allowing patients the option of giving relatives or carers permanent or one-off access to their information – possibly immediately after a hospital or GP appointment.

Some parts of the NHS need to embrace rather than resist new approaches, according to Mr Cooper: “The future state is based on consumer use. Hospital IT departments should not prescribe how people use IT, they should not prevent the usage of new technologies, they should promote adoption and educate their users on safe and appropriate use.” ●



TECHNOLOGY: CASE STUDIES

‘THIS TRULY LIBERATES’

Doing the school run is easy if you have mobile technology that means you don't have to go into the office. Matthew Shelley looks at innovative technology uses

LOCALA COMMUNITY PARTNERSHIPS

When many healthcare staff in the UK arrive at work they feel they are walking into an IT museum – at Locala they are looking into the future.

As a community care organisation providing NHS services to 400,000 people in Kirklees and beyond, it is working with Dell Healthcare to enable its 1,300 staff to seize and exploit the benefits of digital working.

The impact has been dramatic – changing work practices, cutting referral times, reducing costs and improving work-life balance.

At the heart of the progress is the idea that consumer use of technology will drive service change and patient expectation, and that healthcare providers should be leading not following.

Jim Barwick, Locala executive director of transformation, says: “Most people use the latest technology in their own lives, but they often go to work and feel like they are stepping back four or five years in time. We are turning that on its head.”

Staff are all equipped with high quality mobile devices, such as laptops, which they can use to do anything from creating and accessing records, work schedules and a multitude of other data through to video conferencing.

The time savings are huge, for patients and staff. All podiatry patients have the option of a virtual first appointment, which can cut referral and treatment times.

Likewise, community nurses who have concerns about a patient can take immediate advice from more experienced colleagues.

In a 40 per cent rural area, taking in remote communities in the Pennines, there are clear benefits for staff who can get straight out on the road each morning, without having to go to the office to collect work schedules or return to input results.

Employee surveys show that the flexibility offered by mobile working is

highly valued – it's now perfectly straightforward to fit a school run around work commitments.

Mr Barwick, who was a nurse before going into management, says: “We really are promoting innovation and encouraging people to work differently. This truly liberates people. If we told staff that their kit was going to be taken away, there would practically be a riot.”

One impressive validation of the large scale shift to mobile technology is that it has yielded savings that have allowed Locala to cope with a 4 per cent monthly rise in demand, plus increasingly complex cases, without extra funding.

As a social enterprise, Locala wants employees to feel fully committed to its objectives of delivering high quality care to patients in, or near, their own homes.

It also wants them to feel that the electronic kit is theirs, not just for work but for home uses such as online shopping – if they trust staff to treat patients, they can trust them to look after a computer.

This approach has generated a culture where staff are eager to find ways to use Facebook, Twitter and a multitude of other platforms to engage with the community.

Technology can also be effective for engaging with hard to reach patients. One example is that the willingness of school nurses to video conference young people when they are secure in their own homes can help combat stigma.

Nonetheless, there is effective security and clear guidelines on appropriate use.

‘Staff are eager to find ways to use Facebook, Twitter and other platforms to engage with the community’

This year Locala and Dell plan another major leap forward with the introduction of patient-held records.

Mr Barwick sees this as a welcome shift from a system where patient information is exchanged and discussed by a range of healthcare professionals but the patient is left “in splendid isolation”.

“Patient-held records will bring real change. They will be able to see and input information and sit with a clinician to create a care plan that suits them. This changes the nature of care and gives the patient more responsibility with the clinician in a coaching or mentoring role,” he adds.

When chronic and long term conditions dominate the community healthcare landscape, Locala believes such developments are vital.

But according to Mr Barwick, the acute sector should also be championing digitised community care: “There's a huge shift to get people out of hospital as quickly as possible as that's where the real cost is. Adoption of this kind of technology should be driven by the acute and social sector as they benefit as well.”

COLLABORATION MODELS

Collaborations between clinicians, healthcare organisations and global business can be vital to progress in the NHS.

This is the view of Dr Masood Ahmed, UK leader at Dell Healthcare, who sees the role of technology as going far beyond the government's ambition for paperless electronic patient records.

At the General University Hospital in Prague, Dell is helping with advanced clinical research into drug optimisation, using a software package called Statistica.

The results could bring exactly the benefits which NHS management is urgently seeking.

“The goal is to ensure that young patients receive drug doses corresponding to their ages, clinical conditions, genetic make-up



On the move: tablets and smartphones allow staff to be more flexible and efficient

and other factors. By increasing the level of personalisation, the hospital can reduce treatment times and drug costs,” says Dr Ahmed.

Statistica is also highly flexible and is used for post-graduate level instruction, lectures, and professional publications.

It has significantly reduced the need to go to external suppliers for some functions, which was often inefficient as they did not fully understand the field.

The potential for collaboration is illustrated by three other Dell projects:

- The creation of PHR Link, a low-cost online health record app, with US partners Stellaris Health Network, which patients can

use to transfer their records to a personal account that can be accessed and shared anywhere.

- The American Red Cross North Texas Digital Operations Center, which uses social media to spread safety and relief information during disasters, such as tornadoes, and which allows the charity to gear its responses to exactly what communities need.

- A hi-tech clinic-in-a-box, called VideoDoc from Health Net Connect in Michigan, which uses tablets, advanced cameras plus specialist equipment and software to provide virtual home visits for patients.

HNC chief operating officer Corky Davis

says collaboration was vital: “We wanted to combine emerging technologies like touchscreen tablets, broadband wireless and video so patients could easily communicate with their doctors face-to-face.

“After eight years we’ve succeeded. VideoDoc enables doctors to conduct a complete physical exam remotely and it’s as easy to use as an ATM. That’s especially important for elderly patients who might not be tech-savvy?”

Dr Ahmed adds: “It’s not just the ideas, or the technology – the other essential element is to spread the benefits, which is exactly what the NHS needs to move ahead.”

SPREADING INNOVATION

Technology is becoming one of the most important factors in determining how patients access care, according to King’s Fund chief executive Chris Ham.

Professor Ham co-authored *The Future is Now*, the health policy think tank’s new exploration of some of the best examples of how innovation is improving care.

Many of the case studies show how technology can bring far-reaching change, such as the use of mobile phones as a portable diagnostic tool for eye care in Africa.

Or there’s the online patient record system set up by GP Dr Amir Hannan (see previous pages), at his practice in Haughton Thornley, which is helping patients transform how they manage their own care.

Yet good ideas developed in the NHS and beyond are often not being taken up elsewhere.

Professor Ham says: “On the one hand there is a great deal of innovation out there, but we are too dependent on the work of Dr Hannan and others.

“There is also too much variation, something great can be going on in one area but it can be a completely different story just down the road.”

The King’s Fund view is that the NHS as an organisation is still hampered by too much of a top down structure and lacks sufficient devolution.

And according to Professor Ham, there needs to be more work done of achieving the right balance between standardisation and innovation.

Cracking the problem may not be easy as he believes it demands major cultural shifts, giving clinicians and managers real opportunities to introduce transformative change.

And there also has to be a willingness to learn.

“The NHS is far too parochial, it needs to be more open to what is happening elsewhere. This need not mean copying others, but it does mean learning from them,” Professor Ham says. ●

DATA PROTECTION

IT'S A BREACH OF TRUST

Wales is pioneering systems to discourage staff from misusing access to patient data. By Matthew Shelley

New powers have just been granted to the Information Commissioner's Office to conduct compulsory audits on how the NHS handles patient data security.

The move reflects the increased risk of breaches involved in the shift from paper to electronic records, and the widespread sharing of sensitive information between disparate organisations and care teams.

While it tends to be tales of lost computers and memory sticks that hit the headlines, the real issue is often about staff accessing records they have no right to see.

For example, a Newcastle nurse was recently dismissed after accessing patient records and discussing them on social media and earlier cases include one of an IT worker accessing records of female family, friends and colleagues more than 400 times.

For NHS managers this type of incident represents a major legal, ethical, reputational and practical challenge.

In Wales, the NHS is responding by creating the National Intelligent Integrated Audit System (NIIAS).

Darren Lloyd, NHS Wales Informatics Service head of information governance, says it represents a huge advance by providing "a range of automatically generated reports, designed to meet the needs of our local health boards and trusts, instantly identifying any potential issues when access has not been legitimate."

An indication of the seriousness of the problem is that in November 2014 the Information Commissioner's Office (ICO) for England recorded 195 health sector data breaches over the previous year – next highest was local government with 55.

This is likely to be a small fraction of the actual privacy breaches and advanced measures will be needed for the NHS to truly come to grips with the issue at hand.

The £750,000 privacy breach contract for Wales was won by Maxwell Stanley Consulting, which will use a system called Patient Data Protect (powered by VigilancePro) to provide the bedrock for NIIAS.

The change it brings is not just about the huge increase in checks that can be carried but in what is monitored.

A sophisticated series of triangulations, drawing from a range of healthcare applications across Wales, can spot all kinds of patterns – such as whether someone is accessing data about their relatives or colleagues.

Maxwell Stanley managing director Martin Gladding says: "Currently there are manual systems in place but these only review a sample and will tend to look at whether people accessing data have the right to do so – this largely misses the point as people misusing data often do have access rights. The question is about what data they are accessing and whether it is being used legitimately."

Frequently, the issue has more to do with misplaced curiosity than malice, and monitoring provides the chance to improve training.

In dealing with issues of such sensitivity, it is crucial that any monitoring is correct –

'A sophisticated series of triangulations can spot patterns – such as someone accessing data about their relatives or colleagues'

Access alert: it is not enough simply to check that staff have access rights, trusts must also monitor what they are doing with the data

Big Brother Watch says NHS breaches led to at least 61 resignations from 2011-14. With so much potential for disciplinary and court cases, the IT has to provide an irrefutable audit trail and workstreams need to be in place so employers can, at every stage, show the matter was handled properly.

Electronic data capture from multiple sources is valuable for other purposes too. In Wales it will become far easier to deal with many Data Protection Act requests, such as ones from patients wanting to see everything recorded about them over a long period.

Mark Pearse, head of contracts and information assurance at King's College Hospital Foundation Trust, has worked with Maxwell Stanley on an online PbR (Payment by Results) Assurance project.

He emphasises that: "Significant operational and administrative gains are achieved by electronic data capture. It can easily be translated for many uses, and makes review and audit significantly easier.

"By removing the need to translate the record into an electronic format, it frees up resource to focus on the service they are providing and using that data as powerful business intelligence to effect change."





DARREN LLOYD ON PRIVACY



“Modern healthcare needs information to be instantly available where and when it’s needed. At the same time it’s essential that patients’ confidential and sensitive information remains secure.

As NHS Wales reshapes healthcare delivery, better information sharing through digital services has become increasingly important, supporting the reform of acute services and increased care in the community setting.

Our national digital services now facilitate the process of electronic referrals between primary and secondary care, making a summary healthcare record available across Wales. Test results, X-rays and imaging will also be available in the near future, with documents to follow in the medium term. This will allow patient information to cross traditional organisational boundaries and make it available wherever the patient receives care.

Electronic sharing of information has augmented the need to uphold the NHS standard of patient confidentiality and privacy. So, the Wales Information Governance Board committed to procuring a new solution to develop a national auditing approach.

‘Protecting patient information remains our principal objective’

This commitment has led us to forming a partnership between NHS Wales and healthcare consultants Maxwell Stanley Consulting to deliver what will be known as the National Intelligent Integrated Audit System (NIIAS). It will advance NHS Wales organisations from their reactive auditing capability into a proactive and more comprehensive process.

We have successfully completed the initial phase of deployment, working closely with Maxwell Stanley to manage complex integrations with existing national electronic health record systems. The solution delivers a range of automatically generated reports, designed to meet the needs of our local health boards and trusts, instantly identifying when access may not have been legitimate to the care of the patient.

Our partnership with Maxwell Stanley, across a five year contract, allows us to “plug in” any newly introduced applications, ensuring that NIIAS is aligned with future developments in the capturing and sharing of patient information.

The implementation of NIIAS will add an extra layer of security to the high level of data protection procedures already in use, in addition to establishing a standardised and more effective approach to auditing.

NIIAS will ensure that protecting patient information remains our principal objective. *Darren Lloyd is head of information governance at the NHS Wales Informatics Service.*



And effecting change is seen as vital in a pressured NHS – whether it’s for improving payments, patient records or security, or, indeed, for meeting regulators’ demands.

The ICO, which has issued fines totalling £1.3m to NHS organisations, welcomed February’s new measures which allow it to assess data protection in England’s GP surgeries, NHS trusts and community healthcare councils, and their equivalents in Scotland, Wales and Northern Ireland.

Christopher Graham, the information commissioner, said: “The health service holds some of the most sensitive personal information available, but instead of leading the way in how it looks after that information, the NHS is one of the worst performers. This is a major cause for concern.

Poor procedures and training

“Time and time again we see data breaches caused by poor procedures and insufficient training. It simply isn’t good enough.

“We fine these organisations when they get it wrong, but this new power to force our way into the worst performing parts of the health sector will give us a chance to act before a breach happens. It’s a

reassuring step for patients.”

While there might still be a long way to go, technology available today is capable of addressing many of the challenges facing health bodies and others.

According to Mr Gladding, Patient Data Protect has the ability to see inside emails and detect whether sensitive information is being sent inappropriately – and then flag up a warning asking if the sender is sure they want to go ahead.

Security software can also be linked to CCTV so if a breach takes place it’s possible, for example, to check whether whoever was logged into the computer was actually using it at the time.

At stake in all this is public confidence, which Mr Gladding says has come under significant pressure from data breaches.

“We are moving into an electronic world and this is bringing huge improvements in healthcare.

“But patients need confidence that their data is being monitored and protected in a way they can trust,” he says.

“While NHS organisations are moving forward in electronic healthcare every day, they must also show that patient confidentiality has not been forgotten.” ●



**MIKE EVANS
ON GOING DIGITAL**



IN ASSOCIATION WITH



“Attendees of board or committee meetings will know that papers distributed prior to the meeting can be 100-plus pages long. Reviewing them to make informed decisions can take a significant period of time.

But what about putting together the pack in the first place? The process of preparing board papers and delivering them on time is complex and time consuming. It can also be stressful when last minute changes to agenda items or documents need to be distributed to board members.

When considering switching to a digital board pack, directors should ask themselves questions such as will productivity increase, will the adoption save time and/or money, and will it be more secure than our current practice?

Recently, there has been a significant shift in the NHS towards eliminating paper. Health secretary Jeremy Hunt wants the NHS to be paperless by 2018, with a view to increasing efficiency and improving patient care.

Certainly, the use of technology is not a new concept in the NHS. With the rapid development of iPads and Windows devices and the way healthcare professionals use them to receive and consume high volumes of information, it is worth considering using them to manage board meetings and papers within organisations.

‘Producing and distributing digital board papers eliminates the costs of photocopying, printing, binding and courier deliveries’

The digital challenge is all about choosing the right technology to support and deliver best patient care. A well informed and efficient board can, without doubt, make better decisions to support both healthcare professionals and patients. Meanwhile, producing and distributing digital board papers eliminates the costs of photocopying, printing, binding and courier deliveries, not to mention the time and resources required to collate the material in the first place.

More and more company secretarial teams within the NHS are interested in finding a comprehensive solution that could help them efficiently and cost effectively produce and distribute board packs.

The paperless revolution has already started within the NHS. Why not lead by example and introduce it to the boardroom?

Mike Evans is chief executive officer of ICSA Boardroom Apps Limited.
www.boardpad.com

EFFICIENCY

OUT OF THE BOX

Board members often have to deal with huge documents clogging up their email inboxes. Claire Read reports on systems that make key papers easier to access – and also promote collaboration

When it comes to the level of attention boards are paying to informatics and IT, Justin Whatling is allowing himself something resembling cautious optimism.

“It does feel like it’s changing,” reports the senior director of strategic consulting, population health at Cerner who also serves as chair of BCS Health at the Chartered Institute for IT. “I still think it’s very patchy, but generally I think it’s improving. The situation isn’t as bad as I thought it was a year ago.”

He wasn’t the only one with concerns 12 months ago. In January 2014, just 29 per cent of those responding to an *HSJ* survey felt that health secretary Jeremy Hunt’s 2018 target for a paperless NHS was a realistic one. The major reason most were sceptical? The NHS leadership community’s lack of IT knowledge. Ninety one per cent of respondents said it could place the 2018 target beyond reach.

We repeated the survey at the beginning of this year. This time, 69 per cent of those responding said they didn’t feel the NHS leadership community had enough knowledge about the potential benefits of IT systems. It is far from a positive result, but arguably not as worrying as last year’s.

End of an era

Dr Whatling suggests that “there are probably a few drivers in the system which means boards are taking IT and informatics much more seriously”. He points to the approaching end of contracts originally signed as part of the National Programme for IT – and the consequent need for trusts to suddenly take on direct responsibility for this IT – as well as incentives from the centre such as the technology funds.

“So I think the movement is quite positive in boards thinking about

information and technology, and how it can help them,” he concludes.

At Birmingham and Solihull Mental Health Foundation Trust, that thinking has extended to how IT can make the work of the board itself more efficient. Since June 2014, the organisation has largely dispensed with the use of paper during its board meetings. Instead, it uses a software solution running on iPads to distribute and view papers.

According to Sandra Betney, the drive behind BoardPad’s adoption was similar to that behind the health service’s more general desire to go paperfree. “The efficiency of the way we managed the board was part of it – the administration and the cost of running meetings,” the trust’s executive director of resources explains. “But it was also ease of access, particularly for non-executive directors, and stopping having papers flying around by email and people’s inboxes getting filled up.”

Since introducing BoardPad, the need for bulky print outs – or huge emails – has been eliminated. Instead, the papers are uploaded to the software and then visible to any member of the board via an iPad.

The lack of reliance on hard copies has made other differences too. “For instance, we had a situation where a paper had already been published onto BoardPad and there was an issue with it,” explains Ms Betney. “Normally that would mean going to the meeting slightly embarrassed and saying I’ve got to table an amendment, whereas now we managed to just put a new version on to BoardPad and everybody had read it before they got to the meeting.”

Collaborating and commenting has also been made easier, she says. “To give you an example, we had a major tender going on and we wanted people to be able to see the



Security conscious: at Birmingham and Solihull Mental Health Foundation Trust, members can only access papers on trust-issued iPads

submission as it was being built up. Because it was on BoardPad, we were able to put the papers on there for the board to see what was happening as the submission was being worked up, and to be able to comment on it.

“You wouldn’t have done that with papers; you wouldn’t have said: ‘We’ll just print you out a set of papers every week’, it would just have been ridiculous. So it gave a greater transparency to some of our processes that we wouldn’t have had without using it.”

Information constraints

It is notable that the drivers for removing paper from board meetings, and the resulting benefits, mirror those expected from a wider removal of hard copies from the NHS. But even more notable is that so do the challenges: not least the thorny issue of information governance.

“I think the boards were really keen to go paperfree, but some have been quite frustrated by the constraints that we as an

‘It has made a huge difference to how effective we are, and how responsive our board meetings can now be’

organisation have put in place,” says Ms Betney. “So because of the constraints that we’ve put around information governance, we haven’t got BoardPad up and running on anything other than trust-issued iPads, and nor do we want other software from other organisations running on our iPads.

“So some of our non-executive directors in particular, while they were keen to go paperfree, have been saying: ‘I don’t understand, why can’t I look at emails from my other job while I’m on this iPad?’”

Initially problematic too were some of the classics of new IT solutions: the forgotten

password among them. “Which you wouldn’t think would be a major challenge, but believe me it is when somebody can’t get into their board papers two minutes before the meeting is due to start,” admits Ms Betney with a laugh.

But there is little doubt that, on balance, she feels that a paperfree board is a good thing.

“I think it has made a huge difference to how effective we are, and how responsive our board meetings can now be to new information that comes out.

“We literally have had things going on the BoardPad hours before and we’ve still been able to have the discussion, whereas if you were waiting to print a load of papers, you just wouldn’t get there. So I think it has changed, in a way, the kind of organisation that we are. It’s increased the level of paperlessness you might expect in the organisation.

“The organisation is very clear that we are heading towards paperless,” she adds. “So BoardPad does fit in in that sense.” ●

**ROGER KILLEN
ON LIFE-SAVING
PATTERNS**



IN ASSOCIATION WITH

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Safer, smarter healthcare.

“ Going paperless can bring direct benefits to the NHS by enabling quicker and more accurate data recording and eliminating the need for repetitive form filling. This is important: for instance, the best electronic patient observation systems are up to 40 per cent faster than information recorded by hand on paper charts and almost 100 per cent accurate.

But the real transformative potential of going paperless is not in its ability to replace manual tasks. Rather, it is in the insights which human beings can draw from digital record datasets.

An example is the creation of the Royal College of Physicians' National Early Warning Score, used across the country to identify deteriorating patients early: this algorithm, drawn up by clinicians, was tested against datasets created by the first electronic patient observation system. This digital data was analysed to reveal life-saving patterns in a way that would have been totally impractical using paper records.

The scoring system – designed by people, validated by digital data – is now built into the patient observation system, and peer-reviewed studies have found its roll-out has been followed by a 15 per cent drop in mortality rates.

We have also seen electronic monitoring of infection risk factors, for instance diarrhoea and vomiting, lead to practice changes which have

‘Data-driven insights can lead to quantum leaps forward in care’

seen infection outbreaks at one hospital drop by 94 per cent. This shows how data-driven insights can lead to quantum leaps forward in care, bringing not just benefits for patients but large cost savings for the trust.

As digital records spread from the bedside across the hospital, further benefits are emerging. It is impossible to manage bed use efficiently across a trust if real-time information about each ward's bed use is only accessible on the white board in each ward office. If, however, executives have an instant, constantly updated, electronic picture of bed use across the hospital, they can start to make better decisions about use of beds. Such information is vital for improving patient flow: it can help identify bottleneck, allowing – once again – people, not machines, to take better decisions.

We like to say going paperless with electronic patient observations gives nurses time to care. That's true, and that's important. But just as important is the way that from the bedside to the boardroom, going paperless gives people time to think, and creates the data they need to inform that thought. That, in my view, is the real prize for the NHS.

Roger Killen is chief executive officer of The Learning Clinic.
www.thelearningclinic.co.uk

SERVICE IMPROVEMENT

BRINGING PATIENTS INTO FOCUS

Matthew Shelley on how systems to replace paper-based patient monitoring let managers know what is going on in real time, cut errors, and help plan care better

Last year, Professor Sir Liam Donaldson published figures showing that a third of safety-related deaths in NHS England hospitals are linked to mismanagement of deteriorating patients.

In the same year, research published in *BMJ Quality and Safety*, showed how much could be achieved by replacing paper-based approaches with technology designed to improve the accuracy, reliability and availability of patients' vital signs, and early warning scores.

Across the country, trusts are putting these findings together and turning to technology to identify patients at risk of deterioration and improve their care. But take-up is far from universal.

So, is technology the answer to solving the problems highlighted in Sir Liam's report – and, if so, what can be done to improve take-up?

Advocates, such as Sonia Swart, chief executive of Northampton General Hospital Trust, see it as part of a wider drive towards change at every level.

“This is very much part of our work on patient safety and service improvement,” says Dr Swart, who wants managers and clinicians to have the real-time data they need to see exactly what is happening in their area of responsibility.

Northampton's use of mobile technology is already allowing nurses across 650 of the 750 beds to monitor patients for early signs of deterioration far more effectively than ever before.

The VitalPAC system is being rolled out in other areas of operation and to other groups of staff, including doctors, who will carry mini iPads to access records and share them with patients.

This is an element of Dr Swart's broader vision for professional approaches which includes putting doctors back in white coats – something patients asked for.

When a nurse identifies a patient at risk, a doctor will be contacted and will arrive at the bedside, introduce themselves by name and explain what they are doing “rather than just diving straight in with tests”.

At the macro level, the data provided by VitalPAC enables Dr Swart to know exactly what patients are where and how sick they are, helping predict demand and manage resources.

“Seeing what's going on in the entire hospital is invaluable. If we can make it safer, and improve the quality of care, that will help me in achieving my other targets, including financial outcomes,” she says.

Sir Liam, who witnessed the same system in operation at Croydon, says: “I saw the great benefits of bringing clarity and focus to the complex task that busy staff face in manually observing so many acutely ill patients and making early interventions.

“The staff I spoke to were extremely positive and felt that the technology did not just save them time, it empowered them as clinical decision makers.

“This kind of technology, if used more widely, has great potential to improve

‘This kind of technology has great potential to improve outcomes of care, including saving lives’



At your fingertips: tablets can be used to access records on the move

outcomes of care, including saving lives.”

Paul Schmidt, a consultant at the Portsmouth Hospitals Trust Medical Assessment Unit, is part of a research group with a long-standing interest in patient deterioration, and was lead author of last year’s *BMJ Quality and Safety* paper.

He says that one of the most significant breakthroughs came after the trust formed a collaboration with The Learning Clinic to develop the mobile technology to gather large quantities of highly accurate observations as part of routine care.

This was used to rank existing early warning scores and then to develop a new one – which was then adopted nationally by the Royal College of Physicians in 2012.

Digitisation, through the creation of VitalPAC by the Learning Clinic, highlighted high error rates in paper-based observations, underestimating the patient’s seriousness.

Research at Portsmouth and University Hospitals Coventry and Warwickshire Trust later explored that the mortality rate declined as VitalPAC was deployed. Across the hospitals 750 lives a year were saved.

Dr Schmidt says: “A fundamental

problem with paper is that the only person who necessarily knows the data is the nurse who does the recording.

“Retrospective looks often show that there were signs there that should have been acted on. This system ensures all relevant data is gathered then pushes it on to other people, ensuring appropriate action is taken.”

Its use in other areas such as infection control has seen ward closures due to diarrhoea and vomiting plummet.

Basic processes

Dr Schmidt says: “The focus needs to be on the basic care processes. You can be operated on by the most gifted surgeon in the world or have the most up-to-date treatments from the best physicians, but if there are errors in the care process it might all be undermined.”

It’s a view reinforced by Nick Elliott, former chief operating officer of University Hospitals Coventry and Warwickshire Trust, who is now client engagement director at The Learning Clinic.

He entered the NHS from industry where he was used to having real-time data on every aspect of a factory’s functions.

“It was a surprise to find that this kind of information was not being gathered, let alone put to use.

“The crises of this winter would have been far less difficult had hospitals got real-time data rather than dealing with everything on retrospective and often inaccurate information that was time-consuming to gather and soaked up staff time.

“We need to be gathering and using data far more effectively to anticipate and prevent.”

Mr Elliott claims the ready availability of real-time data is allowing hospitals to cut stays by 10 per cent and his aim is 20 per cent as the company is developing an entire workflow system. At the same time, managers are able to redeploy clinical staff because they no longer need floor walkers.

He argues that getting rid of paper is only half a solution; the real issue is whether you actively maximise your capacity to mine data and use it to yield positive change.

“A lot of systems simply take your paper form and hang it on a screen when the real point is to do something intelligent with it,” he says. ●

IN ASSOCIATION WITH



SERVICE REDESIGN

VISIBLE RESULTS

Paperless systems for test requests and reports can reveal exactly how many are being dealt with on time – and foster a bit of healthy competition between medics to do better. Matthew Shelley reports

No one doubts that every test request and report has to be safely delivered and acted upon if the NHS is to be sure that patients are receiving timely, high quality care.

But despite the fact that technology to achieve this is readily available, a question mark hangs over how soon it can be done.

For those who grasp the nettle, there are benefits ranging from improved quality and safety and better patient outcomes, to a more cost-effective service with less waste and duplication.

Professor Jonathan Kay, clinical informatics director for NHS England, expects all GP requests and reports to be computerised by 2018. While this promises great gains – a faster, more predictable turnaround and fewer errors – he believes it should be a launchpad for greater innovation rather than an end in itself.

“It should never be just about changing the medium. It’s about creating a platform for new ways of delivering care,” he says.

He envisages a system where data flows seamlessly between care team members and organisations and also to the patient.

While acknowledging that there is “significant work” to be done before this is achieved throughout NHS England, he points to many areas of progress.

Giving patients access

Among them is the Patient Online programme to give people access to their own summary information and perform tasks such as appointment booking and arranging repeat prescriptions.

Professor Kay also hopes it will become a place where patients can access report results – and information to explain what they mean. “Patients should be able to see their own information, there is an ethical

dimension to this, but there are also many practical advantages. Reports should be accessible as well, we know this will be very popular with patients. But it’s not just the reports, it’s being able to understand them.”

“We know that outcomes can improve with better patient involvement.”

If computerised requests and reporting are to be the bricks and mortar of a digitised NHS, then systems have to be in place across all settings and access to data assured for all relevant care providers.

Having an audit trail, and being able to see that an appropriate person has taken the correct action in a timely fashion, has a significant impact on efficiency.

A recent report to Gateshead Health Foundation Trust summed up the situation succinctly: “Test results that are not checked cause patient harm.”

Gateshead is among the 73 acute and 110 primary care sites to have adopted Sunquest’s market leading Integrated Clinical Environment system (ICE) to streamline work processes.

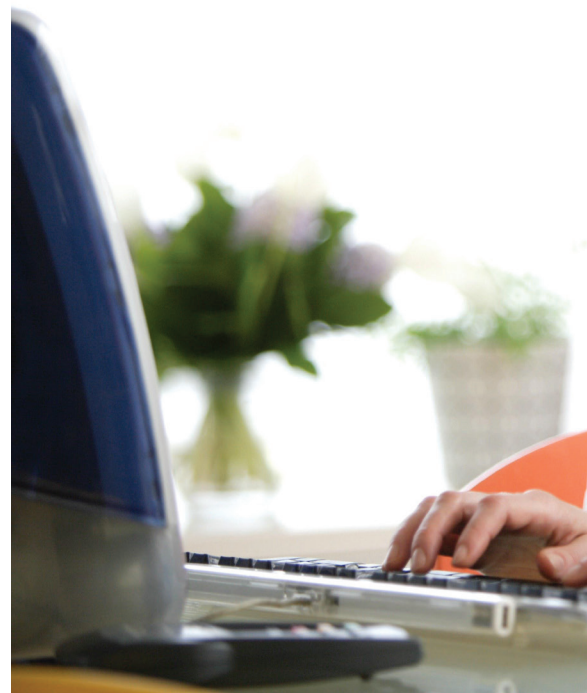
Trust chief clinical information officer, and chest consultant, Robert Allcock says the solution was rolled out “pretty aggressively” in 2010 for requests and reporting in a drive to reduce costs, save time, raise efficiency and improve safety.

Since then he has been using it in the development of innovative approaches to encourage staff to take a close interest in getting reports dealt with swiftly.

One strategy has been to take ICE data and use it to generate graphs which are circulated to consultants, showing how many reports they and their colleagues have outstanding.

“The initial emphasis has been in areas like radiology and histology where lost or

Faster feedback: computerised systems can streamline processes for requesting tests and getting back reports



‘The trust was able to do 48 per cent more tests with 40 per cent fewer staff’

delayed reports represent a risk to patients – the response has been excellent,” says Dr Allcock.

The trust also has an aim of having all reports filed when a patient is discharged. For the past year he has been using ICE data to generate weekly graphs to show the success rate of each ward.

“Doctors are fundamentally type ‘A’ personalities. If you state overtly what a standard of care should be, and then show how their team is delivering against everyone else, then that is extremely effective,” says Dr Allcock.

He adds that feedback has been positive and that staff have become quite competitive to get the best results.

According to Ed Harris, Sunquest’s ICE product manager, the evidence from Gateshead and elsewhere supports Professor Kay’s view that computerised requesting and reporting acts as a platform for other developments.



ED HARRIS ON EASE OF USE



“ How is your IT supplier helping with your paperless ambitions?

The cost and complexity of healthcare continues to increase and so, it seems, does the challenge of being paperless by 2018. Software suppliers have a key role to play in helping the NHS reach the 2018 goal. This ranges from helping the creation of business cases to providing software solutions that meet needs and add value. Three areas IT suppliers should support their clients are the implementation of best practice, providing tools that are easy to use and enabling record of ownership.

NHS organisations should look to IT vendors to help understand best practice and share knowledge across organisational boundaries. NHS-led webinars facilitated by suppliers provide the chance to learn from others and engage a wide audience without the need for travel. User groups or regional events can also enable face to face interaction. The ability to

‘Systems must close the gap with IT experienced outside of work’

contact other users of software, to understand its use in the real world, is invaluable.

Particularly relevant when thinking about replacing paper and rolling out software to new staff is the importance of ease of use and meeting user expectation brought about by increased personal use. IT suppliers must be cognisant of this and design systems that are easy to use in order to close the gap with IT experienced outside of the working environment.

The benefits of easy to use systems include wide and rapid adoption. The risk of difficult ones is that people will avoid using the system altogether. Recently, an NHS organisation replaced a complicated multiple screen and multiple click workflow with an interactive user interface which updated the same information in a tenth of the time: the benefits were instantly realised.

A final consideration is record ownership. A single sheet of paper implies ownership by the person holding that paper but a shared electronic record can result in no sense of ownership. For example, sending an email to many recipients in the “To...” field can result in no response. It is more effective to address the email to a single recipient.

Features like report acknowledgement, as used at Queen Elizabeth Hospital in Gateshead, help to identify ownership and assign accountability of records. This can improve data quality, auditing and trust in the IT system. Ultimately, it’s vital to think about ownership of the record and talk to your suppliers about how they can help make that transparent.

Ed Harris is ICE product manager at Sunquest.

www.sunquestinfo.com



“At the very core is the ability to request and report, to see that whatever is required is done and to avoid duplication.

“What we have found is that people start off with pathology and radiology, followed by the other ‘ologies’. Then they start to realise just how widely applicable this system is and how easy it is to use so they start to adopt it in lots of other areas.”

In some cases, this goes beyond the clinical and it is used as the standard ordering system for consumables.

Peterborough City Hospital started off by digitising its radiology system. Not having to deliver paper reports to wards saved 15 hours of administrative and clerical time per week and seven portering hours.

Paying for itself

The trust says ICE paid for itself “almost instantly” as it was able to do 48 per cent more tests with 40 per cent fewer staff and report 95 per cent of all tests within two hours. It was then able to introduce electronic workflows which, over the space of a year, reduced the average number of delayed discharge patients on any given day from 55 to 31.

Driving down the time it takes to get an accurate diagnosis can speed up patient services throughout the NHS.

Beyond that, having flexible electronic systems that gather large amounts of accurate data, starts to create all sorts of other possibilities.

This can extend beyond the immediate NHS environment and enable agencies to cooperate on issues of mutual concern.

“We know of an example where data has been analysed and presented to the police to help them understand the locations people have been in when they have suffered injuries,” says Mr Harris.

While optimistic that progress is being made throughout the NHS, he remains sceptical that health secretary Jeremy Hunt’s 2013 challenge to go paperless in five years is likely to be achieved.

He says: “There is still an awful lot of paper out there which means greater risk. It gets lost, is slow to deliver, increases time to correct diagnosis and treatment, and lengthens stays.”

But as the general public comes to expect and experience ever quicker services, leading figures such as Professor Kay believe that their views could bring increasing pressure to bear on parts of the NHS that lag behind.

“Patients will be aware that things can be done more quickly, and if that’s not happening then patient power could come into play,” he says. ●



