

# Clinician engagement is essential for the diffusion of digital innovation

**G**lobal health-care systems continue to face growing pressure to cope with an ageing population and increased expectation to deliver advanced medical interventions. In recent years the NHS has seen a real-term slowdown in funding growth. Between 2010–11 and 2014–15, annual health funding increased by an average 1.2%, lower than the annual growth rate of 3.7% since the NHS was established (Lafond et al, 2016). With a predicted similar increment rate in funding, the Five Year Forward View for England forecast a £30 billion funding gap by 2020–21 if current trends in demand continue (NHS England, 2016).

## The role of technology in sustaining the NHS

A recent surge in the evolution of digital health start-ups and mobile applications could be a game-changer for the future sustainability of the NHS. Several high-profile reports, such as the Five Year Forward View and National Advisory Group, demonstrate the need to reshape care delivery, including harnessing technology and innovation to empower patients to have control over their care (National Information Board, 2014; Wachter, 2016). In 2012, NHS England established a National Information Board to take forward the government's digital health strategy and provide a pathway for the digitalisation of the NHS, while encouraging health-care professionals and patients to take advantage of the digital opportunity.

Despite frameworks outlined by reports, the NHS regulatory approach in promoting diffusion of digital health care in clinical

practice nationally has had limited success. The NHS Innovation Accelerator (<https://nhsaccelerator.com/>), initiated by NHS England, has taken up 37 innovations, which supports the delivery of the Five Year Forward View. Rather than fostering interdependence between clinical and technical communities, the NHS Innovation Accelerator has focussed on scaling selected promising innovations to NHS providers and commissioners. It appears that the success metric is based on uptake by stakeholders and commissioners, and input of external funding. Given the potential monetary value associated with digital innovations, there is a missed opportunity to add value in line with the core NHS principles of meeting the needs of everyone and being free at the point of delivery.

One proposed solution is to encourage stakeholders and commissioners to turn to social enterprises because of the social value they provide and their longstanding history of delivering services with no financial commitments to shareholders.

## Could a collaborative economy help?

Digital technology influences all aspects of life, especially growth in collaborative economy affecting daily life. The 'collaborative economy', using internet technologies to connect groups of people, has expanded in recent years (Stokes et al, 2014). Successful examples of this (e.g. Airbnb, an accommodation website, eBay, a shopping website, and Uber, a mobile application taxi service) allow communication in a peer-to-peer manner – thus making sharing goods and services simpler and cheaper.

Ozcan et al (2017) found that 23% of the UK population use sharing economy services more than once a month. However, collaborative economy has yet to permeate the NHS despite the emergence of digital health. Barriers include staff reluctance to engage with new technology as a result of limited education, training and confidence, and concerns about reliability, privacy,

security and patient safety. It is important that health-care and digital technology professionals step out of their traditional roles and collaborate to address challenges to the physician-centric model. Digital innovation products should be implemented alongside guidelines and national institutions to strengthen the evidence base to support current clinical practice.

## Driving improvements in patient care

It was previously thought that translational biomedical research from basic scientific discovery would be the forefront of deriving benefit in patient care. It seems more probable today that evolution in the digital technological sectors will be a key driver of improvements in patient care. Engaging key clinical opinion leaders with digital health products, particularly at a prototyping stage, has the potential to facilitate efficient product development. An example of this is <http://www.rankedhealth.com/>, a project run by a non-profit organization, which recruits clinical experts to review and rank health-care-focussed mobile applications, using a variety of criteria, to promote promising ideas.

With the advent of digital health innovation, it is vital to acknowledge innovation by clinicians by assimilating 'innovation credits' into the Annual Review of Competence Progression. This will incentivise clinicians to develop innovative solutions that improve patient care while demonstrating commitment to their speciality. Accrediting clinical innovation points by recognizing innovative efforts and entrepreneurial solutions to address existing clinical challenges is important. For example, HealthMakeSpace (<https://healthmakespace.com/>) is a digital collaboration platform connecting doctors with technological experts to foster and nurture clinically-guided innovation.

Postgraduate education in entrepreneurship and digital innovation should be promoted to equip health-care

**Mr Jhia Teh**, Medical Student, Faculty of Medicine, Imperial College London, London SW7 2AZ

**Dr Faheem Ahmed**, Lecturer, Faculty of Life Sciences and Medicine, King's College London, London

Correspondence to: Mr J Teh ([jhia.teh15@imperial.ac.uk](mailto:jhia.teh15@imperial.ac.uk))

professionals with the skills and knowledge to address future challenges with digital solutions. In recent years, NHS England and Health Education England have initiated the NHS Clinical Entrepreneur fellowship programme to provide support to innovative professionals to help them impact the future of the NHS (NHS England, 2019).

### Conclusions

The digital landscape continues to evolve at a rapid rate. Health-care technology has seen substantial growth but adoption of these technologies within the NHS has been tentative. Stringent regulatory frameworks limit widespread acceptance of new technologies, and while these are essential for patient safety, greater acceptance of digital technology is crucial to cope with the ever-increasing requirements to run high-quality health-care services. Acceptance of novel medical technology will be related to active implementation strategies stewarded by ambassador clinicians, who can promote the advantages of such technology to regulatory bodies and demonstrate their benefits. [BJHM](#)

Lafond S, Charlesworth A, Roberts A. 2016. A perfect storm: An impossible climate for NHS providers' finances? An analysis of NHS finances and factors associated with financial performance. (accessed 11 March 2019) <https://www.health.org.uk/sites/default/files/APerfectStorm.pdf>

National Information Board. 2014. Personalised health and care 2020: A framework for action. (accessed 11 March 2019) [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/384650/NIB\\_Report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/384650/NIB_Report.pdf)

NHS England. 2016. NHS five year forward view: Recap briefing for the health select committee on technical modelling and scenarios. (accessed 25 November 2018) <https://www.england.nhs.uk/wp-content/uploads/2016/05/fyfv-tech-note-090516.pdf>

NHS England. 2019. Clinical entrepreneur training programme. (accessed 19 March 2019) <https://www.england.nhs.uk/ourwork/innovation/clinical-entrepreneur/>

Ozcan P, Möhlmann M, Krishnamoorthy C. 2017. Who shares and who doesn't? Results of the UK sharing Economy Consumer Survey 2017. (accessed 15 March 2019) <https://www.wbs.ac.uk/wbs2012/assets/PDF/downloads/press/ResultsofUKSharingEconomyConsumerSurvey2017.pdf>

Stokes K, Clarence E, Anderson L, Rinne A. 2014. Making sense of the UK collaborative economy. (accessed 19 March 2019) [https://www.nesta.org.uk/documents/368/making\\_sense\\_of\\_the\\_uk\\_collaborative\\_economy\\_14.pdf](https://www.nesta.org.uk/documents/368/making_sense_of_the_uk_collaborative_economy_14.pdf)

Wachter RM. 2016. Making IT work: Harnessing the power of health information technology to improve care in England. Report of the national

### KEY POINTS

- Health-care technology has seen substantial growth but the NHS's approach in promoting diffusion of digital health care in clinical practice nationally has had limited success.
- Encouraging health-care professionals and patients to take advantage of the digital opportunity paves a pathway for the digitisation of the NHS.
- Digital innovation products should be implemented in line with hospital trust and national health guidelines to strengthen the evidence base to support current clinical practice.
- Postgraduate education in entrepreneurship and digital innovation should be promoted to equip health-care professionals with the skills and knowledge to address future challenges with digital solutions.

advisory group on health information technology in England. (accessed 25 November 2018) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/550866/Wachter\\_Review\\_Accessible.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/550866/Wachter_Review_Accessible.pdf)

**BJHM available at** [www.magonlinelibrary.com](http://www.magonlinelibrary.com)



### Register for free and take advantage of these great benefits and features:

- Save BJHM articles for quick access
- Save your searches: great if you frequently search for the same criteria
- Get citation alerts to track citations to specific articles

Once you've registered, you can sign up for table of contents alerts for BJHM, delivered to you by email as soon as new content becomes available. Simply visit the journal and click 'TOC Alerts'.

[www.magonlinelibrary.com/r/bjhm](http://www.magonlinelibrary.com/r/bjhm)