Scenarios to Support and Inform the Future Doctor Programme

Supporting Document

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Using Scenarios

Scenarios describe alternative ways the external environment might develop in the future. Each scenario explores how different conditions might support or constrain the delivery of policy and strategy objectives. They are not predictions or forecasts, rather scenarios provide a framework for discussions about the future, based on credible, plausible and challenging intelligence.

Scenarios need to be built on a strong evidence base; therefore, we used scenarios produced by the Royal Society for the encouragement of Arts, Manufactures and Commerce (RSA) 'Four Futures of Work'.
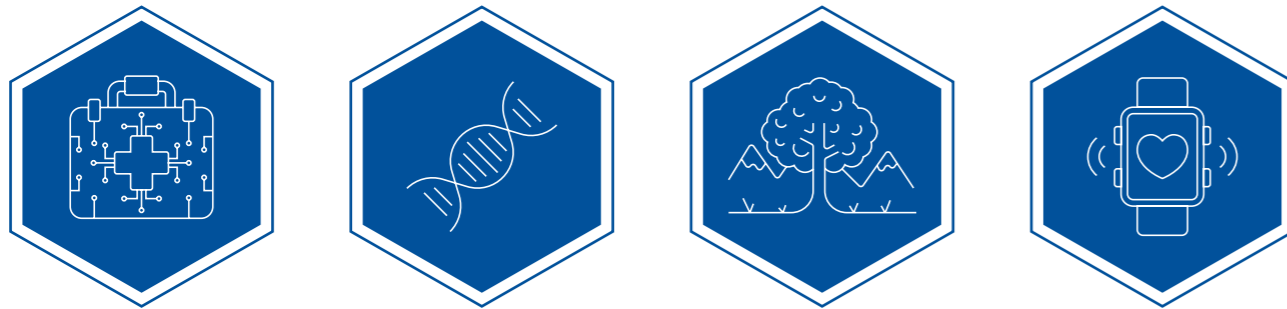
Working with stakeholders using the RSA scenarios, we developed healthcare futures. In order to improve accessibility and encourage future use of the scenarios, stories were also developed to illustrate what life might be like for patients and doctors working and living in each of the scenarios.

Using these healthcare futures, delegates were asked to consider how doctors' roles might develop in each, and what themes underlying these roles would be of importance for further consideration.

Once the general themes were established, a process of wind-tunnelling was undertaken, from which a core set of themes and competencies emerged that were applicable across all scenarios, with others that were more weighted to certain futures.

For further information, see the full scenario report at: [DN: Add LINK]

Healthcare in the 'Big Tech' Future of 2035

In the wider Big Tech future of 2035, technological breakthroughs have come thick and fast.

Widespread automation has eliminated many routine and non-routine roles, meaning that jobs are in short supply, with a 20-hour working week being the norm. Workers are too weakened to take a stand, while tech giants stifle dissent with well-oiled PR machines.

Within healthcare, breakthroughs in machine-learning have had a profound impact on how people are diagnosed and treated. It is now standard practice for patients to wear monitoring type technologies, and the promise of a good standard of care is enough to offset any of the doubts that people may have about their data being shared.

Data Sharing - People are happy to share almost all personal data in order to access better healthcare.

Using technology to spread medical expertise, both in terms of remote intervention with patients and assisting other medics, has become commonplace. With high-resolution VR and AR headsets, doctors can be 'virtually' in the room to assist colleagues in providing complex interventions.

Virtual Healthcare - Doctors will rely on technology to provide remote assistance to patients and colleagues.

The deployment of versatile robots, capable of complex tasks and human interaction, is also commonplace in the healthcare environments of 2035, and the acceptance of their introduction has been dependent on the promotion to the public by trusted medical professionals.

Interaction - Patients are willing to forego personal interaction with doctors in favour of using convenient tech replacements.

Big Tech Patient and Doctor Stories

Patient

I usually speak with my doctor via a VR headset, providing me with immediate healthcare advice from home. However, after a bike accident, I needed urgent care. I called the emergency services but was put through to an AI bot that didn't prioritise me. The paramedic in the self-driving ambulance was able to diagnose the issue and begin treatment, but when I arrived at the busy hospital, I felt neglected and was not used to being without instant medical care.

I recently specialised in orthopaedic surgery, completing a fellowship with a major tech giant who took interest in my innovative designs for enhanced 3D holographic mapping of joint injuries. Doctors like me who are eager to innovate are well supported, but the big tech corporation that funded my fellowship and who I now work for is eager to move me away from front-line work in favour of funding my research and encouraging remote patient treatment.

Doctor

Healthcare in the 'Precision' Future of 2035

In the wider Precision future of 2035, technology has advanced at a steady pace, but the most ambitious large-scale projects have been abandoned.

Development of automation has been modest, with most jobs that involve creativity or dexterity being secure for the time being. However, workers are subject to a new level of oversight, with rating systems now pervasive, including algorithmic performance management systems. The on-demand labour market grows as firms have a better picture of who they need, at what times and at what skill level.

Oversight - Constant monitoring and automated performance management lead to increased 'gig economy'.

Large scale data sharing dominates, with personalised healthcare monitors inter-connected through the Internet of Things (IoT), and most people are willing to share their health data for the benefit of individually tailored services, reassured by vastly improved data security.

Those that cannot afford their own devices are supported by the NHS as they have the potential to more than pay for themselves by improving health and reducing the risk of adverse medical events. Growth in genomics and precision medicine have led to breakthroughs in prevention, diagnosis and treatment that improve the physical health of individuals and the population at large.

Healthcare in the 'Precision' Future of 2035

Precision - Almost-mandatory smart devices lead to breakthroughs in diagnosis and preventative treatment.

However, concerns grow about the mental health impact of the 'gig economy' and the pressure of constant monitoring on workers, as well as increasing anxiety through often poorly understood risk scores. Concerns also grow about overprescribing due to the identification of risks that previously may have remained undetected.

Pressure - Excessive monitoring of workers, a gig economy and overprescribing potentially affect mental health.

Healthcare in the 'Precision' Future of 2035

Precision Patient and Doctor Stories

Patient

> At 75 years old, I suffer from several chronic conditions. A few years ago, I had a full set of genetic tests to revise my medication to a few bespoke tablets, and I feel much better now. My health is constantly monitored by several devices provided by the NHS as I could not afford my own. One of these devices triggered an alert for a virtual appointment with a pharmacist to update my medication. This data also helps treat my grandson, who has the same gene.

> Genomics has greatly advanced regarding prevention and treatment in the last 15 years, with tailored programmes allowing for the collection of accurate data. Working in this area, I have access to more data than ever before, which helps me treat patients in my local community without dealing with excessive paper notes. I'm assisted by analysts who study and collate said data, while patient devices auto-book virtual appointments between myself and their owners.

Doctor

Healthcare in the 'Exodus' Future of 2035

The Exodus future is characterised by an economic slowdown. Faced with another bout of austerity, workers lose faith in the ability of consumerism to improve their lives.

Cooperatives and mutuals emerge in large numbers to serve people's core economic needs in food, energy and banking. While some workers struggle on poverty wages, others discover ways to live more self-sufficiently, including by moving away from urban areas.

Exodus - Increasing cost of living and reduced quality of life in urban areas leads to widespread migration.

As a result of austerity, most of the technological advancements promised for healthcare never materialised. There are now only a few fully-functioning large hospitals, leading to patients travelling great distances for specialist care. Many doctors have ambitions to train further in their area of interest, but places at medical schools are limited and competition high.

The public seek other healthcare options as getting access to a doctor is increasingly difficult. As a result, doctors are increasingly coaching patients to self-manage their conditions and make decisions about their care options. Local communities have had to build effective networks, and group sessions, led by local practitioners, are held regularly and are well attended, with 'social prescribing' is the norm.

Community Healthcare - Patients are taught and encouraged to manage their own conditions, while group sessions build healthcare 'networks'.

The increasing levels of austerity mean that some citizens struggle with mental health problems, but others find that their new lifestyle, away from the stress of the city, has greatly improved their mental health. Those who embrace self-care feel empowered by this new way of living, while those that are less able suffer from poorer health due to the lack of easily accessible traditional healthcare and specialists.

Mixed Results - While some with limited-to-no health issues thrive through self-care, those dependent on dedicated care are less able to adjust.

Exodus Patient and Doctor Stories

Patient

Since the economic crash, I lost my job and had to move out of the city. While initially struggling with depression and age-related health issues, I learned to rely on community-led healthcare programmes and initiatives to help me through my problems. This has inspired me to retrain as a healthcare assistant, and I aim to lead my own community healthcare initiatives. Hopefully, this will help take some pressure off of our local doctor and her team, who are very overworked.

The last economic crash happened just after I got through medical school, where my training greatly emphasised leadership, coaching and resilience. This training has helped me lead and rely on the greater clinical team while we've struggled with huge waiting lists and patients who are desperately ill by the time they get to see us. Thankfully, through community partnerships and coaching, patients have taken much of their healthcare into their own hands.

Doctor

Healthcare in the 'Empathy' Future of 2035

The Empathy future is a world of 'responsible stewardship'. Technology has advanced quickly, but so too has public awareness of its dangers.

Tech companies self-regulate to stem concerns and create new products that work on everyone's terms. Increased automation takes place at a modest scale but is carefully managed in partnership with workers and unions.
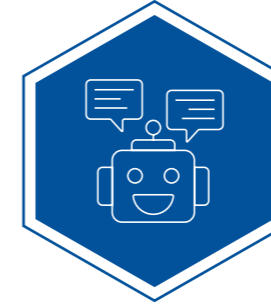
Technology developed in support of healthcare delivery has also advanced at pace, thanks to partnerships between tech firms and the health system. Wearables are commonplace, with data willingly shared by most. This increased data is scanned by AI algorithms, leading to new treatments for previously intractable conditions. This is supplemented by preventative notifications sent to individual's devices to alter specific behaviours.

Artificial Intelligence - Increased reliance on AI leads to new treatments and advice tailored to individual users.

Contact with clinicians now includes advanced VR remote clinics. Mental Health chatbots allow patients to share their concerns, with advice and support given in return. Recordings of these conversations are mined by AI algorithms, identifying emergencies and interrupting the chatbot conversation with a Mental Health Specialist if necessary.

Co-operation - AI helps reduce clinician workload by handling minor issues while flagging more significant issues for review by a real health care professional.

Patients take a lead role in their relationship with the health service, owning and sharing their personal data with healthcare providers, but there's also a significant rise in the unregulated alternative health and well-being market, with celebrities having the ability to influence the public through personal virtual reality appointments.

Empathy - Patients manage their own healthcare through more open, frequent discussions with clinicians.

Empathy Patient and Doctor Stories

Patient

At 60, I've become more health-conscious, using my smartwatch and an online platform to manage my health. Whenever I get concerned, I speak with an NHS chatbot, which uses data from my watch to suggest changes to my lifestyle. A celebrity social media post made certain healthcare claims that deeply concerned me. After speaking with the chatbot again, my queries were escalated, and a Mental Health Specialist got in touch to book a face-to-face appointment.

As a 'General Local Population Doctor', I work in a centre responsible for the health and wellbeing of over 60,000 people. However, through advanced chatbots and AI algorithms, my workload remains completely manageable. If an issue is escalated, I can immediately book VR appointments with patients, accessing their healthcare data and chatbot history to understand the problem. If needed, I have time to see patients in person and talk through their concerns.

Doctor