DigitalHealth.London

Digital Leadership in London's NHS

A DigitalHealth.London production

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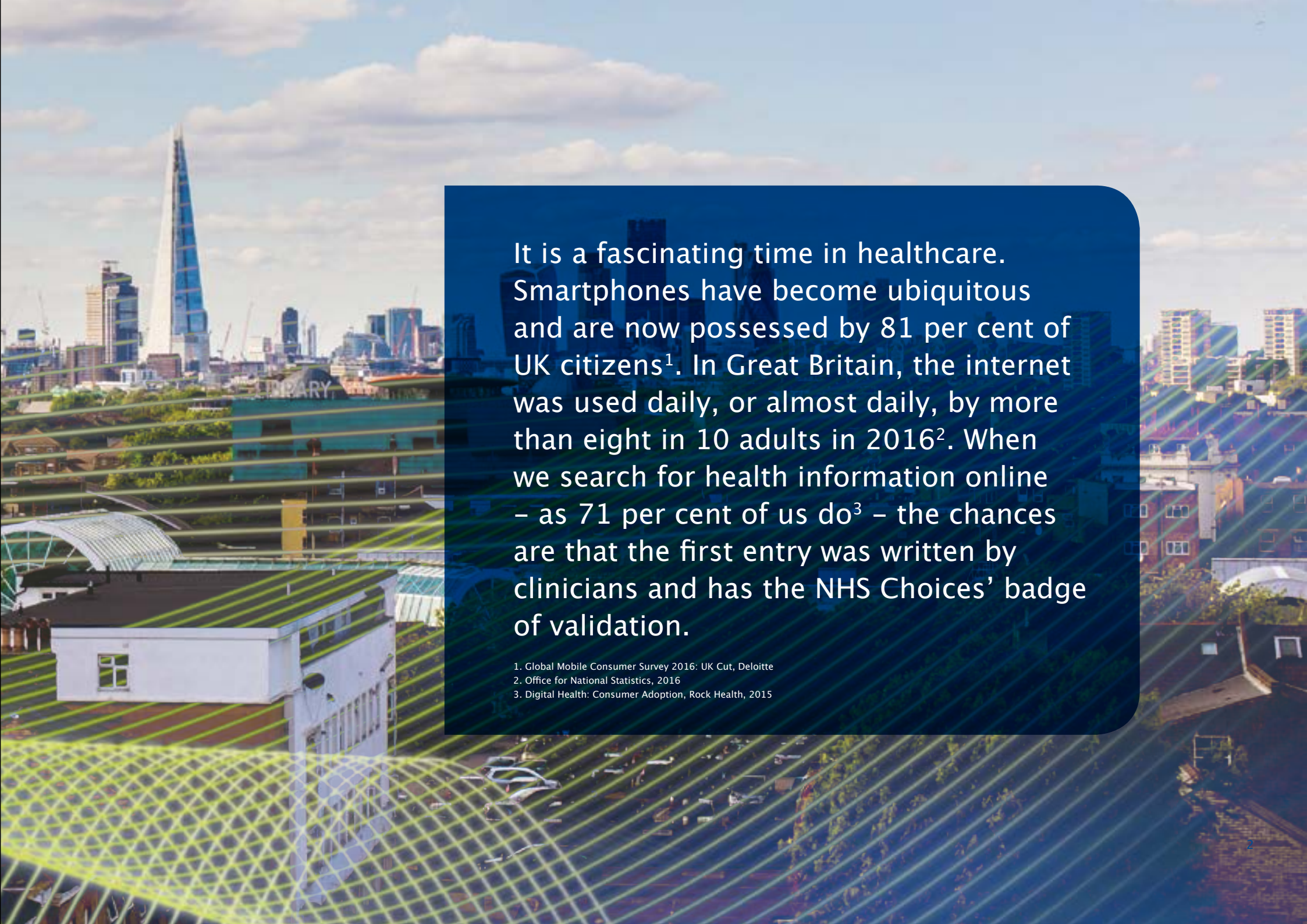
Design: Hilary Rafferty – Raffertys and Associates ltd
Editorial: Julian Tyndale-Biscoe – InHealth Communications Ltd



It is a fascinating time in healthcare. Smartphones have become ubiquitous and are now possessed by 81 per cent of UK citizens[1]. In Great Britain, the internet was used daily, or almost daily, by more than eight in 10 adults in 2016[2]. When we search for health information online – as 71 per cent of us do[3] – the chances are that the first entry was written by clinicians and has the NHS Choices' badge of validation.

1. Global Mobile Consumer Survey 2016: UK Cut, Deloitte
2. Office for National Statistics, 2016
3. Digital Health: Consumer Adoption, Rock Health, 2015

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Introduction

Today's digital solutions are now well-developed products that enable patients to self-manage at the same time reducing the inconvenience of healthcare. They are beginning to replace face-to-face services saving clinical staff time and also save the NHS money.

This report aims to chart the impact of digital technology on the NHS in London over recent months. It follows a number of leaders of healthcare organisations in London and asks them why they made the decision to use a digital solution, what benefits they are finding and how this fits with their vision for the future.

We have looked particularly at those organisations – acute hospitals, primary care, the city-wide ambulance service and a specialist tertiary trust – that have been engaged in getting proven digital solutions to many more patients and staff over the past six months.

It is impressive that each of these NHS institutions has sought out ways to improve patient care and staff workloads and, with our help, found a good match for their need with a digital product. They have chosen to innovate, and they have made decisions promptly, acting in an agile fashion perhaps not typically associated with large organisations.

"Innovation is not just coming up with great ideas, but following up with implementation and spread. It is incumbent on all of us in leadership positions across the NHS to make sure these ground-breaking and transformational ideas are rapidly embedded in our day-to-day working, improving patient outcomes and experience, and adding to the sustainability of the healthcare we will deliver into the 21st century."

Professor Keith McNeil
Chief clinical information officer, Health & Social Care, NHS

We salute this behaviour from leaders on NHS boards and would encourage others to do the same. We also want to recognise the critical role of those NHS staff of all professions, who have worked hard to get these digital products implemented. We have interviewed clinicians from a range of backgrounds, operational managers and information and technology professionals, to share their thoughts and learning with peers.

Each of the products that we reference as starting to get to scale in London are on the first cohort of the DigitalHealth.London Accelerator programme, which began in September 2016 and selects a number of digital products that are among the best ideas in healthcare and are candidates for scale.

DigitalHealth.London was established by London's three AHSNs – the Health Innovation Network, UCLPartners and Imperial College Health Partners, with MedCity and our respective AHSCs – King's Health Partners, UCLPartners and Imperial College AHSC. It is a virtual digital institute for London and a unique collaboration, designed to make it easier for brilliant digital solutions to help more Londoners.

For more on DigitalHealth.London, the programme and the other great digital ideas on the Accelerator please see our site www.digitalhealth.london.

Tara Donnelly
CEO | Health Innovation Network
On behalf of all at Digital Health.London

DigitalHealth.London leaders
Left to right: Sarah Haywood – CEO MedCity, Shirlene Oh – Commercial director ICHP, Yinka Makinde – Programme director DigitalHealth.London, Tara Donnelly – CEO Health Innovation Network, Dr Charlie Davie – Managing director UCLPartners

“We start with the challenge and what we know about the organisation because as with any other trust, we have our strengths and weaknesses. That is why we were interested in working with companies from the Accelerator programme.”

Dr Zoë Penn
Medical director, Chelsea and Westminster Hospital NHS Foundation Trust

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Innovation at the front line

The NHS organisations highlighted in this report have all been working with companies from the DigitalHealth.London Accelerator programme. The Accelerator is able to draw upon leading NHS experts with world-class insight to pioneer the development, commercialisation and adoption of digital technologies in health and social care to improve health outcomes.

London hosts a wide range of health-related technology companies from small self-funded start-ups to global corporations. In fact, research by London & Partners found that our capital city has more tech developers than Silicon Valley. These innovators are already shaping healthcare and looking to bring their ideas to market to help patients and clinicians. These innovations range from apps that can help patients self-manage chronic illnesses, software designed to improve communication between patients and their healthcare providers to cloud computing designed to deliver precision medicine.

However, the NHS is hard to break into for digital innovators and the NHS itself often struggles to make the most of digital innovation. The aim of DigitalHealth.London and its Accelerator programme is to remove the obstacles that are slowing down the adoption of these innovations into everyday NHS care.

Chelsea and Westminster Hospital NHS Foundation Trust

Chelsea and Westminster Hospital NHS Foundation Trust runs two main hospitals; Chelsea and Westminster Hospital and West Middlesex University Hospital. As well as acute care, it provides a range of community based services, including sexual health and HIV clinics across London. It has 5,000 staff caring for nearly one million people locally, regionally, nationally and internationally.

Dr Zoë Penn is the trust's medical director. She is keen to point out that digital innovation should not be adopted for the sake of it. She says: "Innovation & digital innovation is written into the Clinical Services Strategy and for me this means doing things in a smarter way and differently. This is about aligning your organisational needs and the enthusiasm of staff. One of the mistakes we want to avoid is going out and finding a new digital solution and then asking ourselves what problem can it solve. We start with the challenge and what we know about the organisation because, as with any other trust, we have our strengths and weaknesses. That is why we were interested in working with companies from the Accelerator programme."

DigitalHealth. London | ACCELERATOR

Accelerator companies highlighted in this report

11Health – A sensor device to track ostomy bag fluid volumes and alert patients when nearly full. Improving control and quality of life for those that live with an ostomy bag

DrDoctor – Technology platform enabling effective communication between hospitals and patients. Empowers patients, maximises clinician time and improves efficiency

iPlato – Works in partnership with clinicians in primary care to transform patient experience and access to healthcare through digital engagement with patients via their phones

Medopad – Connects patient to doctor to undertake real-time monitoring at home

OurPath – Digital behavioural change programme aimed at preventing onset of Type 2 diabetes through education, healthcare tracking and health coaching

Oviva – Clinically proven behavioural change programme combining face-to-face, daily coaching, and structured education to help those with Type 2 diabetes self-manage and improve efficiency in diabetic care

Perfect Ward – App-based tool eliminating administration involved in conducting and reporting ward inspections. Ensures consistent reporting, with real-time feedback. Perfect Kit Prep is an additional module of the product developed for the London Ambulance Service

Physitrack – Beautifully made exercise films that physiotherapists can email patients so that they complete them correctly at home

Written Medicine – dual language medication labels

Chelsea and Westminster's Clinical Service Strategy highlights the importance of encouraging and supporting the use of innovation and technology in the delivery of safe and effective services, including supporting research and experimenting with innovative care technology. It links education to improvements in patient outcomes by focusing on five domains, one of which is a flexible workforce that is receptive to research and innovation.

The adoptions of a number of Accelerator products are good examples of this strategy in action. With Perfect Ward for example, the trust could see how it would help to make the ward accreditation process more streamlined. "We knew we needed to streamline processes around accreditation and we could see the app would mean nursing staff take less time to complete tasks that were being carried out using paper or on separate spreadsheets."

Zoë says the trust helps to nurture a culture of improvement through innovation in several ways. Her own role is important in this respect. "I chair the clinical innovation group and I take a lead in the adoption of new technology, some of this is about new technology itself, but we also look at existing procedures and how technology might improve them. Our aim is to encourage a feeling that this is the way we do things around here."

Another significant part of nurturing this culture has come from a programme led by CW+, the main charity supporting the trust. Zoë sits on the board of trustees and every year it runs a Dragon's Den style event with a £5,000 pot of money available for investment in the winning project. Staff come forward with their ideas and pitch them to a panel who then decide which one to support.

In 2014 and 2015 the trust re-organised its frontline services to strengthen clinical leadership. The new clinical business units' structure encourages clinically-trained staff to take on managerial responsibility and assume greater control and decision-making authority and clusters together similar service lines. This structure also allows for the maximisation of the experience effect and the development and rapid sharing of innovation across the trust.

The trust is also involved in the first UK randomised control trial of a stoma bag that links through Bluetooth to the user's smartphone, thereby giving patients much greater control, particularly when sleeping, and helping retain dignity. This product was invented by a patient innovator, Michael Seres.

The work is being led by the gastroenterology departments and stoma specialist nurses and will include patients at the West Middlesex and Chelsea sites as well as St Mary's in Paddington, part of Imperial College Healthcare NHS Trust. 11Health

Medopad

has recently won a major research grant from SBRI Healthcare to undertake this work. SBRI Healthcare is a funding source for innovators run by the 15 AHSNs on behalf of NHS England, for more see **www.sbrihealthcare.co.uk**

The trust has also appointed five innovation and improvement clinical fellows, who are doctors in training tasked with scouting for innovation and best practice that solve trust identified priorities, and have been closely involved in the work to introduce new digital solutions. The trust is using two further digital products from the Accelerator – Medopad, to remote monitor patients in its heart failure service and Physitrack to share exercises with patients in its musculoskeletal service, to speed up recovery.

Key facts

Perfect Ward more than halves the audit time by automating non-value added steps such as manual preparation, writing up and reporting inspections. It also leads to step-changes in the quality and accessibility of output.

Ward accreditation
This is a thorough process of inspecting a ward and is often done with a small team of inspectors. Each ward may only be inspected a few times a year, but it is a lengthy inspection which may last several days and involves senior nurses (assume Band 8d). Typically, this is a manual process that takes 19 hours, with Perfect Ward it takes 8.5 hours – saving 10.5 hours.

Monthly thematic audit
This is typically a shorter inspection carried out by individual matrons every month on every ward, clinic or theatre. Each inspection will typically take a few hours and be carried out by nurses in charge (assume Band 7) and usually takes 1.5 hours. With Perfect Ward it takes 0.5 hour – saving 1.0 hour for every ward, clinic or theatre.

"Having seen 11Health and heard about the development I think it is great to have innovation designed by patients for patients. I have worked with both adults and children with stomas both in hospital and at home, I can see that this will resolve some of the everyday issues and make a real difference to their lives, let alone the positive impact for nurses."

Vanessa Sloane,
Director of nursing, West Middlesex University Hospital

North West London CCGs

Tony Willis is a GP in Shepherd's Bush and clinical lead for diabetes for the North West London Collaboration of Clinical Commissioning Groups, (NWL CCGs) which covers the eight boroughs of NW London (Brent, Ealing, Hammersmith and Fulham, Harrow, Hillingdon, Hounslow, Kensington & Chelsea, Westminster). He is passionate about patient self-management and maximising the use of digital technology to promote change and improve care. Along with the other CCG leads across the collaboration he helped design and implement some primary care outcomes-based contracts which prioritise diabetes prevention, achievement of the NICE targets in diabetes care, including improved self-management, care planning and better patient and professional education.

"After I qualified, I did specialist medical training and then qualified as a GP in 2001. I joined a practice that had a long-standing reputation for its high standard diabetes care. I looked at outcomes from trials and understood that at a population level you could make a huge impact if everyone was treated equally across all care settings and that informatics can be a significant driver for improvement."

"GPs are by nature very busy, naturally sceptical and want evidence."

Dr Tony Willis GP

"I'm a passionate supporter of DigitalHealth.London. At a time when the NHS is under real pressure, the programme has fostered the collaboration and innovation needed in information and technology to help the system work more efficiently and provide patients with the intelligent, personalised, high-quality care they deserve.

During my own time in hospital I have seen first-hand the huge opportunity to improve health through better use of information and technology and I'm delighted that the programme's ground-breaking products are already doing so, with a number including, 11Health's stoma sensor, now rolled out at the hospital that saved my life."

Juliet Bauer,
Director of digital experience, NHS England

Both of the DigitalHealth.London Accelerator companies the CCGs are working with went through a mini tender process with evaluation by clinicians, commissioners and patients which included a show and tell demonstration where stakeholders could come and talk to the app providers and look at the products and ask questions.

"Digital self-care features highly in our Type 2 diabetes transformation plan – this doesn't mean we are just looking at apps because it also involves patient portals and e-learning. Ultimately the evidence that GPs need is – first whether it improves outcomes and second can the improvement be achieved without adding to the workload," says Tony.

He believes that when it comes to Type 2 diabetes GPs are a critical success factor, especially those in leadership positions. "You have to have an evangelist and be excited about the potential. GPs are by nature very busy, naturally sceptical and want evidence. This means you have to present the evidence in such a way they can understand the impact on their workload."

Abeer Itrakjy, clinical pharmacist and transformation manager, emphasises the link between the North West London Sustainablity and Transformation Partnership's self-care objective and the CCGs' self-care group. "Self-care in Type 2 diabetes is very important and we wanted to look at digital apps as part of this," she says.

"There are many challenges in primary care and patients with Type 2 diabetes can take up to 70 per cent of GP appointment times. A lot of these appointments are being used to see patients who do not have the skills to manage their condition themselves."

Abeer explains how the CCGs use patient information to help individuals self-care, but when they don't turn up to patient information courses, this is a problem and the DNA rates for structured education are high across the NHS, with only around 30 per cent of newly diagnosed diabetics attending.

"We wanted to offer a more convenient accessible way of giving patients the information. We also use a patient activation measure across NWL CCGs. This is a survey that is used to assess patients' own knowledge, skills and confidence. So, we knew that we had a measure which could show us whether this has worked."

Although there is no financial incentive at this stage, the GP practices that have shown an interest and have been recruited to the pilot study have been working with Oviva and OurPath. Oviva provides an eight-week programme to help people with diabetes lose weight and improve their health. This includes one-to-one support from a diabetes specialist dietitian and e-learning such as videos and podcasts, all via the app and website. OurPath provides an app as well as a fitness wristband and 3G-connected weighing scales. Within the programme patients join a peer group of people who are looking to get Type 2 diabetes under control and there is a combined weight loss goal and you can also set goals for yourself.

One of the most significant challenges for any start-up working with the NHS is flexibility and adaptability. Abeer says working with OurPath and Oviva has been a very good experience. “They are professional and straightforward. We’ve had some good feedback from the product from the start and our diabetes leads are keen on them.”

“Oviva has strong evidence behind them and they are really easy to work with. They are keen to see results and get feedback from patients,” she says.

As for the impact, Tony says the expectation is that they will be able to replicate the finding of the initial pilots across the CCGs and it will lead to significant behaviour change. “What we have done is demonstrate the power of near real-time analytics on improving the health of populations,” he says.

Key facts

OurPath
This six-week programme has been shown to lead to an average 5.3kg sustained weight loss, which can halve diabetes risk. It has an 83 per cent completion rate with an average of 2.3 interactions per day by users. Participants note improved mood, sleep and more energy.

Oviva
Oviva Diabetes Support is an eight-week, NICE-aligned, diabetes structured education programme to help people with Type 2 diabetes improve their weight and blood sugar control. Results have shown that 87 per cent of referrals sign up and 93 per cent complete all eight weeks. Users achieve an average 7 per cent bodyweight loss and 12 mmol/mol reduction in HbA1c at six months, significantly reducing their risk of future complications. To date over 500 people with Type 2 diabetes have been through the programme.

"It doesn't mean that everything we do in transformation is digital rather that digitally enabled transformation is at the core of what we are trying to do."

Amanda Pritchard
Chief executive, Guy's and St Thomas' NHS Foundation Trust

Guy's and St Thomas' NHS Foundation Trust

Guy's and St Thomas' NHS Foundation Trust provides a range of services for local residents as well as specialist services for patients from further afield. Care is provided in two of London's best-known teaching hospitals, Guy's and St Thomas' as well as community services for adults and children living in Lambeth and Southwark, by 15,000 staff.

Trust chief executive Amanda Pritchard says the trust is focused on transformation at all levels from the board down through clinical directorates. The trust has a long established internal transformation programme – Fit for the Future – which aims to improve quality, safety and efficiency and includes both large scale transformation initiatives such as the 'digital patient journey' and smaller local initiatives including those supported through an annual Dragons' Den competition.

Amanda explains: "Our directorates identify priority areas for improvement as part of their annual planning process and we run an academy that provides skills to enable people to put their improvement ideas into practice. We are always asking what we can do to improve – it is a golden thread that runs through all our objectives. This culture of continuous improvement and transformation means we should never stand still."

Coupled with this culture of improvement is a clear governance structure that knits Fit for the Future into the core business of the trust. Amanda says: "We try to find the right balance between focusing on outputs and delivery, whilst also keeping an element of excitement and enthusiasm by celebrating success."

She is keen to emphasise that digital is the common theme that runs across all the trust's transformation priorities, so much so that the trust is reframing its Digital Committee to become a Digital and Transformation Committee. "The two are so closely interconnected it doesn't make sense to keep them separate. It doesn't mean that everything we do in transformation is digital, but it recognises that digitally enabled transformation is at the core of what we are trying to do."

Ian Abbs, chief medical officer, says one area of focus is the patient experience and making the administrative processes around navigating the NHS much slicker. He adds that they are also keen to improve the productivity of the hospital, to make resource utilisation efficient.

Guy's and St Thomas' has carried out analysis of DNA rates, and estimates there is a potential recurrent benefit of £2.5 million through better utilisation of outpatient clinics. Ian adds that, applied across south London, this works out to be a £20 to £30 million opportunity. "The question you then have to ask is, what does it take to do it?" he says.

"For a start there has to be an organisational hunger for innovations that will deliver. You have to be ready to take action and willing to take something out as you put something in," says Ian. "There is a hurdle in innovation adoption which isn't about the innovation itself but is about the change management process and the cultural changes needed."

Ian believes that in order to bring about culture change the organisation needs to be open to change and he feels that in a sector that is by and large undisrupted by technology not many organisations to date have had the opportunity to consider this shift.

However, he says there is an equivalent challenge for SMEs looking to work with the NHS. "They have to solve a problem for clinicians or the organisation and ensure that what they offer will be used. There has to be a strong hypothesis around the development of the product."

This has been the case with DrDoctor which the trust has been able to use alongside existing IT systems and there was a strong value proposition for adopting some of the process changes that were needed.

The trust entered into an agreement that it would be adopted throughout the organisation and over the last 12 months it has realised substantial benefits."We are now looking at more sophisticated use of the product," he says.

Donna Holder, deputy general manager for dental services at the trust, has seen first-hand how DrDoctor has improved the patient experience and led to a drop in DNA rates. Dental patients have said it is far more convenient to have the appointment details on their phone than on a paper letter.

"DrDoctor enables patients to request to cancel or change their appointment via text message. This generates an email to our team who call the patient back as soon as they can to re-arrange the appointment date to one of their choice. DrDoctor has managed to get the technology working for custom clinics and the department can modify the content of the text message for each session code to provide clinic specific information." Donna says the results are unambiguous. DNA rates in paediatric dentistry have reduced by 3.9 per cent for January to March 2017 in comparison to the same period last year.

Key facts

DrDoctor
The following benefits have been estimated:

- £1-3m saving per hospital per annum
- Reduced non-attendance by 40 per cent
- 2,500 A&E visits avoided per annum
- 10 per cent increase in clinic activity

The London Ambulance Service

The London Ambulance Service is the busiest emergency ambulance service in the country and is the only London-wide NHS trust. It has around 5,000 staff, working across a wide range of roles based at over 70 sites and serving over 8 million people who live and work in the London area.

The way the service operates has been changing and staff now attend to patients in cars, and on motorbikes and bicycles, as well as in ambulances. This helps us reach patients quicker in busy built-up areas. At the same time, we have increased public access to defibrillators and provided training in how to use this equipment, so that people in the community can provide life-saving treatment while ambulance staff make their way to a call.

The London Ambulance Service has implemented two Perfect Ward digital innovations: Perfect Ward audit tool and Perfect Kit Prep, an application that was specifically developed for the service to eliminate the paperwork in medicines management and to aid tracking, and more importantly in using it as an audit tool.

Heather Lawrence OBE is chair of London Ambulance Service. She has over 40 years of frontline NHS experience including serving as chief executive officer of Chelsea and Westminster Hospital from 2000-2012. She says that a close working relationship between the chairman and the chief executive is vital when it comes to the adoption of digital innovation.

"We have made sure that even despite the pressure we have found room as a board to consider how we innovate as a service."

Heather Lawrence OBE
chair, London Ambulance Service

"Together we have to agree what is ideal not just what is necessary and look at the bigger picture in terms of horizon scanning, and further enhance our service to Londoners," she says.

"As a non-executive director, you also have to make sure the business plan has milestones that align with the capital programme and with the IT and people strategy. So, this will mean for example encouraging HR to recruit people with the right values. You have to be careful not to have too many initiatives on the go. In practical terms, we would say to staff by all means have ideas but the idea has to fit into the objectives of our business plan for us to be able to support it."

Heather also acknowledges the impact that being in special measures can have on the adoption of digital innovation. The London Ambulance Service was the first 999 trust in England to be put into special measures in 2015. "If you are in special measures then the day job is tricky and this inevitably has an impact on the time you have to consider how digital innovation can be used," she says. "However, we have made sure that even despite the pressure, we have found room as a board to consider how we innovate as a service."

Dr Fenella Wrigley, medical director, puts the challenge into perspective. "The service operates from over 70 ambulance sites and handles calls from over 5,000 patients a day," she says.

"We need to ensure the highest level of governance and quality across the whole of London to maintain safety for all of our patients. When we started to review our processes for medicines management we looked at the Perfect Ward audit tool and additionally started designing a logistical medicines tracking system which we called 'Kit Prep'. We quickly realised there could be significant opportunities in terms of compliance and meeting regulatory requirements by using an electronic system. Since implementation of both systems we are now able to track drugs from the point of manufacture to the specific ambulance vehicle and the clinician who administered the drug to an individual patient," she says.

Fenella also explains one of the other significant benefits of Kit Prep is not having to rely on paper records. Paramedics are now able to 'sign out' drug packs by scanning a barcode on the drug bag which is linked to the electronic system – this record was previously done on paper so we did not have contemporaneous records.

"In the future, as we implement an electronic patient report form, clinicians will be able to record the drug administered on our system, allowing us to ensure that used drug packs are rapidly restocked in readiness for the next patient. We have seen a number of other benefits in using Perfect Ward audits and Kit Prep. We can see live data on stations audits, oversee the drugs that have been administered and have a continuous update of stock levels at ambulance stations which can be relayed to the distribution centres."

To help staff make the most of this digital innovation, the trust has made a series of videos and created FAQs and user guides. These were sent to all stations and the management teams are putting the emphasis on training.

"We have been very pleased with the way this digital innovation has helped to bring about improvement. With a widely dispersed multidisciplinary workforce it took a few months to embed, however the engagement from staff has been positive and shown us that electronic auditing and tracking can work," says Fenella.

Great Ormond Street Hospital for Children NHS Foundation Trust

Great Ormond Street Hospital is an international centre of excellence in paediatric healthcare. As well as delivering clinical care to children, the hospital, in collaboration with its partner the UCL Great Ormond Street Institute of Child Health, is the only Biomedical Research Centre in the UK specialising in paediatrics and the largest paediatric centre in Europe dedicated to both clinical and basic scientific research.

Chief executive Dr Peter Steer has been in post just over two years and has been impressed with the hospital's IT infrastructure. However, when it comes to the broader digital agenda, he makes no apology for saying the hospital, like many others is lagging behind other sectors. "There is a jarring disconnect between our international reputation and the use of digital technology in the hospital," he says.

He believes this is a critical success factor going forward and that the hospital will find it hard to continue to carry out cutting edge clinical work without making the most of digital innovations. "This has to be about patients and staying competitive which we won't be able to do without digital capacity. What we have now is a huge ask because it is not just about catching up, we have to get ahead. That means looking to move from where we are with a major digital programme – there has to be genuine transformational change," says Peter.

On his role in helping to drive digital transformation, he says his task is made easier because one advantage of lagging behind is that there is an organisational readiness for change. Although there is a willingness to change, he readily acknowledges that 'living the change' can be more difficult.

He is equally proud of the digital and IT procurement process which has involved more than 200 senior and junior staff across the organisation to ensure they have genuine ownership. "Digital solutions like DrDoctor and Written Medicine are taken very seriously and we are committed to rolling them out as part of our digital adoption strategy."

"Part of my role is to make sure we have the right leadership in place. We have been fortunate here not just in terms of our ICT leadership, but also in the appointment of a clinical lead and research lead for the digital programme. This triumvirate has been very powerful."

Dr Peter Steer
Chief executive

According to Peter, there are a number of ways that digital and technology companies are brought to the hospital's attention. "We often get advocacy and promotion from a number of stakeholders, but ultimately it is the input we have from our clinical community and patient community advisory groups which makes the difference." The Accelerator programme helps in this respect as the companies involved all have a significant level of buy in from clinicians and patients.

Key facts

Written Medicine
Adverse drug reactions cost the NHS £466 million and lead to one in 16 hospital admissions every year. Unused dispensed medication costs the NHS an estimated £300 million. A further £500 million is wasted by the NHS because patients are not taking their medicines properly and are not getting the full benefit. Some of this cost comes from misunderstanding the pharmacy label. A translated label and information leaflet address this matter and will end up saving the NHS money. Within London there are around 300 languages spoken. This product was devised by an NHS pharmacist working in West London to solve a problem he encounters every day. Ealing Hospital, part of North West London Hospitals NHS Trust, was the first London hospital to take up the product to offer dual language labels in its hospital dispensary.

South West London CCGs

Six Clinical Commissioning Groups (Croydon CCG, Merton CCG, Wandsworth CCG, Sutton CCG together with Richmond and Kingston CCG) covering over 1.6 million patients have embarked on a programme to use iPlato and its smartphone myGP™ app to transform patient access to care. The app automates patient administration tasks such as appointment bookings, reminders and cancellations. It can also be used to send targeted health-check/screening reminders to patients and support patient self-care through personal care plans.

The intention is to provide the capability for two-way messaging between GP practices and patients to reduce DNAs, provide information on health promotion schemes, immunisation and medical alerts to patients. Ever since the cessation of the free NHSmail SMS service, the six CCGs in south west London have been funding the cost of SMS from GP practices to patients through bulk purchase of a solution which lacked an associated application for two-way messaging or an interface with GP clinical systems.

iPlato has already been used in Kingston to send a link to people with potential problem drinking rates to undertake a digital version of the proven "intervention and brief advice" (IBA) questionnaire, to very good effect - 11 per cent of responders went on to access the IBA tool, demonstrating its usefulness for primary care to improve health in an easy and cost-effective way.

The app runs across all the major clinical systems which offers greater flexibility where more than one GP system is being used helping to improve adoption and drive cost-savings. Patients register remotely using their date of birth and mobile number registered with the GP practice. Following a secure, quick authentication process, they are ready to start using the app's functionality which includes a secure 'WhatsApp-like' practice-patient messaging.

Dr Rod Ewen, clinical IT lead for Wandsworth CCG says: "iPlato and the myGP™ app were evaluated by Wandsworth CCG, as part of the SW London Local Digital Roadmap, and by local GPs as the preferred innovative digital tool for improving patient engagement, outcomes and access to services across the six CCGs. This gained Estates and Technology Transformation Fund funding from NHS England for all 203 practices across SW London to join the programme."

"iPlato and the myGP™ app were evaluated by Wandsworth CCG, as part of the SW London Local Digital Roadmap, and by local GPs as the preferred innovative digital tool for improving patient engagement, outcomes and access to services across the six CCGs."

Dr Rod Ewen,
Clinical IT lead, Wandsworth CCG

King's College Hospital NHS Foundation Trust

King's College Hospital NHS Foundation Trust is one of London's largest and busiest teaching hospitals serving the boroughs of Lambeth, Southwark, Lewisham and Bromley. It provides nationally and internationally recognised work in liver disease and transplantation, neurosciences, haemato-oncology and foetal medicine.

Nick Moberly, chief executive, believes there is undoubtedly a leadership role which extends to the executive team when it comes to focussing the organisation on continuous improvement and strongly advocating the uptake of digital technology. "This organisation is very focused on clinical transformation and mobilisation around that. Within that broad sweep of clinical improvement and productivity improvement, digital features strongly," he says.

Nick explains the trust's mission to deliver sustainable and excellent care to patients which means striving for outstanding quality and making the most of our resources in an environment where money is tight. "So, thinking about how we do our core business is central to this and you cannot contemplate this without getting into the issue of how we transform."

Ensuring the right digital technology is adopted can be time consuming and this is where he says the Accelerator comes in. “The challenge we have is being able to test the innovation before getting into a deep relationship and what the Accelerator has done is provide assurance around the quality of the companies involved. Having a kite-mark of approval can absolutely play a part in this.”.

Executive director of transformation and ICT Lisa Hollins explains the trust has been looking at ways of reducing the burden on clinical and admin staff by making the most of innovative technologies. “There is lots to do internally to improve digital systems so if there is a new system that can bring about sustainable change, then we should consider it,” she says.

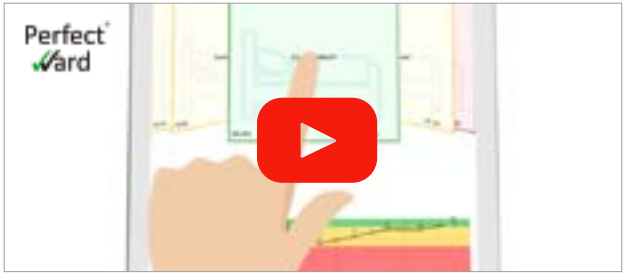
Lisa and her colleagues attended the DigitalHealth. London Accelerator launch event and were struck by the innovative approaches to solving challenges faced by NHS trusts. One product in particular that stood out was Perfect Ward and the trust is now in a pilot phase with the company.

“We have to measure quality and one way we have been doing this is with paper-based systems usually with eight to 10 audits on the wards that form the backbone of assurance. Most organisations have formulated these into ward accreditation systems which are quite large questionnaires. These questionnaires are essential but take a lot of time and we are trying to make things as straightforward as possible.”

Lisa says that this time-saving is significant and makes a difference to staff who want to spend quality time with patients. The instant reporting from Perfect Ward is another benefit When paper audits are undertaken the feedback can take months but this is immediate and she says this will completely change audit going forward.

There is also the bigger picture to consider and if a number of organisations are using the same technology, sharing data and best practice becomes much easier. This could be helpful where one organisation has been able to make improvements in one specific area. “By providing information electronically so we can compare with other organisations means there are big opportunities for developing services for patients,” saysLisa.

“My role is to see what is out there and how we can best use it to transform our services. DigitalHealth. London’s Accelerator has helped with validation and supporting innovators to develop products that are the most help to the NHS. We probably would not have come across these innovations without the Accelerator.”



See more about the Perfect Ward – https://youtu.be/VQwxLSFilWM

Dr Shelley Dolan is executive director of nursing and midwifery at the trust. She has been involved in working with Perfect Ward at the frontline and she expects that the data gathered will help to improve practice. “At King’s we have 5,5000 nurses and 1,300 beds and what I have been relying on until now has been many different audits. Some are carried out on paper and then put into spreadsheets while other go straight into PCs.”

Shelley says it is very important to have the results in one place because it helps to improve practice. “We don’t want to stand still ever and need to see the data so we can say ‘we have seen a problem on this ward this week over the last ten days’. Our ward sisters need data so they can understand the ward environment.”

“As a chief nurse, I tend to look at this in an aggregated way. The Perfect Ward platform is very simple and audits are uploaded immediately onto an iPad. We don’t have to worry about it integrating with our IT system and it is quite permissive in terms of where it works because it doesn’t need to be constantly connected to wifi.”

Shelley says that it is also helpful with regulatory tasks and ultimately will help every member of clinical staff to improve their practice in real time. Rolling out an app these days is very different from ten years ago when nurses were less digital savvy, she points out. The trust is allowing nurses to use the app on their own phones which will also help with adoption.

3
Lessons in digital health adoption

Given the pressures on NHS services in London it can be hard to find time to consider the opportunities within digital solutions for healthcare. In fact, our interviewees tell us that there is no better time to look at innovative solutions that can help with short term pressures, saving clinical time and NHS resources. So what are the learning points so far?

1 Who is in charge?

A central message was that digital transformation is far too central to our future healthcare to leave to the technologists. The board (chair, non-executive directors, chief executive, medical director, nursing director) as well as CIO, COO and others need to be leading this work as part of their core clinical strategy and transformation plans. This was emphasised by Dr Zoë Penn, Amanda Pritchard and Heather Lawrence, OBE.

This is echoed in the movement to create a chief clinical information officer (CCIO) in every organisation, and it is also interesting to see recent trend of fusion of director roles incorporating transformation and technology as at King's College NHS Foundation Trust and Oxleas NHS Foundation Trust in south London.

2 Be agile and brave

This report focuses on those trusts that have taken up new digital tools launched on a programme just eight months ago. The majority of tools are now live, meaning they are already saving clinical time, as we have seen from the London Ambulance case study, or improving care as in north west London, or saving money as in the Guy's and St Thomas' example. This speed and agility is critical. These organisations have trusted their clinical and managerial leadership and backed them to make rapid progress.

These trusts haven't made the mistake that we see regularly within the NHS that IT projects have to follow highly bureaucratic, long-winded processes for approval. It is as though the default process, whether for a £20,000 investment or a £2 million one, has to be the same.

3 Pragmatism, not waiting for perfection

These trusts have taken pragmatic decisions. They have not let 'the best be the enemy of the good', which is another issue we see. A neat digital tool could be the tactical solution you need for now and be heaps better than the current process or bit of paper trying to do the job. You don't need to transform outpatients or put in your new EPR or integrate everything first. If it is 80 per cent right, go for it. Don't wait for perfection, everything doesn't need to interoperate immediately, you can test and try things.

4 Role of clinical leaders and patient involvement

The majority of interviewees cite the importance of clinical leadership in identifying, achieving support for and then delivery of digital healthcare solutions. The engagement of patients, parents and service users, as well as clinicians, in product selection has also been particularly highlighted by Great Ormond Street and North West London Collaborative.
In addition, a number of the digital health solutions have invested a huge amount of time in user-led co-design to ensure that their products work as well as possible for those using them, an element highlighted by OurPath and Oviva, where user uptake and ongoing adherence is such a key part of the success of their programmes.

5 Restless for improvement

The pressure on operational NHS services is severe and it can be difficult to carve out thinking time for innovation and changing the way services are delivered. But that discipline is well rewarded when solutions help support an entirely new way of working. Never being 'too busy to improve', despite intense pressure from patient demand, regulators and others has been an important aspect of the progress we have seen in London. Boards have also supported the implementation well and encouraged pace, which has helped the clinicians and operational managers charged with delivery.

6 System-level change

With the emergence of sustainability and transformation partnerships (STPs), the opportunity to use digital products at scale across an STP geography presents itself. In south west London, the iPlato product is going in across all GP practices in Wandsworth, Richmond, Kingston, Merton, Sutton and Croydon, a population of 1.6 million Londoners. This will enable the enactment of STP commitments to improve population health such as increasing health check and screening rates, targeting people for appropriate interventions and reminding them of key appointments.

Likewise, in north west London proven digital tools that support behaviour change and weight-loss including OurPath and Oviva are being made available to patients across the STP geography. By linking STP goals to evidenced digital solutions, which come with support from the Accelerator programme, London's STPs are able to move into delivery mode more rapidly. We commend this and would be keen to support more pan-STP implementations.

7 Support matters

As well as enthusiastic clinical and operational support within the organisation, each of those referenced has had dedicated support of a digital health navigator to help them review potential solutions, decide to proceed and then implement. The Accelerator has five navigators; Hannah, James, Lawrence, Olivia and Sheena who are experienced clinicians, scientists and managers within healthcare who provide essential extra bandwidth to the NHS keen to uptake digital solutions.

8 Inspiration and skills

We are now past the point of 'digital dabbling' being acceptable within the NHS, and need to develop the confidence and skills of leaders at all levels. We see boards recruiting non-executive directors to add ballast at board level and it is important that senior leaders are accessing inspiring examples of what is possible in their work.

It can be challenging to keep on top of an overwhelming number of possibilities in healthcare; it is estimated that there are now close to 300,000 apps related to health and care, in English in Google Play and the App Store. That is why DigitalHealth.London with a curated set of solutions can help make this much more manageable. We get around 130 applications for our Accelerator and accept just 30 a year, so the NHS can be confident that each of these are worth a look. We also run regular events, masterclasses, digital magazine and an annual conference, free to access to those in the NHS in London. For more see **www.digitalhealth.london**.

However, there is no need for everyone to turn into geeks, simply that we should support colleagues to become more confident and digital savvy to ensure that the NHS makes the most of the possibilities of the third industrial revolution to improve care, the working life of our clinicians, and to make every pound go as far as it can.

"We have before us a huge opportunity to improve patient health through technology, but we cannot do this alone. Initiatives like the DigitalHealth.London Accelerator ensure that the NHS benefits from 'outside-in' thinking and, therefore, from the pioneering work of digital health start-ups and innovations. This will enable us to implement new technology rapidly, and at scale, to improve the health of as many patients as possible.

The Digital Health Navigators are a fundamental part of this work, providing the specialist insight, and connections to the NHS that these innovators need to progress their innovations."

Dr Harpreet Sood
Associate chief clinical information officer, NHS England

4

Working with the NHS – the challenge and opportunity for digital start-ups

This section highlights just of some of the practical ways that companies on the Accelerator seek to help the NHS make the most of the digital health opportunity.

The companies involved in the DigitalHealth. London Accelerator programme have all found the support it offers valuable in helping to understand how the NHS works, who to approach in each organisation and how to ensure their innovation meets a frontline need.

"Selling any product or service to the NHS comes with a myriad of challenges, most often linked to budget constraints. In one particular instance, the programme was very helpful in supporting a competition for diabetes apps in north west London from a small pot of capital available," says Mark Jenkins, UK managing director and group medical director, Oviva.

Tom Whicher is one of the Founders of DrDoctor. He says being part of the Accelerator has been a vital part of the company's success story. "It has given us a healthy level of challenge from people who understand the NHS inside out and it has also given us access to a network. Thanks to the Accelerator team we have been able to present to the London Clinical Senate and meet medical directors across London."

"The team has run workshops in procurement, health economics, the intricacies of NHS payment mechanisms and that has informed our thinking and changed the way we have done business."

Perfect Ward's founder Jonathan Knight agrees about the improved networking and believes this is particularly important when it comes to the NHS. "There are hundreds of NHS organisations and getting a customer is not like harpooning a whale because it's more like a shoal of fish – you need to understand how each one thinks and get its perspective. The NHS is difficult to navigate so it really helps to have an understanding of which organisations are forward-thinking and willing to change which is something we get from the network."

There is also an assurance element that comes with being an Accelerator company. “The reality is that trusts don’t know whether a particular start-up can be trusted to deliver so the quality assurance that comes with the Accelerator is very helpful,” he says.

For many of the Accelerator companies, there is also a lesson in patience. Ghalib Khan, chief executive, co-founder of Written Medicine and a clinical pharmacist himself, points out that the NHS moves slowly compared with other sectors. “One of the trusts we have connected with was very keen on what we do. They have many international private patients and they wanted to be able to produce medicine labels in different languages such as arabic. However, it has taken two years to get to a stage where a pilot looks iminent”

Knight agrees. “The NHS is risk-averse by nature and this means you have to be less cavalier than you might in other industries. This can be quite frustrating for a start-up which is looking to move at pace.”

OurPath Founder Chris Edson says that as a health start-up this is one of the biggest issues you face. “There are so many incumbents, so many hoops to jump through and then there is the need for evidence which means you can’t always operate as fast as you want.”

This is where being part of the Accelerator pays dividends. "We suddenly had access to the top minds such as professors of endocrinology and behavioural science at UCL. We could talk to forward-thinking NHS leaders and were given access to people we wouldn't otherwise have been able to reach. The Accelerator enabled us to get our first NHS contract which as a start-up would have been almost impossible."

However, the value that comes from working with NHS clinicians at the frontline is second to none. Whicher says: "From our point of view we couldn't exist without NHS test beds, it is a huge advantage. It means we can work with leading clinicians which in turn allows us to develop business in a way that works for the NHS."

He cites the example of DrDoctor and the assumptions that were made around patient online booking. "You make assumptions around internal processes, but it isn't until you sit down with someone that you realise there are a set of rules, such as how far a patient can book in advance, that need to be taken into account. You have to be flexible and understanding the intricacies of how the NHS works and avoid trying to force square peg into a round hole."

Edson talks enthusiastically about the frontline experience he had. "I went out to talk to GPs and this was the most valuable thing I could have done. I found out that every GP practice is different and the GPs themselves will have different views about the potential of digital innovations."

Thinking about the qualities that are needed most for a successful relationship with NHS organisations, Knight says empathy and flexibility are top of the list. "There was one information governance meeting I went to where I was there for just five minutes. I could have thought that was a waste of my time, but I understood the importance of the meeting and the context for the people working in the trust."

Flexibility can mean going above and beyond. "We are in new territory with the technology so we have had to help support the broader concept of using mobile technology and that might be helping trusts with what devices to buy, or even how to safely manage them and which protective cases to buy."

"When you first sell to a CCG you smell of start-up and there is a credibility gap because they don't know if they can trust a team of six or seven people. You can pretend to know what you are talking about, but we took a different approach. We were honest and asked what they needed from us and how processes like electronic referrals actually work in practice,"

Ghalib Khan
Chief executive, co-founder of Written Medicine

5
About Us

DigitalHeath.London exists to accelerate the adoption of digital innovations across health and care to improve patient and population outcomes and experience, while supporting a sustainable future for our NHS.

By assisting in the adoption of digital innovations to solve today's challenges impacting the delivery of care, the focus is on technologies that deliver improvements in prevention and early intervention; patient safety; empowerment and self-management and digital health and research.

Our founding partners are;

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- Imperial College Health Partners
- UCLPartners
- MedCity
- NHS England

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The DigitalHealth.London team:

Yinka Makinde
Programme Director

Matt Rigby
Industry lead

You can see more about DigitalHealth.London on our short animation here:
https://vimeo.com/155098894

The DigitalHealth.London Accelerator is hosted at the Health Innovation Network (HIN) and funded by all three London AHSNs – HIN, UCLPartners and ICHP.

Anna King, commercial director at the HIN, first came up with the idea of establishing an Accelerator for digital health in London and it was her hard work that brought it to fruition. On behalf of the whole team at DigitalHealth.London, we would like to convey our huge thanks to her. We have also successfully bid for substantial European Regional Development Funding which will contribute to costs over three years.

Anna King

The Accelerator is run by Hannah Harniess and James Somauroo with their team of digital navigators – Lawrence Petalidis, Olivia Festy and Sheena Visram, and as referenced by NHS leaders within this report, they must take a great deal of the credit for the successful uptake of digital that is outlined here, many thanks indeed to the team and their indefatigable energy.

Interim programme directors

Hannah Harniess

James Somauroo

Digital navigators

Lawrence Petalidis

Olivia Festy

Sheena Visram

If you would like to know more about any of the great digital tools referenced in this report, you can see their contact details here.

11Health
www.11health.com
contact www.11health.com/contact

DrDoctor
drdoctor.co.uk
email hello@drdoctor.co.uk

iPlato
www.iplato.net
email info@iplato.net

MedoPad
www.medopad.com
email support@medopad.com

OurPath
www.ourpath.co.uk
email hello@ourpath.co.uk

Oviva
oviva.com/uk
contact oviva.com/uk/contact

Perfect Ward
www.perfectward.com
email info@perfectward.com

Physitrack
www.physitrack.com
email sales@physitrack.com

Written Medicine
www.writtenmedicine.com
contact www.writtenmedicine.com/#contact

Want to get involved?

If you have a fantastic digital product, evidenced to make a difference in healthcare and ready to scale, you might want to apply for the third cohort of the programme. Applications will open in spring 2018, keep an eye on our website for more information or you can email us here dhla@digitalhealth.london.

If you work in the NHS or digital health or simply enjoyed this report and would like to know more about our work please sign up for our newsletters here and we will gladly keep you posted.

Thank you!

We would also like to thank everyone who has so fabulously supported this report and given their valuable time to be interviewed and share their insights.

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