Digital role

All staff need to be more aware of how new technologies can transform services and drive value. But finance professionals will have a particularly important role to play in the adoption of digital healthcare. Steve Brown reports on a recent HFMA roundtable, supported by Health Education England

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It is widely recognised that digital technologies have a huge potential to transform the delivery of healthcare. Genomics, artificial intelligence, digital medicine, robotics and informatics should all mean services that are more tailored to the individual needs of patients and will mean new roles and new ways of working for clinical staff. But finance staff also have a major role to play in bringing this potential digital future to fruition.

An HFMA roundtable, chaired by HFMA president Caroline Clarke, chief executive of the Royal Free London NHS Foundation Trust, recently brought together finance leaders with clinicians and informatics specialists to discuss this role, the obstacles that need to be overcome and the support that finance professionals will need to take this agenda forward. The roundtable was supported by Health Education England, whose digital readiness programme aims to enhance digital skills and raise awareness of the digital agenda across the health and social care workforce.

Patrick Mitchell, HEE director of innovation, digital and transformation, told the roundtable that the national body was keen to put on programmes that stimulate people's wider interest in the digital agenda – not just individual components such as getting electronic health records (EHRs) working or the use of artificial intelligence (AI) in imaging.

'We want to understand how the finance community contributes to digital healthcare and stimulates the agenda so we can start to skill the NHS workforce for what needs to take place,' he said. 'Far too often we've left it to the digital community to support this, when it actually needs a whole range of people taking a leading role.

'It is important that finance managers understand what digital healthcare can deliver and the importance of data and the use of information in clinical settings. We want to improve awareness in general, but also acknowledge finance managers' specific roles in supporting these developments.'

Finance managers also have a major influence on what gets invested in and need to be at the heart of helping clinicians to build strong business cases for deploying digital solutions. So, it was important to understand how best to engage with the finance community over digital.

Mr Mitchell suggested that three particular applications of technology could provide a paradigm shift in how healthcare is delivered in future. 'The first is around the way we use data to change the way in which we drive clinical decision-making,' he said, adding that this offered potentially 'the biggest driver for clinical productivity' over the next five years.

There are major issues connected to this, including how AI can be used in trend and predictive analysis and the requirements this creates for data analysts and clinicians with informatic skills.

'The second is around IT and wearables and the internet of things,' Mr Mitchell continued. 'What skills do we need our staff to have? And how can finance influence that, both in understanding the agenda but also understanding the skills that you need to have within your departments and in your associated departments to make that happen?'

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Finally, he suggested that AI promised to transform the service's approach to diagnostics, in particular specialties that worked with image recognition, and could go some way towards helping address shortages in radiologists as the technology rolls out into clinical service.

Alex Gild, chief financial officer and deputy chief executive of Berkshire Healthcare NHS Foundation Trust, said the obvious way to engage with finance staff was to talk about how digital could reduce waste and increase value. 'That is the finance mindset,' he said.

'So, it is about sharing those aspects of the benefits. Finance teams are seeing increased requirements for digital and information management and technology (IM&T) without being really clear what the business case for the change is – or which is the best system to adopt in that integrated care system. So, it would be useful to share information about how particular innovations can increase value.'

Mr Gild added that finance would also be engaged by digital options that helped relieve staffing pressures – with significant vacancies and the need to expand some service areas.

'There are funds coming down the line for workforce, but I think we'll need to get creative about how we use that funding not just for workforce, but for digital that mitigates the risk of not getting the workforce in.'

Mr Gild also wondered if there could be more support to help organisations spread the innovative use of existing technologies.

On the back of a patient idea, the Berkshire trust developed an e-health system initially to support people struggling with eating disorders. The idea was to give patients access to support 24/7, outside of clinical service 'office hours' using a secure social network of peer and clinician moderators, carers and those who had recovered from their condition.

Adoption challenge

Sharon (Support Hope and Recovery Online Network) has proved extremely successful. 'When the idea came forward, I took a risk on the pilot investment as there was no evidence for it,' he told the roundtable. 'But it has subsequently shown reduced demand for eating disorder outpatient attendances, inpatient beds and improved rates of sustained recovery across the county.'

It has also been expanded to early intervention in psychosis, perinatal and child and adolescent mental health services, with up to 5,000 service users supporting each other. There has been interest and adoption from other systems, but Mr Gild said it was taking a long time to get this Global Digital Exemplar blueprinted innovation adopted elsewhere.

He wondered how this process could be further supported from the centre. 'We see this as a replicable, low-cost, high-value technology innovation,' he said. 'But how do we get the benefits message across and scale up?'

Ian Moston, chief finance officer at the Northern Care Alliance NHS Group, warned against trying to run before walking. Wearables and AI all offered exciting potential, he said, but if an organisation had poor IT infrastructure, the transformational agenda would remain out of reach.

The Northern Care Alliance brought together Salford Royal NHS Foundation Trust and Pennine Acute Hospitals NHS Trust. While Salford is something of a digital leader, with an electronic health record in place for some 15 years, Pennine is not so advanced.

'Pennine Acute has 650 different systems, many of which are beyond their legacy date and were, until a sizeable investment package was identified, falling over consistently, sometimes for days at a time,' said Mr Moston.

'At one stage we considered going back to paper for safety reasons. So, part of the problem for finance is how to get places where digital has been woefully invested in up to a baseline.'

Mike Emery, director of digital strategy and infrastructure at NHS Herefordshire and Worcestershire Clinical Commissioning Group, underlined this point, highlighting the issue of connectivity, particularly in rural areas. 'We need to work with national stakeholders to improve connectivity infrastructure across the country,' he said. 'Policy and programme decisions cannot be taken based on the context of urban health economies such as London.'

Affordability of broadband connections was also an obstacle for some families. Mr Emery added that it was an inequalities issue and that areas with a technology deficit could not engage with the potential of more advanced

Pictured: l-r, top Nicci Briggs, Caroline Clarke, Alex Gild; middle, Ian Moston, James Davis, Andrew Griffiths; bottom, Jon Cort, Mike Emery, Patrick Mitchell

Participants

- Nicci Briggs, Leicester, Leicestershire and Rutland CCGs
- Caroline Clarke, Royal Free London NHS Foundation Trust
- Jon Cort, Chesterfield Royal Hospital NHS Foundation Trust
- James Davis, Royal Free London NHS Foundation Trust
- Mike Emery, Herefordshire and Worcestershire CCG
- Alex Gild, Berkshire Healthcare NHS Foundation Trust
- Andrew Griffiths, Federation for Informatics Professionals
- Wajid Hussain, Royal College of Physicians/ Royal Brompton and Harefield hospitals
- Akish Luintel, Faculty of Medical Leadership and Management
- Patrick Mitchell, Health Education England
- Ian Moston, Northern Care Alliance NHS Group
- Lee Outhwaite, Chesterfield Royal Hospital NHS Foundation Trust

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Alex Gild

innovative solutions until their infrastructure was up to a basic level.

Mr Emery said encouraging a dialogue between different professional groups would be important. He agreed with the need to identify the value aspects of digital programmes, suggesting that a better understanding of benefit models – and describing benefits in both patient improvements and monetary terms – would help everyone.

Wajid Hussain, consultant cardiologist at Royal Brompton and Harefield hospitals, now part of Guy's and St Thomas' NHS Foundation Trust, and clinical director for digital health at the Royal College of Physicians, said that a common language and a firm focus on benefit realisation frameworks were needed.

'Sometimes clinicians don't articulate what the benefits are because they think it is obvious,' he said. 'And equally finance don't always understand what the clinicians are talking about.'

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Clinicians may be focused on how a project helps them look after patients in a better way, while finance are, for example, looking for how it leads to a reduction in administrative staff over time. Providing organisations with something to help address this perception gap would be helpful. 'Some kind of framework could give us a really concrete thing that actually shows this is good practice in this area and this is how you look at things,' he said.

Jonathan Cort, deputy medical director and clinical chief information officer at Chesterfield Royal Hospital NHS Foundation Trust, agreed a better way of understanding the quantitative and qualitative improvements was needed.

'We need to focus on the smart outcomes,' he said, referencing the idea of setting outcomes that are specific, measurable, achievable, realistic and timebound. As well as getting the new technology in, there also needed to be a focus on how the model of care would change on the back of the new kit. Too often this was overlooked, he said, with old processes staying in place despite the technology change.

'Digital product suites often do not release benefits for a significant time,' he said. 'But once a return on investment is seen, we ensure already agreed variance and old ways of working are then taken away.' This needed to be more widespread.

It is not always straightforward though. For example, Dr Hussain described how his

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Wajid Hussain

trust had changed a lung pathway. 'Patients with chronic lung disease and recurrent lung infection used to come in for two weeks of intravenous antibiotics,' he said. 'We now do a day-case admission and then arrange a home intravenous antibiotic service.

'It was great but when we were asked if this reduced the number of beds and staff, it didn't. The beds stayed full, plus we were managing a whole cohort of patients remotely.' This may be delivering benefits in terms of meeting pent-up demand or reducing waiting times, but if the programme is funded on the basis of reduced costs, there is a problem.

On a similar note, Lee Outhwaite, Chesterfield's finance and contracting director, said he wasn't convinced that the technology itself was the challenge. 'The NHS is often good at delivering technology, but the cultural change piece is about using data differently,' he said. 'How the technology supports a new way of working is a more seismic challenge than delivering the technology.'

Mr Moston said the NHS had a tendency to pay too little attention to benefits realisation – including establishing a baseline so that impacts could be monitored. 'We never put sufficient energy into this and then we wonder why we can't track the benefits,' he said. 'Most of what we are doing is changing behaviours using technology as a driver.'

Often the investment should be stacked towards the organisational development aspects of a project and finance managers should be reminded to scrutinise digital business cases to ensure they have the investment weightings in the right proportion, he said.

HEE's Mr Mitchell agreed that change management was the key challenge. 'You can't do service transformation in isolation from workforce transformation and you can't do workforce transformation without the digital piece,' he said.

He suggested services had to be redesigned with patients in mind. Banks had introduced online services to meet customers' demands. But the pay-back came with customers doing all their own data entry.

The NHS had a similar process to go through with patients self-supporting at home and being monitored remotely. 'We need finance to be helping to stimulate these conversations and get clinicians thinking in this way,' he said. 'The productivity improvement will come with reduced investment in infrastructure, which won't be needed in a decade's time.'

Help with prioritising

Addressing the specific question of the support needed by finance professionals, Mr Outhwaite said boards and finance managers required help with prioritisation. Trusts were familiar with having to prioritise capital projects to support their physical infrastructure, but they needed a similar prioritisation process around digital. 'Lots of hospitals have multiple leaky roofs,' he said. 'It is the same with digital – which leaky roof do you fix first that will give the most benefit?'

And there is a conundrum around clinical pull and change readiness. 'There are people who want to do something different and if you give them the kit, they will crack on with it,' said Mr Outhwaite. This had to be weighed up against areas where organisations knew there was major opportunity for improvement but they weren't 'change ready'. With budgets limited, deciding which project to take forward was not straightforward.

It could be useful for trusts to be given help to identify the areas of maximum potential benefit and provide more detail to support the development of local business cases.

Training will be a big part of delivering the digital agenda – both in terms of specific skills and improving general IT literacy.

The Topol review suggested that half the workforce would still be working in the NHS in 15 years' time, underlining that there is

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Pictured: l-r, top, Nicci Briggs, Wajid Hussain, Mike Emery; middle, Alex Gild, James Davis, Patrick Mitchell; bottom, Akish Luintel, Andrew Griffiths, Lee Outhwaite

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both a job in upskilling existing workforce and ensuring training is in place for new staff.

Nicci Briggs, director of finance, contracting and governance at Leicester, Leicestershire and Rutland Clinical Commissioning Groups, said the one thing that was completely clear was that training needed to start now.

'For finance, surely digital needs to be as important as tax or financial reporting and we need to have conversations with the accounting bodies and get it high on the agenda,' she said.

She also suggested more could be made of accountants' existing skills. 'Most finance people are good at analytics,' she said, highlighting that the use of wide-ranging, large datasets was a key part of the digital agenda.

'We have that skill set, but we are just not very good at shouting about it. We will require less of the contracting and commissioning skill set in future, but those people actually have very good analytical skills. So, there is an opportunity to show them how their skills are transferable into looking at wider data.'

She added that younger people entering the service would come with inherently better digital skills and much greater confidence with the use of digital technologies. Organisations should actively seek to engage them in the development of digital projects.

While she acknowledged that this would not traditionally have been the norm, the service should harness the better digital skills of its trainees and younger staff.

Ms Briggs also called for more support on writing business cases dealing with digital investment. 'A lot of the benefits are in clinical time,' she said. 'We need to get better at writing IT business cases that won't see any value in year one. The benefits we will see will be over a much longer time frame.'

Dr Cort underlined this. 'Clinicians understand the financial year and that money has to add up, but a lot of the benefits [in digital projects] come towards the end of a piece of work. That way you can change the attitude of clinicians,' he said. 'It is not a one-off project, it is a relationship. We need to change the engagement. Once you show them one thing works, they'll come to you and you can feed off the energy and develop that longer-term relationship.'

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product's lifecycle. This needs to be thought about in terms of a really long context and this must be picked up by integrated care systems.'

James Davis, director of innovation at the Royal Free London NHS Foundation Trust, said the manual operational overhead that accompanied some digital products was another obstacle to achieving a return on investment. 'Some organisations have implemented virtual wards for oximetry at home, measuring the concentration of oxygen in a patient's blood. But in some cases this relies on phone calls to patients and manual data entry to the electronic patient record.

'This is a great example of unnecessary manual overhead that impacts real cash releasing innovation,' he said. 'It is also an excellent example of how we could use tools like automation to fill the gaps that products and initiatives like this create when they need operational or manual support.'

Team effort

All agreed that relationships were the key to moving projects forward – or, as Mr Emery put it, digital progress is a 'team sport'. Getting everyone focused on a single goal or set of goals made a big difference – as the partnership work for the Covid-19 pandemic has shown.

Dr Hussain said IT professionals could change their image with clinicians. 'For clinicians, IT is not always seen as their best friend,' he said. He suggested starting with a small project that works, and that could be used as an enabler for a connecting or larger

Andrew Griffiths, chief executive of the Federation for Informatics Professionals, said that IT and finance professionals needed to ensure they understood the 'business of healthcare'.

'We can be seen as the people who say "no",' he said, whether this involved insisting a clinician used the system they were given or being told a development was unaffordable. 'We need to transform our professions into ones that are encouraging people to change,' he said. 'That is really difficult. But we need to demonstrate that we understand the problem and can apply our skills to improve it. This is a soft skill mentality and perhaps we could do some common learning.'

Another area that needed work was NHS relationships with suppliers, with attendees suggesting the NHS needed to develop different styles of long-term relationships with suppliers to give programmes the best chance of success.

'We have a tendency to confuse suppliers,' said Mr Outhwaite, 'because we have such different views on what good looks like.' There had to be less focus on contractual detail and more on working together, he said. The NHS may have to accept that deals would need to be for 'at least 10 years' given suppliers' significant upfront investment.

The Northern Care Alliance is implementing a digital control centre. This 10-year project will give the trust access to patient-level insight and flow management tools that provide near real-time information to help assign patients to the correct care pathways, improving access and both patient and staff experience.

It is an ambitious project that will also support demand and capacity planning and the development of machine learning that can be used to improve clinical decision making. But Mr Moston said that with hindsight the trust, despite having a top-class leadership team, did not have all the skills necessary for a major digital project.

'Even if we were to produce a major investment case for digital now, I'm not sure we do it often enough to be able to engage effectively with suppliers and compete on even terms,' he said. But he was full of praise for the support received from NHSX. There could be value in making the finance community more aware of the types of deals and terms that will be likely to support digital programmes.

However, Mr Davis also called for the NHS to make better use of the skills that already exist within the service.

'I'm a big advocate of doing things by the system, for the system,' he said. 'However, we don't always know where the great pockets of innovation are so we can leverage that instead of going to market and getting contractors in to do it or getting another vendor to do something that has been done in multiple other places around the country.

'We have to find a better way to leverage those pockets of knowledge and expertise and buy in from each other as opposed to directing cash outside the system.'

At the Royal Free, Mr Davis has an innovation team of 25 that can be charged out to other trusts at Agenda for Change rates providing them with some niche digital skills. 'Could others follow the same model, so we can leverage other specialties in the digital space?' he asked.

The digital transformation of the NHS is already underway. The rapid introduction of virtual outpatients and GP appointments during Covid-19 shows how changes can be made at scale and speed.

However, the potential for further transformation is huge. There needs to be much greater sharing of good practice across the service and finance professionals need to learn the language of digital and immerse themselves in the whole agenda.

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Digital in action

Roundtable attendees provided examples of digital projects being pursued by their organisations.

Caroline Clarke highlighted work at the **Royal Free London NHS FT** to digitise clinical pathways. The programme provides data to clinicians to support the redesign of pathways. Once finalised, the pathways are digitised – loaded into the trust's electronic patient record (EPR) – so that clinicians are supported through the care process. The programme, which has been running for four years, has led to a reduction in waste and improvements in outcomes, although Ms Clarke admitted that some of the costs were 'sticky' and hard to get out.

James Davis, the trust's director of innovation, also highlighted how the trust had introduced an app to support its flu vaccination programme for more than 10,000 staff. Instead of paper-based records needing to be filled in, keyed into the system and then separate submissions compiled for different purposes, the manual effort has been replaced using an iPad app with automations sitting behind it.

'We've saved 14 weeks of manual effort through one app and e-automation,' he said. The trust is keen to get the benefits of scale and now has a large number of similar apps and automations running across the organisation, with about 70% of the recruitment process now entirely automated.'

Nicci Briggs highlighted a successful e-clinic at former employer **Kettering General Hospital**. This video consultation platform has a live translation service built in to improve accessibility for non-English-speaking patients, while allowing the trust to make up to 90% cost savings on traditional translation services. The voice-recognition technology can translate clinical appointments into more than 100 languages in real-time via audio or text. She also highlighted the Scan4Safety project as providing patient safety benefits and cost savings, as well as major side-benefits in terms of improved costing.

In Wales, Andrew Griffiths described the Choose Pharmacy programme. Underpinning software, developed by **Digital Health and Care Wales**, has facilitated a service where pharmacies can take pressure off GPs by dealing with patients with minor ailments. The Choose Pharmacy platform is integrated with the NHS Wales network giving pharmacists access to the medication details in patient health records. They can undertake medication reviews when a patient is discharged from hospital and provide emergency supplies of prescribed medicines at evenings and weekends. 'The benefit of a shared record across the whole community is that it allows for new service models to be developed and for real change to be achieved for citizens and patients,' he said.

Current Faculty of Medical Leadership and Management clinical fellow at NHS Digital Akish Luintel – a former chief registrar at **University College London Hospitals NHS Trust** – described the huge benefits derived by UCLH from its electronic health record. 'To begin with, the benefit was not having to look for paper notes, but subsequently it has enabled us to iteratively change things very quickly,' he said.

'During the Covid-19 response, we were able to bring out care pathways to clinicians and change these on an almost daily basis – covering, for example, use of side rooms or current infection control policies.' The system also meant the trust was alerted immediately when a room had been cleared and a bed was available – vital during heavy demand periods during Covid. And the system has facilitated a lot of clinical audit and research, which has really helped to engage clinicians.

The **Northern Care Alliance NHS Group** has an advanced digital programme, and is developing and implementing a digital control centre as part of a 10-year partnership with technology company Hitachi. The control centre will provide clinicians and managers with real-time information on patient-level pathways to support effective care planning and flow management. It will also deliver real-time operational insights to support decision-making to manage risk and improve access across the breadth of the trust's services. This will include scenario planning capabilities using innovative machine learning functionality.

The control centre will link with existing trust systems to help with capacity and demand planning. It will also support a better understanding of variation at a clinical pathway level to inform clinical decision-making and drive improved outcomes.

Group chief finance officer Ian Moston said that in the railway system, if a train was running late, the control algorithms could quickly reschedule or reroute all other trains to cause the least disruption and make best use of the system. While hospitals provide different challenges, the control centre would give the organisation similar capabilities to connect component parts of the system and inform real-time decision-making to synchronise care, leading to better access, fewer queues and improved safety and the quality of care.

The group has also been implementing smart scheduling tool Malinko to optimise the use of staff time for community services. District nurses can get optimum routes and plan visits while they are out, taking account of traffic information and geography.