Health and Wealth: Levelling Up Through HealthTech

Executive Summary

A white paper by Microsoft
Framing the challenge
‘Levelling Up’ is one of the main guiding missions of the current Westminster government. At its heart is an aspiration to spread opportunity more equally across the UK. Moreover, there is a clear and immediate need to address the inequality between populations in the different regions of the UK. Exacerbated by the Covid-19 pandemic, there are significant regional differences in lived experience across the UK. At their most acute these disparities are life-limiting: in the most deprived areas of the UK a man will die 9.4 years earlier, 7.4 for females, than the national average, and have almost two decades less of life in good health. Over 20% of people born in the north of England die earlier than if they were born in the south. That is one and a half million unnecessary deaths over five decades; equivalent to the entire population of Birmingham.

Yet given the renewed spotlight on unwarranted regional health variations, there were surprisingly few mentions of health in the February 2022 government White Paper Levelling Up the United Kingdom. We believe that reducing health inequalities should be a fundamental goal of the levelling up agenda.

While the myriad causes and solutions of health disparities are extremely complex, the healthtech industry can play a key role in addressing some of the socio-economic causes of deprivation. This will require reframing the challenge of growing health inequalities as a primarily economic challenge, while acknowledging lived experience and its broader social impact. Digital technology and the better use of data have important roles to play, both in directly addressing healthcare inequalities (by improving access to healthcare, raising quality and optimising care delivery) and in creating economic opportunity that indirectly improves health outcomes (through job creation, improved productivity, and higher incomes).

Investing in digital health and data in areas with poor health outcomes and low economic activity can act as a catalyst for change by giving those in the poorest health access to the latest innovations while bringing high value skills to the area. Over time, this investment in health and skills will provide economic opportunities in the community, improve quality of life and have a ‘flywheel effect’. Healthtech thus can play a vital role in creating and maintaining this virtuous cycle of health and wealth.
This paper builds on Microsoft’s 2021 White Paper: “Regional inequalities in health and social care: the power of digital technology to close the gap”. In addition to desk-based research, Microsoft worked closely with the IPPR North think tank and the Yorkshire & Humber Academic Health Science Network (AHSN) to develop our analysis and proposal, organising two roundtables with subject matter experts from academia, the public sector, NHS, and industry. Both roundtables were chaired by James O’Shaughnessy, Senior Partner at Newmarket Strategy and a former health minister in the UK Government. Any views expressed in this paper, unless attributed explicitly to others, are our own.
Investing in digital and data assets creates economic opportunity and employment

Investment in digital technology and data has benefits not only in the health of the locality, but also the economy. Start-ups are a driver of investment and job creation, so improving local ecosystems by fostering an innovation industry is part of the solution. For example, Liverpool’s status as a ‘global pioneer city in voluntary mass or community testing’ contributed to its selection as the location for the largest pilot event in the national Covid-19 Events Research Programme, bringing considerable economic benefit as well as health advantages. Shared adversity created a common sense of purpose, belonging and civic pride, that helped to mobilise the city into action. This example is a reminder that local civic resources can move faster than national approaches, and the important role of local health systems. Levelling up is both an economic and social challenge: fostering a sense of community and civic pride, so that innovation and R&D is driven at a local level, is a delicate balancing act that can be a powerful driver of economic growth.
Digital health tools can narrow healthcare inequalities

The debate about the benefits of digital health technology is sometimes crudely characterised into those who believe the consumer technology revolution can ‘democratise’ health by allowing broad access to innovation, irrespective of access to ‘traditional’ healthcare services; and those who believe digital technology is driving further health inequalities, by widening the digital divide. The reality is more complicated. Digital technology and skills are a gateway to other areas where social inclusion matters, such as financial advice, so they must be made available to vulnerable and deprived communities.

Digital tools can be successfully targeted at high-risk groups in deprived communities, empowering individuals to take control of their own health. For many socio-economically deprived patients, finding the time to access care can be challenging. In this case digital tools can be deployed to facilitate communication and bring the care closer to the patient, rather than requiring the patient to travel to the care setting. Widening access to care at home or in the community could be transformational in improving health outcomes for hard-to-reach groups and those less able to travel. In this way, digital technology can also help to address time poverty. The exciting potential for ‘hospitals without walls’ has only just started to be realised through virtual wards, remote monitoring, and community diagnostic hubs.

Let’s start and proceed on the premise that digital is an accelerant and an enabler of narrowing the health inequalities gap. Handled wrongly it can achieve the exact opposite effect”

Bola Owolabi, Director of Health Inequalities at NHS England
The role of data in tackling root causes

Using data well offers multiple benefits. Not only does it allow for an accurate understanding of the current situation, but it also enables regional and other benchmarking, as well as providing a basis for research, both prospective and retrospective. In areas of high socio-economic deprivation, good data is particularly valuable in understanding causal loops, such as the link between multiple long-term conditions and deprivation. Here, there is also a significant opportunity for population health management, that is, to use data-driven insights to tailor interventions and optimise resource use.

There remains a significant disparity in regional spending on health innovation and research, with an average spend of £21 per person on health innovation and research in the north of England, compared with £62 per person in the ‘golden triangle’ of London, Oxford, and Cambridge. Closing this gap requires significant investment in the underlying data infrastructure. Digital tools must be built using representative datasets, to reduce the risk of data bias, which in its worst effects can amplify health inequalities. This requires better data collection to ensure that all communities are represented – it is much harder to understand or address health inequalities for people if they are not showing in the data. Information from digital tools should also integrate with health and care records, contributing real-world data.

“As a first principle there needs to be the data...in order to see where the inequalities are.”

Digital health executive

The use of health data can be a highly emotive issue: between a third and 40% of people have concern about the use of their physical or mental health data. Thus policymakers must proceed with caution and ensure that patients and the public are engaged and consulted about the use of their health information for research and other purposes. Only once the data is de-identified, standardised and collated into a single system, with the approval of the population, will the potential of data to reduce health inequalities and levelling up, be better realised.
Microsoft is actively supporting patients, the NHS, and innovators to improve health outcomes and support the levelling up agenda, with the goal of creating both economic and social impact. Our data analytics platform supports population health planning and enables the integration of disparate data sets to enable more informed decision-making. The Dorset Intelligent Insight Service (DiIS) links health, social care, and socio-economic data in Dorset to improve care delivery; in Bristol, the combination of health and non-health data has streamlined and improved the delivery of children’s social care services. Microsoft also provides technologies that enable NHS staff to collaborate more efficiently: Microsoft 365 enabled the Welsh ambulance service to optimise information sharing and build a contact-tracing system; in Greater Manchester, Microsoft enabled mental health services to be delivered digitally during the pandemic, converting 10,000 face-to-face appointments to Teams. Microsoft’s cloud and open-source technologies, alongside mentoring, help accelerate and support innovation, driving economic benefits across the UK.
Microsoft believes that policymakers must aim high and explore how they can reverse the health/wealth cycle to bring the average life expectancy in the north in line with that of the highest performing areas in the UK. Digital and data solutions can play a pivotal role. There are eight broad areas in which Government will need to invest and focus to build the underpinning infrastructure for significant change.

Levelling up needs to be seen as an additional vehicle for tackling health inequalities, beyond those we already have.

James O’Shaughnessy, Senior Partner at Newmarket Strategy
1. Join up data sets to deliver insights that support decision-making:
   Datasets must be timely and complete, including ethnicity coding and recording of people’s socio-economic status. There also needs to be investment in the tools that can turn data into insights to support decision-making.

2. Connect teams with a holistic view of the challenge:
   Across localities there are often multiple teams trying to tackle problems in silos. Bringing those teams together under Integrated Care Systems (ICSs) would reduce duplication and allow a more holistic view of the challenge.

3. Place innovative research in the communities where its outcomes will have the greatest impact:
   This would benefit patients, giving them access to the latest therapies, and bring investment and jobs to these regions. It could also optimise recruitment for research organisations.

4. Invest in the workforce and equip them with digital and data tools:
   One step to addressing this could be investment in data skills from the foundations of medical education, with HCPs receiving mandatory training in the ethical use of data, data analytics, and digital transformation. The Topol Review and Goldacre Review have useful recommendations on how to bring this forward.
5. Ensure the benefits of health data accrue to those who contributed the data:
   Including both for short term financial gain, as well as long term gain in health improvements. This must all be done in a consensual and transparent way with patients.

6. Design and co-produce inclusive digital tools with their end users:
   Digital tools aimed at patient use must be designed in a way that does not require the user to have the latest versions of technology, nor extensive digital skills. However, Microsoft acknowledges that there is a tension between accessibility and cybersecurity, with more innovative devices being more secure.

7. Support clinical innovators at all levels:
   NHS England has recognised the need to embed innovations in the NHS and this central support must be matched locally; in workforce skills training, through expanding resources provided at trust research and innovation offices and by creating the headroom in clinical settings to harness this groundswell of innovation.

8. Seize the window of opportunity to properly harness the NHS App:
   The uptake of the NHS App should be harnessed, by expanding it to become a broader NHS platform through which it can become a gateway to other beneficial health tools. The new functionality should be localisable and prioritise those additions that will have the greatest benefit in less advantaged communities.
References


11. Northern Health Science Alliance, written evidence to Parliament, July 2020

12. [https://committees.parliament.uk/writenevidence/8957/pdf/ Accessed 30.03.22]


