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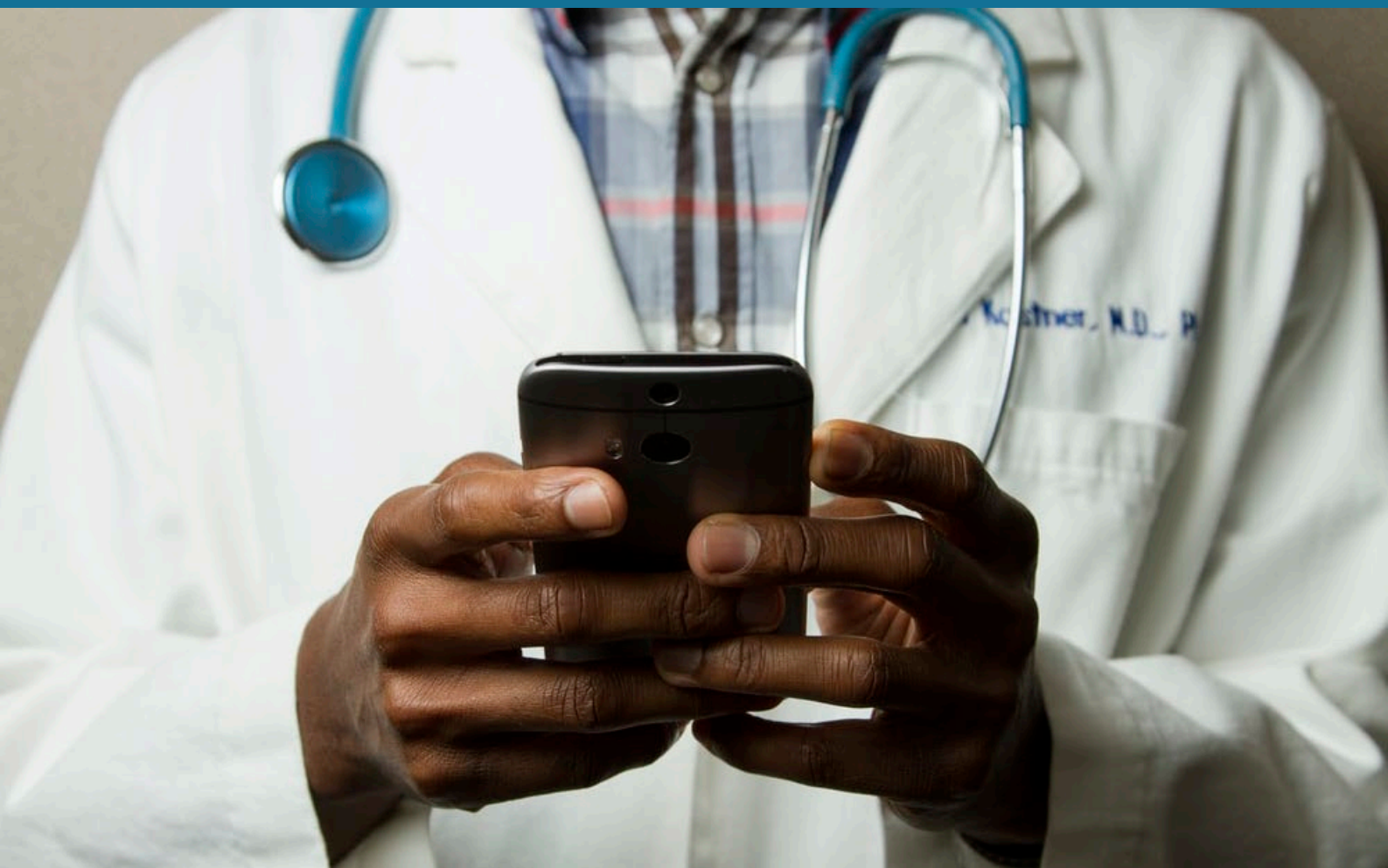
Global Healthtech

JULY 2021

IT in healthcare post COVID



Highlights

Since March 2020, with the outbreak of COVID-19, the NHS has faced the biggest challenge in its 73-year history. Not only has the NHS had to deal with the pandemic itself: handling a sudden shortage of PPE, staff, beds and equipment; assembling a testing and tracing regime; and delivering a complex national vaccine rollout - but also now faces an unprecedented backlog of urgent non-COVID work, a mountain of routine care and check-ups to eventually catch up with.

The healthcare industry has been slow to adopt digital technology but it can bring efficiency, time savings and cost reductions, all very much needed in the healthcare sector in the years ahead. Healthtech suppliers have shown themselves keen to step forward and help the industry through the crisis but what is the scenario for investors? We take this opportunity to review the prospects of healthtech companies in light of the pandemic.

Market overview and segmentation

The global healthtech market is complex; with multiple different segments and elements of life science. We review the healthtech software market and its subsectors; covering the current scenario, and the impact of the pandemic. Key takeaways: Remote healthcare/telemedicine is here to stay; tech will get its share of tightened healthcare budgets; the wave of corporate activity in US healthtech may hit the UK; healthtech is following healthcare into pharmaceuticals.

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The global healthcare industry has been heavily impacted by the pandemic and will be burdened with knock-on issues for years to come, stretching resources. New technology can help increase speed and efficiency while reducing cost. Over the last 18 months, healthtech companies have stepped forward to assist their healthcare customers. COVID restrictions forced every industry sector to accelerate digital transformation and the healthcare industry must follow. However, unlike other sectors, it must balance already-stretched resources between the urgent issues caused by COVID and investment in technology to help solve them.

Healthcare changes drive healthtech development

Healthtech anticipates and meets the changing needs of the healthcare sector (including wellness and pharmaceuticals). We see two factors at play in healthcare;

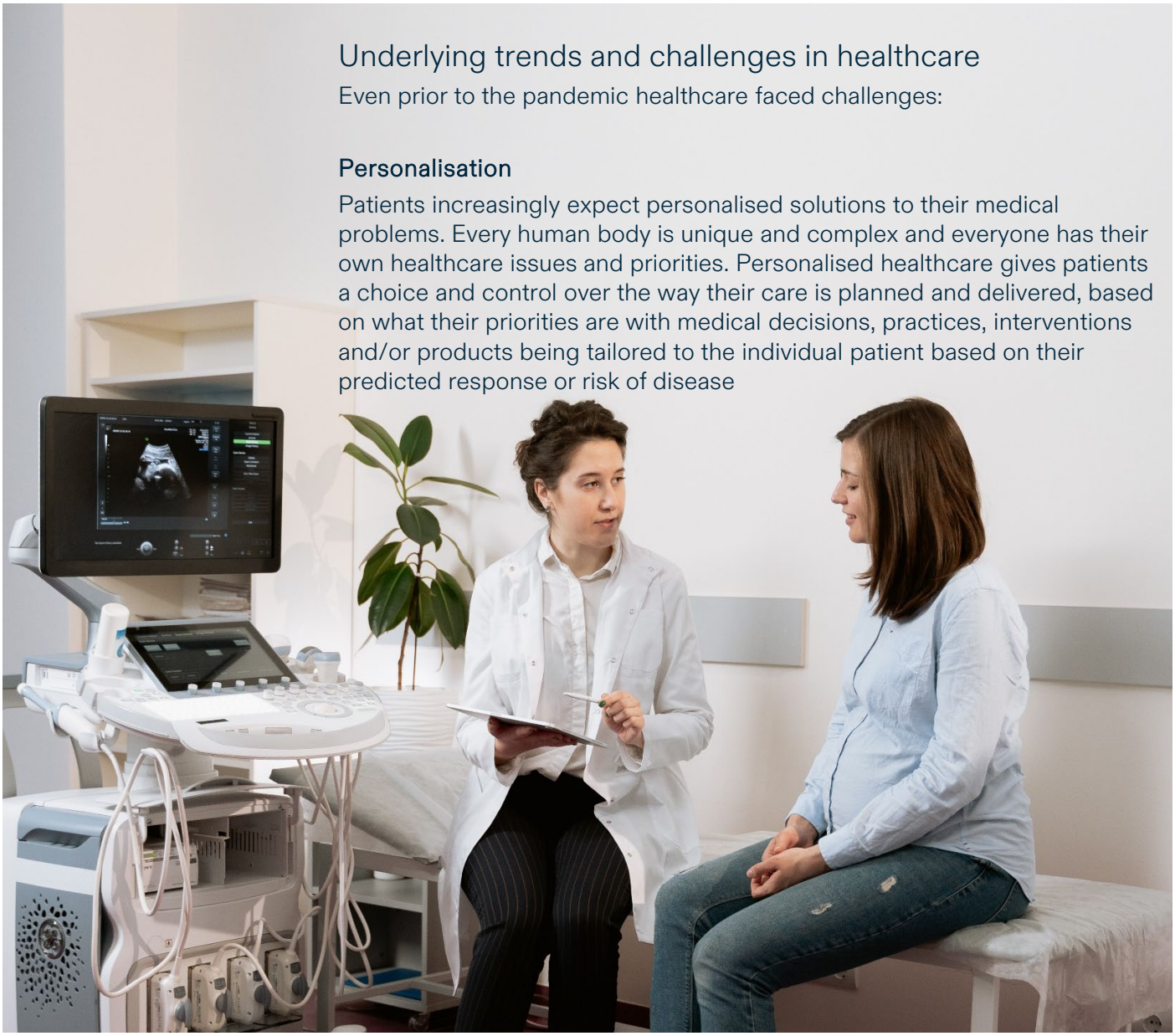
- Underlying developments from changes in demographics, society and technology.
- The more radical impact of the pandemic and response to it.

Underlying trends and challenges in healthcare

Even prior to the pandemic healthcare faced challenges:

Personalisation

Patients increasingly expect personalised solutions to their medical problems. Every human body is unique and complex and everyone has their own healthcare issues and priorities. Personalised healthcare gives patients a choice and control over the way their care is planned and delivered, based on what their priorities are with medical decisions, practices, interventions and/or products being tailored to the individual patient based on their predicted response or risk of disease



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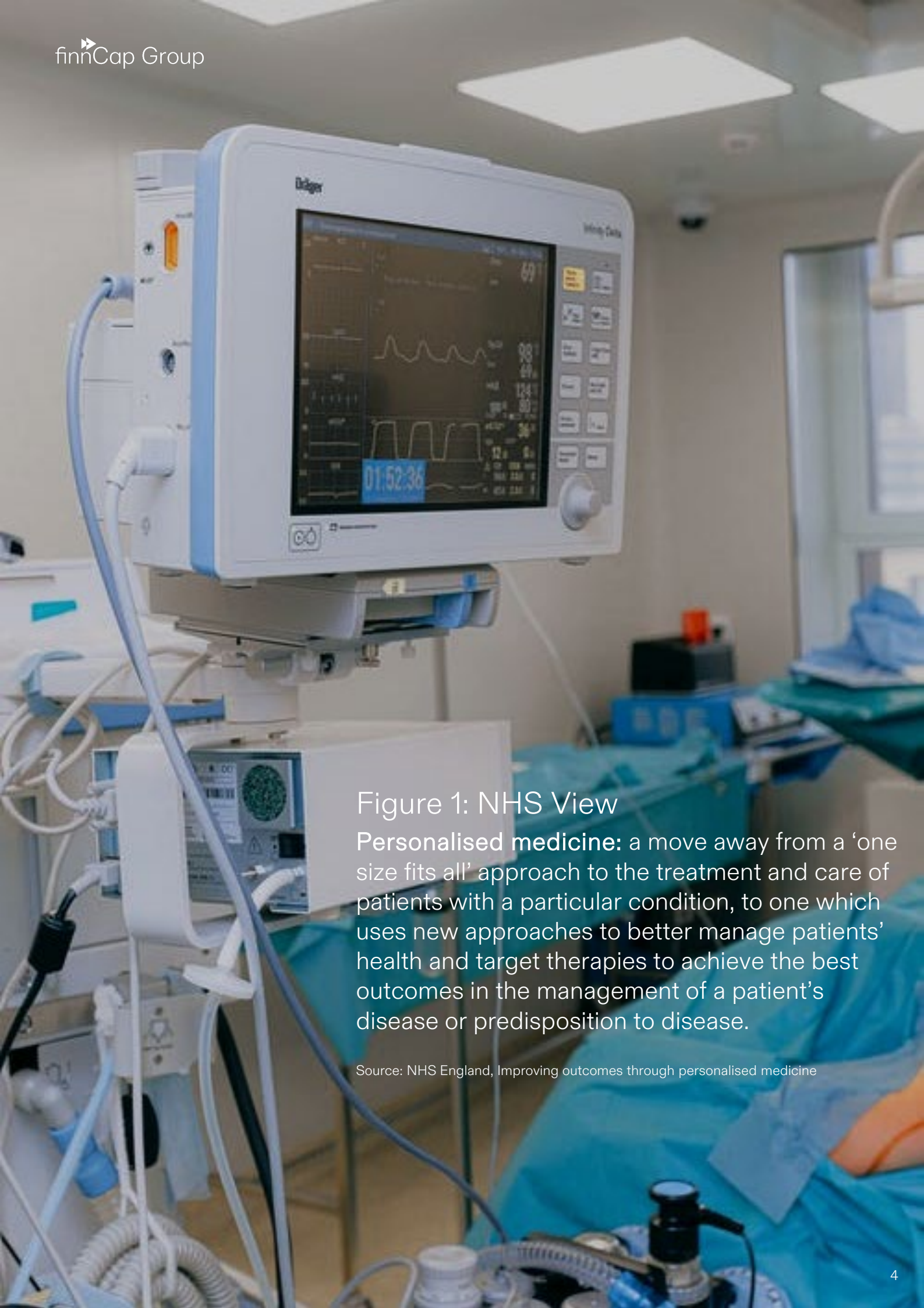

Figure 1: NHS View

Personalised medicine: a move away from a 'one size fits all' approach to the treatment and care of patients with a particular condition, to one which uses new approaches to better manage patients' health and target therapies to achieve the best outcomes in the management of a patient's disease or predisposition to disease.

Source: NHS England, Improving outcomes through personalised medicine

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Drugs increasing importance

Pharmaceuticals are a steadily increasing element of healthcare; cheaper than surgery or intensive treatment and the range of medicines is continually expanding. The global pharmaceuticals market is expected to grow from $1250bn in 2021 to reach $1700bn in 2025 at a CAGR of 8%.

Wellness

Disease prevention is even cheaper than drugs and wellness and fitness, alongside early diagnosis are seen as ever more important elements of future healthcare.

Technological development

A convergence of technologies, digitalization, additive manufacturing, machine learning, and 3D modelling are having a huge impact on the patient experience. Healthcare innovations to medical devices and manufacturing will enable devices to be more modular and more adaptable while also improving the patient experience.

Global staff shortage

Growth in demand for (population growth and aging demographics) and supply of (more treatments developed) healthcare is leading to severe staffing shortages, in particular, of clinicians whose training is long and expensive.

In 2013 the WHO warned of a shortfall of 12.9m healthcare workers globally by 2035.

The Association of American Medical Colleges fears a US physician shortage of up to 139k by 2033. A WHO report expects the shortfall in Europe could reach 4.1m in 2030 (600k doctors, 2.3m nurses and 1.3m other professionals).

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Figure 2: Will It Be A Luxury To Meet Physicians?

There will always be fewer health workers trained than needed. And as more and more people receive care and our diagnostic arsenal is improving, the number of people diagnosed with chronic diseases will keep on increasing. Similarly, as the number of areas providing advanced health care increases, the demand for skilled medical professionals will remain the same – or will grow. A medical-school bottleneck further augments the problem: medical schools receive far more applications they can and will facilitate.

Source: The Medical Futurist, 2021

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Additional issues from the pandemic

Unprecedented times for healthcare

The global healthcare industry has changed beyond recognition in the last 18 months. COVID presented unprecedented resource challenges, diverted spending, froze major projects and shut down virtually all non-essential care. It has also been a catalyst for change, leading to rapid digital transformation that will change healthcare forever.

Social distancing

Social distancing limited personal contact, the channel for human healthcare since the beginning of medicine.

Staff shortages getting worse

COVID is exacerbating the staff shortages in healthcare. Initially through dealing with the pandemic and catching COVID themselves and longer term it has led many clinicians to consider leaving the profession.

A report on American nurses published in April 2021 revealed 43% considering leaving the profession. A British study found the same with the number of doctors considering early retirement has more than doubled in 12 months.

Tightened budgets and scarce resource

The pandemic has diverted all but essential healthcare resources and funding. Some governments (including the UK) have announced additional emergency funding but COVID will have a significant impact on future healthcare budgets.

Longer term outlook

Looking forward the healthcare industry is transitioning from crisis management, to facing wider healthcare needs post-pandemic; the backlog in care caused by lockdown (missed long-term condition checks and treatment or late cancer diagnoses) and new ways to work in the new environment.

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Healthtech developments

The challenges drive healthtech developments in the following areas.

AI and data analysis

Personalised healthcare is enabled by technology; the application of advanced computing and AI to analyse huge datasets: for genome sequencing and; for the administration necessary to tailor healthcare plans for individuals.

Pharmaceutical enhancement

Disruptive new technologies such as, AI, 3D printing, precision medicine and patient design are changing the speed and efficiency of development and distribution of pharmaceuticals.

Remote care

The shortage of clinicians is forcing staff to be used more efficiently and together with social distancing this has led to a surge in adoption of telemedicine and remote healthcare and monitoring, utilising the improved communications infrastructure. Digital healthcare platforms have proliferated.

Systems

Healthcare administration and management systems must be improved to give efficiencies and have to be flexible to cope with changed environments such as COVD and non-COVID care streams in hospital departments.

Training/e-learning

A wide range of technologies is now being deployed to accelerate and improve the training of new clinicians, from internet sharing of text and video, to VR interaction.

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RoI needed

However, concerns remain over the sustainability of the models and the spending capability of the healthcare industry post-COVID. Technology can help but with stretched budgets it must fight for a share of limited resources by proving its real value.

Some views on the change in healthtech wrought by COVID:

Figure 3: Rapid technology adoption in the UK

Before the emergence of the novel coronavirus and the subsequent pandemic, the health and care system had a poor track record in adopting digital technologies at scale. However, in response to the pandemic the health care system rapidly implemented new tools, many technology-based, to allow health care to be delivered when physical contact is not possible. The approach to using digital tools in healthcare provision is undergoing a substantial and rapid shift. Many of the technologies adopted during the first phase of the pandemic were already well established but not widely implemented; the maturity of the technology enabled the provision of healthcare through remote consultation to be much more prevalent much more quickly.

Source: TheKingsFund 2020

Figure 4: Telehealth explosion in the US

COVID-19 has caused a massive acceleration in the use of telehealth. Consumer adoption has skyrocketed, from 11% of US consumers using telehealth in 2019 to 46% of consumers now using telehealth to replace cancelled healthcare visits. Providers have rapidly scaled offerings and are seeing 50 to 175 times the number of patients via telehealth than they did before. Pre-COVID-19, the total annual revenues of US telehealth players were an estimated $3bn, with the largest vendors focused in the “virtual urgent care” segment: helping consumers get on-demand instant telehealth visits with physicians (most likely, one they have no relationship with). With the acceleration of consumer and provider adoption of telehealth and extension of telehealth beyond virtual urgent care, up to $250bn of current US healthcare spend could potentially be virtualized.

Source: McKinsey & Co: Telehealth: A quarter-trillion-dollar post-COVID-19 reality?

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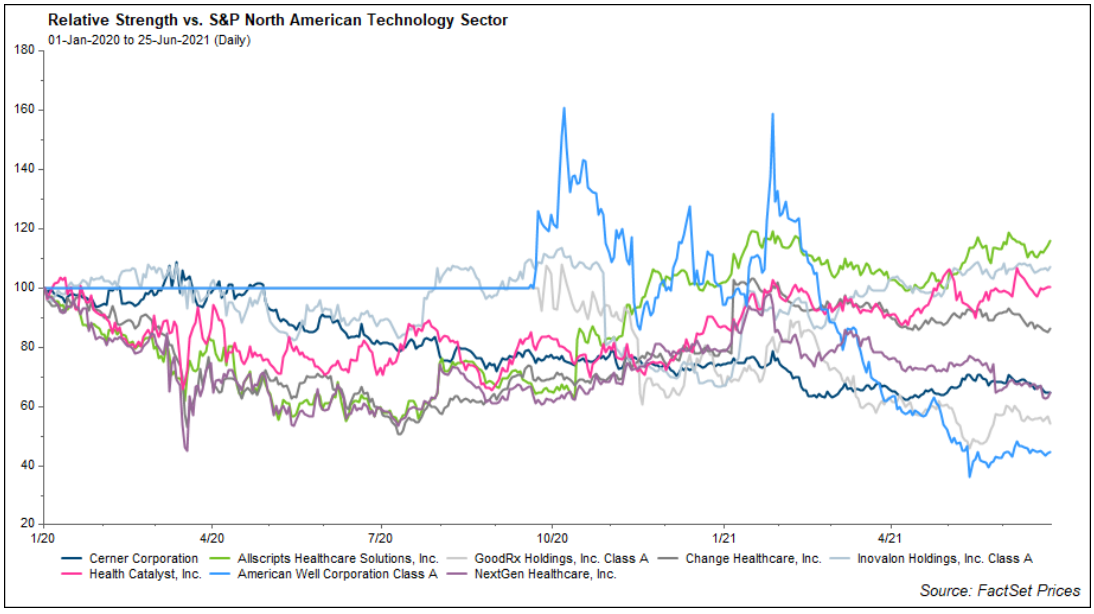
Investor view

Investor response

The adoption of innovative technology in the pandemic has led to heightened investor interest in healthtech. Despite a troubled global economy, healthtech companies remain attractive for both investors and strategic buyers, the latter leading to a jump in the number of M&A deals compared and a record high in deal value.

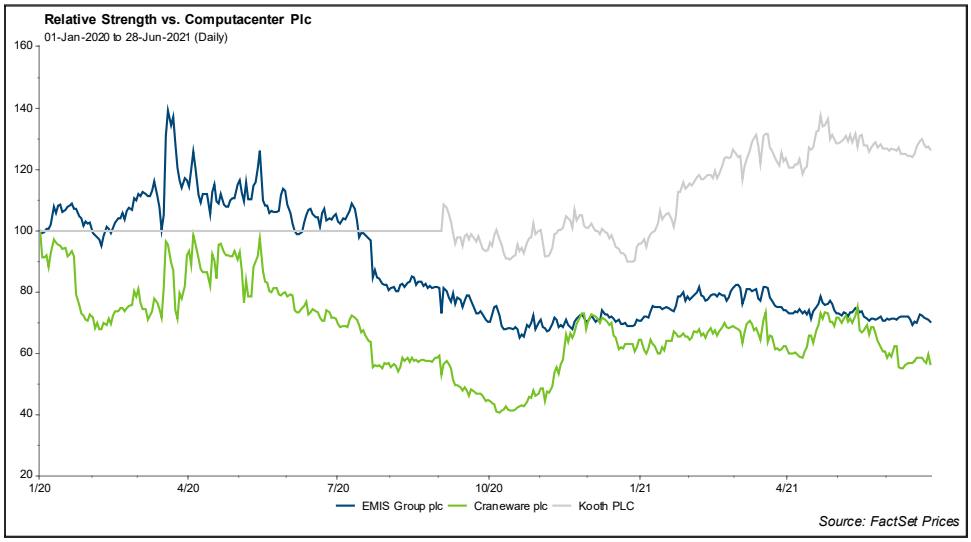
US healthtech underperformed the wider tech market, as other sectors rapidly turned to technology to solve the problems of restrictions. However, the healthcare industry froze all projects and extraneous spending to concentrate on the immediate crisis.

Figure 5: US healthtech shares v wider tech sector



Source: FactSet

Figure 6: UK healthtech majors v Computacenter PLC



Source: FactSet

In the UK, using Computacenter (CCC) as a proxy for IT capital spend, we see the healthtech majors initially underperforming as other sectors rushed into digital operations, while the health sector lacks time or resources. In 2021 they have recovered, as their customers start to look to technology to deal with the consequences of the pandemic.

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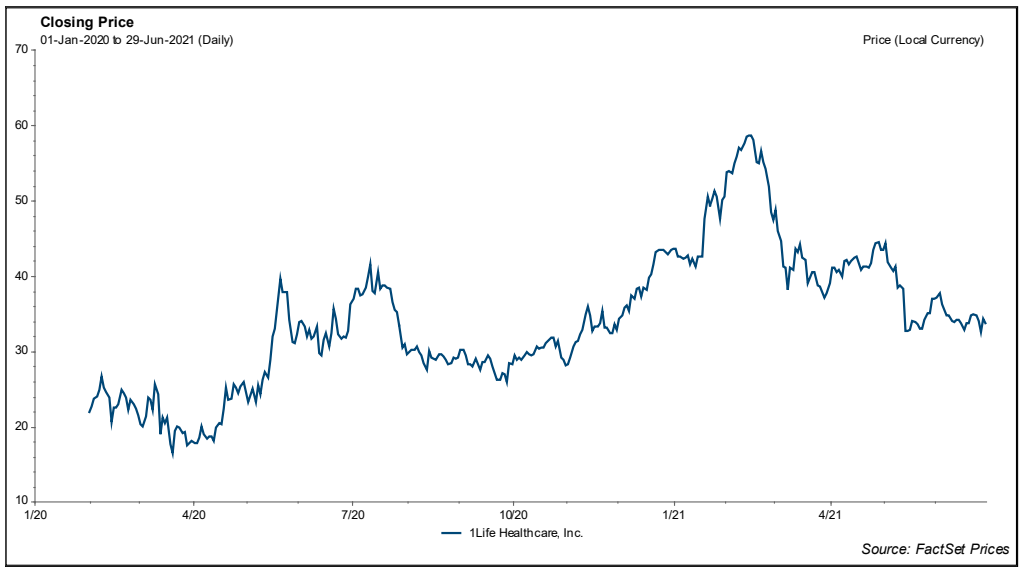
Corporate activity frenzy

The pandemic has triggered a frenzy of corporate activity, M&A and numerous IPOs in the US, where SPACs have been widely used. A typical example is:

LifeHealthcare (NASDAQ: ONEM) a provider of tech-driven primary care clinics (branded One Medical). Backed by Alphabet (Google) it joined NASDAQ in Jan20, jumping to a 58% premium. The clinical offering is enabled by tech; a mobile app to schedule appointments, renew prescriptions and message clinicians, virtual video care anytime and digital health records with proactive reminders.

Figure 7: US healthtech One Medical since joining NASDAQ



Source: FactSet

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Takeaways for investors

Key recent trends in healthtech:

- Remote healthcare/telemedicine is here to stay. Pre-COVID it was a niche market but the restrictions on interpersonal contact and the need to maximise available staff catapulted it into the mainstream and like homeworking, the convenience and efficiency discovered from its use is unlikely to be given up. Providers of large admin systems used to be the giants of healthtech but in future it will be platforms providing remote health and mental care Teladoc's m/cap is now $26bn v Cerner's $24bn.
- Healthcare spending will be tight for years to come but key tech will be a priority. The initial crisis has passed but healthcare providers face more waves, more variants and vaccination programmes, an unprecedented backlog and a fundamentally changed environment for provision, all of which will need resourcing. Technology can and must be deployed to help with speed, cost and efficiency but will have to prove its RoI in a fight for a share of tight budgets.
- A wave of corporate activity has swept the healthtech sector, partly powered by the growth in telehealth and the applications of AI in pharmaceutical development. In the US that fed into a swathe of IPOs. The UK usually follows suit.
- The healthcare industry is into drugs and healthtech is following. EMIS and Craneware, (and most recently, The Panoply) have made moves into the pharmaceutical markets. Pharmaceutical treatment is generally cheaper and more efficient that physical treatment and surgery. Secondly the future, like so many other industries will be customer (patient) centric, and pharmaceuticals play a key role in customized medicine. This is a huge and growing industry and the application of tech in development, procurement, management, prescription and billing of drugs will be a key area of investment and return.

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The healthtech market

Global buyers of healthtech include private hospital groups, pharmacies, local/national government, educational institutions, companies and private individuals. Internationally, there are many other public and private caregivers.

The healthtech market

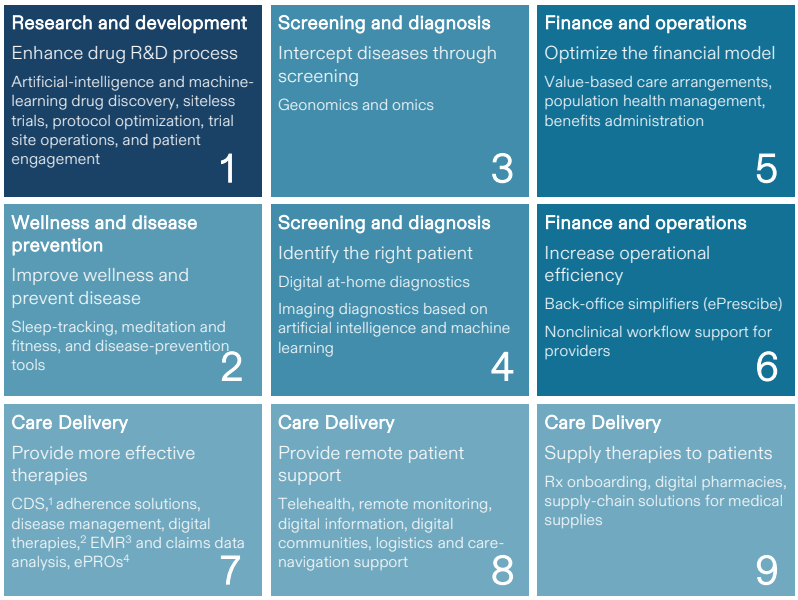
What is healthtech?

Defining healthtech for investment

Healthtech covers a variety of hardware, software and services with applications ranging from clinical administration, education and communication, through to general wellness and disease prevention, patient diagnosis and treatment, all within the context of providing human care services.

- This field has a wide range of segments, although most are too niche or too low tech/low margin to attract significant investment interest.
- Traditionally, the key healthtech areas for investors have been: EMR; revenue optimisation; care pathways and pharmaceutical development. The new areas of interest are: telemedicine, remote diagnosis and mental healthcare platforms.
- This naturally verges on and overlaps with life sciences investment. By way of example, McKinsey & Co recently identified nine value pools of healthtech innovation which spreads a very broad net:

Figure 8: McKinsey & Co, nine healthcare value pools



[1]Clinical-decision support. [2]for example, cognitive games and cognitive behavioural therapy. [3]Electrical medical records. [4]Electronic patient-reported outcomes.

Source: Healthtech in the fast lane: What is fuelling investor excitement?

- To define our remit, we focus on opportunities in healthtech software provision, rather than say, medical hardware development, fitness devices or genomic research. Broadly, this is the application of digital technology to improve health or care delivery.

The healthtech market

How large is this market?

This is a huge global market, even prior to the healthcare spending focus precipitated by the COVID pandemic.

- Estimated global medical technology spend in 2019 was $457bn.
- Estimated global medical technology growth in 2019 was 5.5%.
- Estimated global medical technology R&D spending was $31bn.

McKinsey study

In 2019, McKinsey & Co identified a digital health global market of c.$350bn expected to grow by at least 8% pa. The bulk of digital health players develop technologies that have a direct impact on patient care.

What is the value proposition?

Tech adoption saves money within limited budgets

The primary value proposition offered by digital health technologies is cost reduction. Healthcare is expensive; clinical staff are expensive to train and employ. Equipment and pharmaceuticals are likewise limited. The application of technology can reduce cost and increase efficiency; patient care at home is far less expensive than in the ward.

- Healthcare takes up 20% of total public spending (£190bn of £943bn in the 2022 UK public sector budget) and 24% of central government spending.
- Technologies in care-delivery (for example, remote monitoring and care, digital therapies, and disease management solutions) have the greatest cost-savings potential benefiting payers (state insurers or patients). Finance and operations technologies (i.e. workflow automation and care-coordination tools) can increase operational efficiency and productivity for healthcare stakeholders.

Tech also benefits healthcare outcomes

The other key benefit of healthtech is improved healthcare outcomes. This might be in terms of general wellbeing/prevention; earlier or more accurate diagnosis; swifter/better treatment or; faster/cheaper pharmaceutical development.

The healthtech market

What are the key areas of healthtech excitement?

Although McKinsey has identified the nine pools of value creation within healthtech, we narrow this down to four broad areas of interest for investors:

Healthcare administration systems

Traditionally the biggest market in healthtech is administration systems: covering a wide range of healthcare administration from Electronic Medical Records, to departmental systems and care pathways to patient billing systems. Most of the largest healthtech businesses are found in this area, given its size and age. However, this is a crowded and mature area.

AI-enabled drug development

Several start-ups are using AI to assess the huge volumes of data required to improve drug development. These include Insitro, Atomwise and XtalPi. Between them, they received over $1bn of funding in the last year. In April, tech giant NVIDIA partnered with AstraZeneca and the University of Florida on new AI research projects to accelerate drug discovery and patient care.

Remote healthcare / diagnostics

Telemedicine and remote healthcare is a relatively new but large and growing market, with platforms utilising improved modern telecoms - internet and mobile, text voice and video – to connect patients and clinicians, replacing the traditional personal contact and examination. It also allows patient communities for shared experience and support. This area has been given great impetus by global lockdown and social distancing.

Healthcare training / education

This is effectively a subsector of the edtech market but given the cost, time and resource constraints involved in training clinicians, there is a particular opportunity in the application of technology in this field, and multiple suppliers have sprung up utilising innovative technology such as VR and haptics (see our previous AR & VR quarterly, “Extending Reality in the 2020s”). This will be a high growth area in future; in November, the NHS published its National Strategic Vision for simulation and immersive technologies in health and care to explore how tech can help the learning and training challenges. A fascinating example of the power of technology here is the Lindsay Virtual Human Project offering digital voyages through the human body and 3D4medical, a UK start-up bought by Elsevier which is proving vital for medical students.

The healthtech market

Current healthtech investment

Software and related technology companies dealing with healthcare, from electronic health records and point-of-care solutions to billing and compliance, are in high demand. Venture interest has been steadily increasing over the past decade. Although the number of deals each year has remained largely similar since 2016, average deal sizes and total funding have steadily increased.

Record investment into healthtech

COVID has excited global investor interest; the US digital health venture fund Rock Health noted a record $14bn in digital health funding in 2020. This has continued into 1Q21 with a record $6.7bn investment, the average deal size jumping 45% to $45.9m.

Corporate activity

The pandemic in 2020 also saw upheaval in terms of significant IPO and M&A activity.

IPOs in the US

After several years of very little activity, a wave of healthtech companies have joined the US public market since 2019. We are currently seeing a large number of flotations in the US, most utilising Special Purpose Acquisition Companies (SPACs). The first four months of 2021 have seen more public listings of healthtech companies than in all of 2020 and, in 15 months, over a dozen have undertaken SPAC mergers.

Not in the UK yet

The UK has yet to see this healthtech IPO trend. Diaceutics, provider of data analytics and implementation services to the pharmaceutical industry, joined the market in 2019. Since then just Kooth, a mental healthcare platform, joined AIM in September 2020.

M&A

Equally, regulatory, technological and social change is driving a wave of consolidation in healthtech. Both strategic buyers and private equity firms, with available cash are aggressively pursuing deals.

Post-COVID this year, healthtech deal volumes look set to be a record. Private equity activity has been steadily increasing over the past decade and accounted for a third of the deals in 1Q 2021. Total deal values have also been rising steadily, save for a sharp drop in 2019, but 2020 and 2021 show appetite for M&A is undimmed.

As might be expected, the vast majority (>70%) of target companies were US-based. Some 15% were European, 9% Canadian and 7% RoW.

The healthtech market in the UK; a focus on the NHS

The healthcare sector in the UK is of course dominated by the NHS and it is the key customer for most UK healthtech suppliers. Other markets for them include local authorities, private hospitals and pharmacies, as well as overseas. After the false start of NPfIT, the NHS had finally been undertaking a major digital transformation programme. The advent of COVID saw projects frozen and the healthcare industry focus on dealing with the pandemic. As we emerge from the initial crisis, the government sees IT adoption as key to care delivery in a post-COVID environment.

NHS digital transformation

NHS IT update required

As with any modern enterprise, NHS services are dependent on IT systems. Political expediency means that frontline care and staffing levels are the spending priority, so much of the NHS IT is outdated. Not only is modernisation required, but the NHS must also enable new ways of working and care delivery in the age of ever improving and cheaper technology, allied to internet and mobile connectivity.

The healthtech market in the UK; a focus on the NHS

The digital transformation of the NHS

Thus (as in private enterprise) the NHS has been undergoing a digital transformation to enable health and care to be delivered flexibly and remotely where necessary, as well as to swiftly provide more detailed, accurate and timely information to both clinicians and patients.

- Patients will be enabled to access medical information and advice without face-to-face contact. Better data will underpin clinical decision making, vital research and government planning to help the NHS manage anticipated demand, as well as threats like those we are experiencing now.
- NHS Digital was set up in 2013 as arms-length body to oversee IT in the NHS and in 2019, NHSX was set up to lead the digital transformation programme in England.
- The previous attempt at digital transformation was an expensive and high-profile failure. NHSX is taking a different approach, allowing >220 NHS Trusts autonomy within national standards.

This is an enormous long-term project.

The healthtech market in the UK; a focus on the NHS

Background

The NPfIT: a failed first attempt

The history of the UK healthcare technology is dominated by the expensive failure of the NHS National Programme for IT (NPfIT) and the painful lessons learned by both government and investors.

Ambitious digitisation

In 2002 the Blair government began a (budgeted) £6bn initiative to move the NHS in England into the 21st century with a single, centrally-mandated electronic patient record; connecting 30,000 GPs to 300 hospitals. It was to provide secure and audited access to authorised health professionals, as well as online 'choose and book' services, and online referral and prescription systems. The planned structure was a central spine connecting five big regional clusters in "the world's biggest civil IT programme". Contracts were awarded in 2003/04, notably to Accenture, Fujitsu and Atos Origin, CSC (now DXC Technology) and BT, with software from IDX and Cerner and in 2005, the government formed the NHS Connecting for Health (CFH) agency within the Department of Health, tasked with delivering the programme.

Rushed and unwieldy

However the NPfIT was rushed, lacked stakeholder consultation, ignored privacy concerns and was over-ambitious and unwieldy. The contracts were poorly envisaged and drafted; costs spiralled, management constantly changed and two of the main providers were sacked. The project became a very expensive (£10bn) failure, and a byword for poorly public sector IT procurement, finally being terminated in 2011.

Torex & iSOFT

For UK investors, exposure was through Torex and iSOFT, effectively sub-contractors, or Local Service Providers (LSPs) to the big multinational primes delivering the clusters, mainly supplying Patient Administration Systems (PAS). Torex's dated offerings saw it lose out and it merged with iSOFT in 2004 but allegations of accounting irregularities and problems with development of its high-profile new Lorenzo product saw iSOFT itself struggle before being acquired by Australian rival, IBA Health in 2006 (IBA was eventually acquired by DXC in 2011).

The healthtech market in the UK; a focus on the NHS

The 2018 NHS IT paper; a second attempt

In 2018 the government issued a policy paper, The Future of Healthcare: our vision for digital, data and technology in health and care, noting that online services, basic IT and clinical tools in health and care was far behind where it should be; “despite much good practice and some pockets of excellence, for patients, service users, carers and staff we still need to sort the basics.”

Less ambitious, modular and secure

A much less ambitious project developed when the government identified a need for inter-operable modular IT systems, where any module can be easily switched out, to create a market where providers compete on, and be rewarded for, quality. Security took greater prominence; a priority that data is held securely and used appropriately.

Most recently: focus on new hospitals build

New hospital programme

Just prior to the pandemic, the Johnson government announced a major new spending initiative for the NHS, the Health Infrastructure Plan to deliver 48 new hospitals by 2030.

The primary goal is to modernise the primary healthcare estate. These new hospitals are being built to accommodate the changes in healthcare (including greater focus on mental healthcare) and are fully adapted for a wider use of technology as required by modern healthcare provision.

2018 Government conclusion

Technology systems used daily across hospitals, GP surgeries, care homes, pharmacies and community care facilities don't talk to each other, fail frequently and do not follow modern cyber security practices. As a result, some people are getting sub-optimal care, staff are frustrated and money could be saved and released for the front line.

Source: www.gov.uk

The healthtech market in the UK; a focus on the NHS

Key NHS suppliers today

NHS GP IT Futures framework and Digital Buying Catalogue in England

In 2019 NHSX and NHS England published a list of accredited suppliers of EPR solutions, to give purchasers in the NHS more confidence in their route to digitisation.

- NHS England and NHSX developed the Health Systems Support Framework to help organisations and integrated care systems get best value for money when buying new digital services, software and infrastructure.

EPR / EHR / EMR systems

Electronic Patient/Healthcare/Medical Records are the key application of technology in healthcare and traditionally the big market for healthtech suppliers. The US Healthcare Information and Management Systems Society (HIMSS) has developed an eight-stage (0-7) maturity model scoring hospitals around the world on their EMR adoption and utilisation.

In the UK, the government-accredited EMR suppliers to the NHS are:

- Allscripts Healthcare (NASDAQ: MDRX) is a US healthtech giant that provides physicians, hospitals and other healthcare providers with practice management and EHR solutions. It also offers products for patient engagement and care coordination, as well as financial and analytics. Based in Chicago, the group claims more than 180,000 physician users and has products in 2,700 hospitals and 13,000 other care organizations.
- Cerner Corporation (NASDA: CERN), another US healthtech giant. Based in Missouri, it is a global supplier of Healthcare IT (HIT) services, devices and hardware to over 27,000 facilities around the world, and boasts 28,000 employees globally. The core product is the Millennium+ cloud-enabled EHR, but it also offers ER and Radiology department systems.
- Dedalus Healthcare Group; an Italian-German conglomerate funded by Ardian, the French PE giant (formerly AXA Private Equity), it is the leading healthcare and diagnostic software provider in Europe and one of the largest in the world following a multi-year acquisition spree. Last year Agfa's healthcare business was bought for £820m and it recently bought DXC's software business for £350m, instantly making it the mostly widely installed NHS hospital software supplier.

The healthtech market in the UK; a focus on the NHS

Key NHS suppliers today Cont.

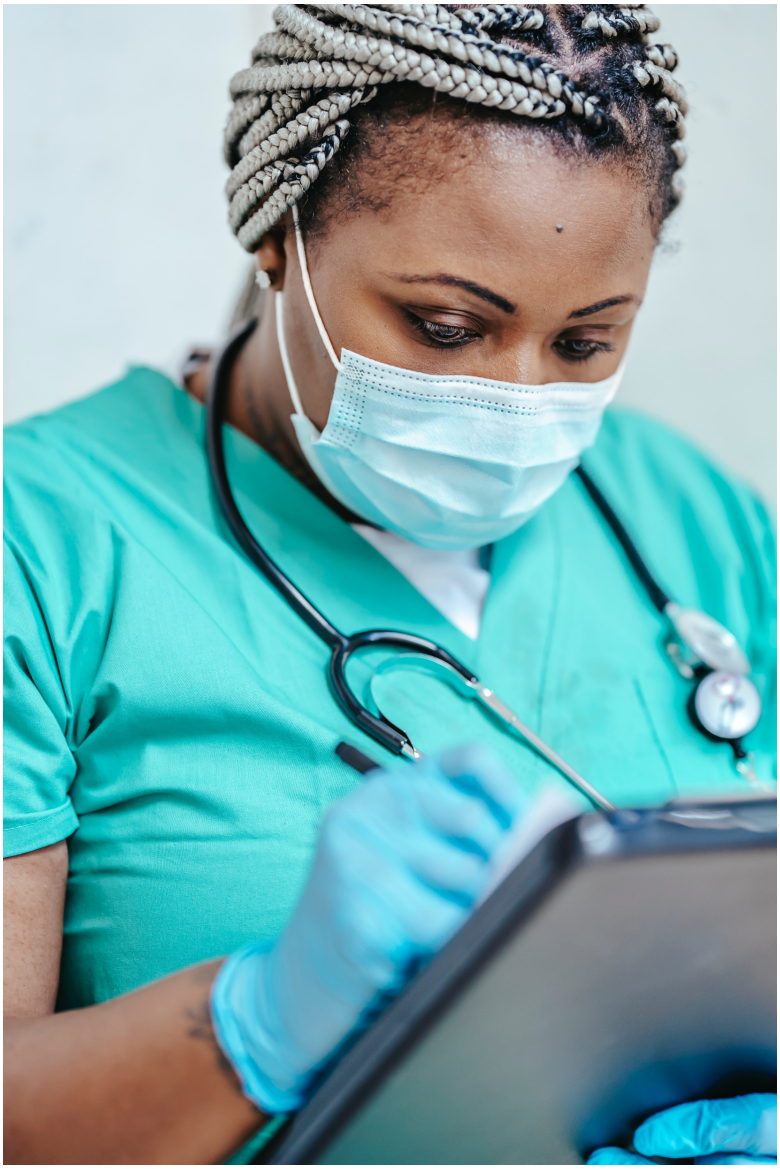
- IMS MAXIMS is a relatively small but long standing Irish EHR supplier, with offices in Dublin and Milton Keynes. The business was listed on AIM until taken private by Brian Ennis in 2009 and, due to its long history, its solutions are reliable and trusted and widely used across the NHS; it is used in more than 180 healthcare organisations, with 30,000 daily users, managing more than 13 million patient records.
- MEDITECH (Medical IT Inc) is a well-established private US healthtech supplier. Its main market is North America but it has more than 20 healthcare organisations (NHS and private) across the UK and Ireland. The broad range of software modules include: EHR, revenue cycle, scanning and archiving, scheduling and referrals, ER and OR management, cost accounting and general accounting, HR, supply chain management, patient discharge, long-term care, behavioural health and home health.
- Nervecentre Software is interesting; a relatively small but very rapidly growing UK healthtech business now with products in more than 40 healthcare trusts and implemented in over 100 hospitals. It is innovative and has a finger on the pulse of technology with a particular focus on mobile and collaborative technology. Founded in 2010 with just £5,000 by Cisco developer and current CEO, Paul Volkaerts, it offers NextGen EPR right up to HIMSS level 7 (complete digital integration with DR, privacy and security functionality). Nottingham University Hospitals NHS Trust - one of the largest acute hospitals in England - recently selected Nervecentre to take it paperless.
- System C Healthcare is another well-established UK supplier of health and social care solutions to integrate services across whole care communities. It uses leading edge technology to link information from multiple systems, integrating workflows between care settings and supporting multi-provider reporting & analysis, transforming the way services are provided and bridging the gap between acute and community care. Based in Maidstone, System C floated on AIM in 2005, was acquired by McKesson in 2011 before being sold on to PE (STG and recently CVC)
- The Phoenix Partnership (TPP) is a UK clinical records specialist, very similar to EMIS with a big chunk of the GP records market. It was founded by Frank Hester OBE a former Halifax bank employee who taught himself to code when he saw the trouble encountered by his GP wife. Its SystmOne records software is used by over 7,000 NHS organisations and over 230,000 clinical and administrative staff. Although mainly GP deployments, TPP software is used in 50% of UK community services, 50% of child health services, in over 25% of mental health trusts and in over 60 acute trusts.

The healthtech market in the UK; a focus on the NHS

Key NHS suppliers today Cont.

Other notable suppliers are:

- Streets Heaver, supplier of Compucare, EHR and hospital admin systems. Mainly used by private hospital groups but also Barts NHS Trust and NHS private units.
- InterSystems is a global leader in IT platforms across health, business and government. Rather than being a specific solutions supplier, it brings together the myriad existing systems into a unified patient record.



Shared or Integrated Care Records implementation services

There are numerous suppliers, divided into Strategy Development Suppliers, Implementation Support Suppliers and Infrastructure Suppliers. These tend to be the big Systems Integrators, the likes of Accenture; Atos IT Services; Capita; Deloitte; E&Y; IBM; InterSystems; KPMG; McKinsey & Co; and Pricewaterhouse. Other interesting suppliers are AIM-listed Kainos (KNOS) and the internal NHS Commissioning Support Units.

The impact of COVID

Pandemic impact

The pandemic continues to have a range of impacts on the NHS - as on all parts of government, society and the economy. The knock-on effects look likely last long after the pandemic itself. There was immediate shortage of PPE, staff, beds and medicines leading to a very public procurement scramble.

The government channelled emergency funding to healthcare (see below), however resources were initially extremely tight. The total budget for the DHSC in England was £212.1bn in 2020/21 including an additional £63.4bn for procuring PPE, developing Test & Trace, using the private sector to reduce waiting lists.

- Most of the core budget is staff, salaries and consumables including medicine. The remainder is for capital spending on buildings and equipment.
- In the short term: spending has been diverted to PPE, treatment capacity, equipment, drugs, testing and tracing, and vaccine development and delivery. All of this meant long-planned technology projects suddenly took a back seat.
- In the longer term: digital transformation in the NHS has increased importance as a result of the crisis. It has emphasised the need for remote access to diagnosis, care and medical records, while reducing the burden on clinicians.

The government has announced it intends to take forward the digital transformation of the NHS, when the current emergency allows. In time, more clinicians and patients will be able to access both medical information and advice without face-to-face contact.

COVID brings opportunity too

Healthtech steps up

Many suppliers (like EMIS) stepped forward to supply the NHS and other healthcare suppliers with technology to assist in the pandemic. In particular, GP access and interaction was rapidly moved to digital channels.

COVID is providing plenty of opportunities for healthtech. For example:

Fujitsu's COVID detection

In September 2020, Massachusetts Institute of Technology (MIT) revealed the potential for AI-powered COVID diagnosis using audio recordings of a forced-cough, achieving 98.5% accuracy, including identifying 100% of asymptomatic subjects. The DHSC is running a programme (Cough-in-a-Box) to see if it can be used as part of the UK's testing regime.

- The current contract values are tiny but if the vocal biomarkers tech is adopted, its scale and importance could be enormous, not just in the pandemic, but potentially against other diseases; as a daily screening tool, for test pooling and for extending screening to areas where access to other tests is restricted.

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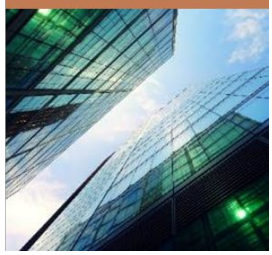

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