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MIRAGE OR OASIS?

Navigating rapid changes in the digital landscape

Health adviser

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NAVIGATING RAPID CHANGES IN THE DIGITAL LANDSCAPE

COVID-19 has escalated the emergence and adoption of new digital healthcare solutions, many of them cutting-edge. The challenge now is to identify technologies with real potential to make a difference long-term, says Hamza Drabu.

Every emergency requires a rapid response, and as the coronavirus crisis has demonstrated, that's as true for the entire healthcare pathway as it is of acute patient treatment in A&E or the ICU. In order to facilitate, safeguard and amplify the tireless efforts of healthcare professionals, sophisticated digital tools that may previously have taken years in development and even longer to adopt are being fast-tracked. It's a radical shift fraught with pitfalls as well as opportunities – not least, the challenge of identifying which solutions offer real and lasting benefits both now and for the future, and which promise more than they can deliver.

So far, much of the attention – certainly as far as the general public and mainstream media are concerned – has been on the power of technology to alter the patient-clinician interface by providing more patient care digitally. As social distancing measures put the country into lockdown, with many of the most vulnerable forced to shield, the ability for individual medics and care teams to conduct virtual consultations, access records, share information and host meetings remotely has been transformative. However, this kind of online connectivity and collaboration could be just the tip of the iceberg.

> *"Certain areas of the system were clearly focusing on the crisis at hand. But in other areas, changes freed them up to be more creative and people were liberated to think about the art of the possible,"* **says Anna King, Commercial Director at Health Innovation Network.**

> *"Time, funding, and the empowerment that a crisis-induced mandate provided were all key. The culture change has been a positive outcome. We now see many more clinicians adopting telephone and video consultation and this will continue at levels not previously seen."*

King praises the innovator community for responding well to seize opportunities to make progress and accelerate adoption, particularly in areas where there were no major integration challenges.

> *"Often the solutions did not come out of the blue. Clinicians had had conversations about innovative solutions previously, but hadn't found the time to actually implement those tools,"* **adds King.**

Dr Chase Spurlock, Founder and CEO of Decode Health, a Nashville-based company that harnesses machine learning and data analytics to provide healthcare solutions, agrees that from tragedy and adversity we can find great opportunity. The events of 2020 represent a watershed for healthcare delivery around the world; from here, incremental steps towards greater reliance on technology will follow.

> *"In terms of telemedicine advances, some may never see the inside of a physician's office on a routine basis ever again,"* **says Spurlock.** *"Medicine being delivered to the home is a big arc that will play out over the next decade."*

PRACTICALITIES AND PROCESS

There are many other tools and technologies that have reduced friction within the healthcare system and are enabling clinicians to do their jobs better – be that via improved outcomes for patients or better support for healthcare professionals themselves.

Artificial Intelligence (AI) and machine learning can clearly have an important role to play in augmenting clinicians' capabilities and pushing the boundaries of human endeavour. Or more prosaically (but just as importantly), in supercharging the speed and accuracy with which routine tasks can be accomplished.

For instance, a machine learning system that can monitor and anticipate demand for hospital beds and other vital equipment required in COVID-19 care such as ventilators has been trialled by the NHS in England . If successful, the implications for improved decision-making, and hence hospital efficiency and clinical effectiveness are clear. Allowing for more accurate planning and better-targeted resource allocation could ultimately mitigate the risk of surges that threaten to overwhelm the Health Service.

Automation is also coming to the fore. One example is its implications for staffing procedures as demand for healthcare professionals ramps up and is likely to remain high for some time. Some new systems emerging onto the market provide 'intelligent' matching services for staff and vacancies, including locum availability.

Others deliver automated onboarding and verification checks for new staff. Transitioning to digital rather than paper-based, manual processes can speed up the recruitment process, improve compliance and even make training more efficient, so providers can be confident that the qualified staff they need can be 'passported' seamlessly into their organisations.

Specific solutions deployed during the pandemic were in many cases being worked on, anyway. Being thrust into an environment of live testing and accelerated rollout has been a steep learning curve, but the benefits are tangible.

Lesley Soden, Programme Director at Health Innovation Network, points to MedicSpot's adaption of digital solutions to meet the needs of COVID, saying *"the scale-up was something we've never seen before".*

> *"We run an accelerator programme called DigitalHealth.London Accelerator,"* **adds King.** *"accuRx was on our programme last year. They do a lot of work around text messaging to patients in primary care. With COVID, they linked with another of the companies on the programme to offer a video consultation solution. They were already integrated into the EMIS IT systems for primary care, which meant they could scale that really quickly."*

Learning the lessons of rapid implementation processes is something that must be taken forward, she says.

> *"Whilst we do need more considered procurement processes, we must not lose the sense of optimism and the ability to make changes, given the great strides we've seen on transformation in recent months."*

In some instances the technology needs to improve – for example the quality of resolution imaging for remote dermatology consultations – but the bigger battle has been in winning the mindset challenge.

> *"The technology is out there and the hope is that, having dipped their toe in the water with the tech solutions, the culture shift can be carried forward,"* **says Soden.**

DATA SHARING

Winning that mindset battle was not easy: when it comes to healthcare technology, there has long been a tension between privacy and data sharing, due to the personal and sensitive nature of information that is held in medical records.

> *"The technology has been ahead of the public opinion on data sharing, although that is likely to be changing and moving more towards interconnectivity based around the patient, especially for millennials who expect everything to be joined up behind the scenes,"* **says Maddy Phipps-Taylor, CEO of Eva Health Technologies, which produces practice management systems to support primary care providers.**
>
> *"The challenge will be how to make that data sharing really fine-grained and patient-specific, rather than the traditional 'firehose' approach to sharing whole databases."*

NHS Digital plays a critical role through facilitating access to data it holds which may be extremely useful to organisations in developing healthcare technology. The future, however, may see a more patient-driven permissions process, whereby explicit consent is given by individuals. This will present challenges, and DAC Beachcroft expert in data sharing, Darryn Hale, comments that "explicit consent could raise a number of potential issues: for instance, if consent will be sought in order to provide a lawful basis to use personal data under the GDPR consent, then this consent must be capable of being withdrawn by the patient at any time, as well as having standards that are challenging to meet in a healthcare context. If, on the other hand, consent will be collected in order to ensure compliance with the common law duty of confidentiality is, then consideration needs to be given as to whether it relates to direct care applications of technology, which operates on a model of implied consent, or whether it relates to broader, secondary uses of patient data (such as research), and how this fits with national opt outs.

> *"There are clear considerations that will be key to patient-specific consent."*
>
> **Notwithstanding this, Phipps-Taylor thinks** *"This could be a powerful catalyst for changing the approach to data sharing in the NHS".*

It is clear that there is appetite for technologies that have worked well in crisis to be adopted year-round. Digital referrals, advice and guidance phone lines and similar interfaces will remain as long as regulations and professional indemnity requirements do not make it prohibitive.

FUNDING

While IPPR (Institute for Public Policy Research) research indicates that more innovation by the NHS could save 20,000 lives a year, question marks linger around whether sufficient funding will be available to support the ongoing tech transition. Of course, technology can cut costs. But given the range of different solutions and the need for quality control, budgets need to be well spent.

A **King's Fund report** prepared ahead of the COVID-19 pandemic had already concluded that the planned £140.4 billion spending by the Department of Health and Social Care in 2019/20 would not be enough to deliver the widespread changes needed to transform care in the NHS, or improve its performance against key waiting-time targets.

A report from the UK's National Audit Office in May also highlighted **the struggle the NHS faces** in its **digital transformation** ambitions, putting the estimated cost of doing so at £8.1 billion and questioning whether hospitals could afford the £3.1 billion they were expected to contribute themselves towards new technology. With this in mind, and despite more than **£6bn in emergency response money** from the UK government, NHS funding for digital looks uncertain as we emerge from COVID-19.

The overall funding picture looks brighter, with **a report from Rock Health** – the first venture fund dedicated to digital health –

showing that US digital health companies raised $5.4 billion in the first six months of 2020. Pre-pandemic, private funding was already at record levels, and the numbers being seen in the US are indicative of the global trend towards digital health innovation, funding and investment.

While the public health funding picture is less clear, what is more certain is that mindsets have shifted; there is an appetite for innovation.

> *"Culture change within NHS workforce hasn't received as much focus before. This is the fastest that I've seen the pace of change develop. More has been achieved in six months than in 10 years,"* **says Soden. Chris Thomas, Senior Research Fellow at IPPR, agrees, noting that** *"COVID-19 created crisis conditions to bring about things that have been aspirations for a while".*

He notes that primary care's shift to digital is almost a mirror image in terms of the proportional split between virtual and in-person consultations when you compare the months pre-pandemic to today.

> *"There are digital exclusion concerns, but overall the shift to digital should increase access to primary care,"* **says Thomas.**

CARPE DIEM

Maintaining the momentum of increased access, along with the efficiency improvements that tech solutions bring, is the next big focus for many providers. Soden cautions against a return to old ways. The moment must be seized while learnings are fresh and while enthusiasm and a healthy risk appetite remain.

> *"We are also beginning to see a bit of a return to slower decision-making, as people return to restoring clinical services,"* **she warns.** *"We do not want to see the return of overly long-winded decision-making."*

> *"It's got to be simple and functional,"* **adds King.** *"Companies need to codesign with clinicians. The magic ingredient is codesigning. The best solutions come when the innovator works with the clinician to develop and test products, and identify problem areas up front, and then work from there."*

Strategic thinking and appropriate trialling and testing phases will help to reassure decision-makers that the road to recovery is paved with augmented intelligence.

Rob Walsh, Chief Executive of North East Lincolnshire Council and CCG, summarises by saying that, while there is no aversion to embracing digital innovation, this must be done strategically.

> *"For a lot of consultations, we're moving into digital-by-default. Not exclusively digital, and it never will be, but the nudge is going that way,"* **says Walsh.** *"It's important how we do it and for what purposes, before we overload the system. An over-reliance is not a good thing."*

If there is one thing we can safely rely upon, it is that the future of healthcare is both 'more human' and 'more technology'. The power of technology to connect people, enrich knowledge and enhance clinicians' capabilities will increasingly be harnessed, amid growing pressure to do more with less.

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