

Digital Health - legacy and opportunity in the context of COVID-19

Online seminar October 20

The expansion of digital approaches in the NHS to support how it sees, treats and manages patients is a standing item on the innovation and transformation agenda. It could be argued that the advent of COVID-19 has promoted the issue to a level of scrutiny and action not previously held. Moving it from a perennial consideration, which has hitherto experienced an incremental and iterative scheme of development, to a position of 'must do' and 'must have'.

In a recent online seminar, health transformation consultancy Conclusio, invited a panel of experts to consider the legacy of, and opportunity for, digital health in the context of the Coronavirus pandemic.

Digital health is playing an increased role as the NHS manages through the phases of the pandemic and sets out the path of recovery and bringing services back to normal. The extent to which digital approaches have been embedded in health care has grown exponentially

James Roach

"I know in some clinical specialties and some hospitals up to 90% of outpatient consultations are now digital. That's a level we could only imagine prior to COVID-19 and Simon Stevens has been really clear over the last few months; it is absolutely critical now that our innovation and good practice is locked in and it becomes a normalised way of working with no row back."

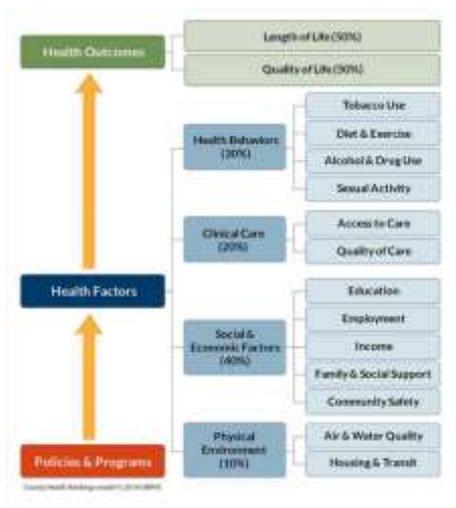
This represents a 'once in a generation' opportunity to mobilise and accelerate digital technology in the provision of health care services but we need continuing debate around what is possible, where the constraints are and how they might be overcome.

Through the lens of people and social determinants, there is a need to consider the broader perspective for what health and care systems need to think about and how they can have the greatest impact. Health outcomes measured against the typical twin factors of 'length of life' and 'quality of life' offer a starting point.,

Dr Anant Jani, Population health specialist and Oxford Martin Fellow at the University of Oxford

"There's debate as to whether these are the best two metrics to constitute health outcomes but if we accept this and look at all of the factors that can affect them, the important thing to note is that clinical care accounts for only about 20% of health outcomes. The other 80% are accounted for by social determinants of health - health behaviours like tobacco use, diet and exercise, social and economic factors, education, employment and then physical environment, air and water quality, housing and transportation"

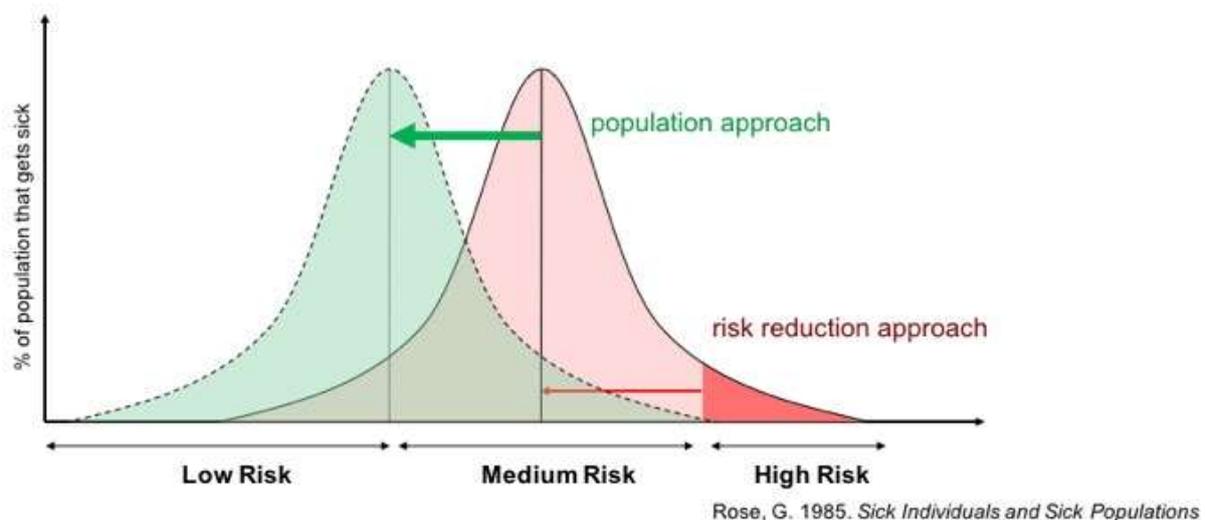
Table 1.



In the context of COVID-19, whatever the scheme of innovations in health and care, they must meet the needs of citizens. Just as the interventions they spawn must address disease and sickness, symptom and condition management, the determinants of disease and sickness must be a factor in their design, and citizens must be both the start and end-point of their arc.

Managing health risks from these aggravated social determinants requires a stratified approach that breaks convention yet harks back to an approach expounded in the mid-eighties by epidemiologist Geoffrey Rose, in his seminal paper *Sick Individuals and Sick Populations*. Rose contends that to build healthier societies we should focus on controlling the cause of incidence and shifting the entire risk profile to the left, thereby we reduce the relative risk of the entire population, that is, we create a healthier population and the amount of intervention required reduces. The following table illustrates the approach

Table 2.



This way of stratifying and managing risk and reducing the cause of incidence rather than just dealing with the prevalence, shows a means to an end that is more effective for building a healthier population. A before the fact, rather than an after the fact methodology.

Dr Anant Jani

“Developments in digital health methodologies need to be founded on data, but data is a means to an end not the end itself. Likewise, the interventions we innovate along digital lines must not be considered an end in themselves. We can agree among ourselves what that end should be, but it will amount to nought if citizens are not central in the dialogue. Building a healthier population requires all of us to start with the data as it reflects the negative condition of the citizen and fashion interventions that reduce or modify them.”

Returning to Geoffrey Rose, there is a stark contrast between the spending profiles for health promotion and disease prevention, and actual healthcare. On the former we spend around £3 billion, on the latter we spend around £120 billion; that means 20% of health outcomes are getting the bulk of the spend.

In evaluating the increasing curve of impacts on the nation’s health due to the pandemic, and our opportunities to flatten and decrease that, we need to assess the contiguous impacts on social determinants. The following table presents some worrying indicators



This represents a potential gathering storm for the health outcomes of citizens and, if left unaddressed in the way we manage the wider determinants of health, will produce growing waves of consequences that health services will struggle to contend with over the coming decades.

Impacts on waiting times for hospital procedures suggest that secondary care could come under extreme pressure through a combination of reduced services due to the pandemic and an emerging rise in unmet need

July 2019

4,300,000 people awaiting treatment.
 680,000 waiting more than 18 weeks.
 1,000 waiting more than 52 weeks.
 1,300,000 patients received initial treatment

April 2020

4,000,000 people awaiting treatment.
 1,100,000 waiting more than 18 weeks.
 11,000 waiting more than 52 weeks.
 550,000 patients received initial treatment

July 2020

4,000,000 people awaiting treatment.
 2,100,000 waiting more than 18 weeks.
 83,000 waiting more than 52 weeks.
 870,000 patients received initial treatment

Jeremy Hooper, health economist at Conclusio

“Digital health technologies will be an increasingly important way in which we manage through these challenges, however, their success will be commensurate with the rate at which citizens engage with them. We must not fall into the trap of measuring successful innovation through the presence of an ever-growing panoply of digital and technological advancements. The patient must be the arbiter of success; does the technology fit their needs and does it make it easier for them to access services, get the right treatment, and at a time and through a means that provides clinical efficacy and a quality outcome?”

We find a good example of this in primary care. In July of last year there were 26 million appointments in primary care. 14% of those appointments were remote and we also saw, in terms of efficiency metrics, the 'did not attend' (DNA) rate of about 5%, with same-day appointments at around 40%. Move forward to April of this year, as the pandemic hits, the number of appointments in primary care reduced to 16 million but the number of those appointments which were remote rose to nearly 50%. The DNA rate almost halved and same-day appointments increased by 50%”

This improvement in efficiency from using technology is important. It shows us that rather than looking for, and trying to embed new technologies, the 'old' technologies of telephone and video-conferencing came to the fore and were well taken up.

It is clear that we need patients with us on the journey of digital innovation and to be equal partners in the resulting transformation. Considering what's already available before looking for what could be.

Dr Pritesh Mistry, Kings Fund

“If the patients don't use the tech the benefits don't get realised. If clinicians and health and care staff don't use the technology, again benefits don't get realised. So we're really at the start of digital transformation and data driven health care has the potential to change how care is being provided, especially in such a resource constraint environment, but we need to take health care staff and patients along with us”

There will always be caution about the use of data and its traffic across new technologies, there have been examples whereby people have been active on social media in sharing information on how to withhold data. In a world where citizens are becoming more data and tech savvy and at the same time more privacy conscious, the art of the piece rests in triangulating patient needs, the possible and the practical.

Dr Mistry

“We are seeing 'evangelists' on both sides, with people talking-up their digital-first/digital-only model, while others promote face-to-face models, with digital just a means of bridging the gaps. What we need is a merging of both. Digital has pros and cons, as does conventional methods. We need to understand how to start merging these two approaches to care provisions and build processes that allow patients and professionals to move through digital and analogue means depending on what best suits their need.”

A pre-cursor to any digital developments is the fundamental; question of how data is managed and who owns it. Understanding how a technology works might be more straightforward to convey than providing transparency on what happens to the transactional data, where it is stored, who has access to it and how else it might be used.

Professor Joanne M. Hackett, IZY Capital

“I've spent the last three years of my life as chief commercial officer of Genomics England and it was hammered out every day that making sure the patient and public understood why data is collected, where it was going, how it was going to be used is vital; and that we do actually care about the privacy issues. So how do we start thinking differently about how citizens want to be engaged and how do we guarantee that?”

A key challenge lays in the, sometimes, uneasy marriage between patient centricity and the 'promise' that data holds. Minimising the burden of disease while not increasing the burden of monitoring are concerns of patients and healthcare professionals alike. Where minimising the former is driven, in part, by the latter, ease of capture, reporting and retrieval of data are key capabilities for any technological intermediary. In terms of capturing data, patients themselves are critical in this; being fully engaged in this and understanding the reasons for their participation will help assure their ongoing commitment.

Professor Hackett

“I’d say that the majority of health data is not captured by the patient. Large scale studies and clinical trials largely exclude real-time data from patients that they feed into the means of capture. This exclusion is a breeding ground for suspicion, and we need to weed that out. Generally, citizens will understand ‘federated models’ of data, that is *I’m giving you a piece of data, it will never be attributed back to me but that piece of data can probably go on to help someone, either make a new solution of some description whether it’s a piece of software or whether it’s a drug I can help inform what the market would be for a pharma company and that could be helpful.*”

The problem arises not in achieving an understanding of concept but in communicating the nuts and bolts of the innovation that might Hoover-up all that data and make from its sum total something greater than its individual parts.”

There are examples of data assurance in the commercial sector that we have in place in the NHS. While there might have been initial resistance to, and concerns over, how data is used in commercial transactions among the population, citizens regularly participate in electronic and virtual commerce, share financial data and trade that off on the basis of regulatory assurance. Issues like commonality and interoperability are vital.

Matthew Trimming, Founder of META Growth Consultancy and adviser to HM Treasury and Cabinet Office on digital strategy and reform.

“Software as a service, or more broadly all things Cloud. That just means using the delivery mechanism of the internet to deliver your IT infrastructure, your IT applications, and your data services whether that is through more traditional databases or other databases.

It's not just about shared operating systems; we also need to look at culture and how we incentivise risk taking among technology developers. The public sector has traditionally found this a difficult issue. While Whitehall and the NHS might have around 40 innovation labs across Government, running around 75 projects, none of them really get beyond the proof of concept stage.”

Developing an innovation culture and mind-set, stimulating controlled risk-taking and remaining end-user focused in design principles and delivery must fall within scope of any new technology or digital/data driven approach in healthcare. User confidence is important and regulating the use and protection of data is part of the mechanism for assuring that

Jonathan Kirsop, Partner, Pinsent Masons

“The first thing we need to understand about GDPR is the common misconception that it is a very prescriptive piece of legislation and that it’s all about prohibiting use. It’s actually a principles-based piece of legislation so it does have built into it a fair degree of flex, based on risks ultimately and the nature of the data you are using. So, it’s also worth bearing in mind it applies to data which is ultimately identifiable to an individual. Anonymous or aggregated data falls outside the scope of the legislation, meaning there is a much greater use it could be put to.”

First principles are to establish whether personal data needs to be used or whether the same outcome can be achieved through the use of anonymous or aggregated data. Health data forms a ‘special category’ for the purposes of GDPR but while the bar for its use might be set higher it is not prohibited and there may be a lawful basis for its use

Jonathan Kirsop

“where you have a clear consent from the individual or there are other grounds where it is necessary for public health or other such uses, its use is permissible. Transparency is the key, which builds trust and enables effective data usage. Accountability is vitally important too and one of the assurances for this is the ‘privacy impact assessment’ or ‘data protection

impact assessment’, which builds in the voice of the data subject affords protection in the most privacy enhancing and sustaining way”

The reasons for digital innovation are numerous, the benefits can be wide-ranging and can serve the ends of positive population health management, and disease and condition management. Such innovation, whether that be in the form of novel technologies or the assimilation and utilisation of existing ones, has the potential to change the dynamics of healthcare, bringing care and services nearer to the patient and engaging with them in ways that navigate known and unanticipated challenges.

The outlook for digital health, in all its forms, is encouraging but there are some first principles that must be at its core. Digital health must be simpler for citizens to understand in terms of their responsibilities, risks and benefits. It must rationalise, improve experience and outcomes but never merely duplicate. Connection is vital, bringing information, intelligence and expertise together to serve the needs of the patient. It has to be accessible and add value. Digital approaches, where appropriately blended with analogue methodologies, must be seen as a critical enabler in care pathway improvement. Its distance travelled and the good it achieves along the way will be governed by the level of security it provides; patients, their data, confidentiality and confidence must never be put at risk.

Words: 2500

Digital Health - legacy and opportunity in the context of COVID-19 - Panellists

- Dr Anant Jani - Population health specialist, Oxford Martin Fellow University of Oxford.
- Dr Pritesh Mistry - Digital policy specialist, Digital Technologies Fellow Kings Fund.
- Professor Joanne M. Hackett – Entrepreneur, scientist and strategist, partner at IZY Capital.
- Matthew Trimming – Founder of META Growth Consultancy and adviser to HM Treasury and Cabinet Office on digital strategy and reform.
- Jonathan Kirsop – Lawyer and data protection and technology specialist, Partner at Pinsent Masons.
- Jeremy Hooper, Health Economist at Conclusio, data analyst and specialist in system modelling.

Conclusio.

Conclusio is in the vanguard of the transformation that is sweeping the health and social care sector. Conclusio is well placed to drive innovation and transformation. Conclusio works in the UK and internationally, across the whole health and care supply chain within the health, social care, pharmaceutical, civil society, digital and academic landscape.

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