Roundtable: Who are going to be the winners in the technology race to save the healthcare system?

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Introduction

At a roundtable jointly hosted by Grant Thornton and Trowers & Hamlins, a select group including healthcare providers and commissioners, investors and entrepreneurs debated who will win in the technology race to save the UK healthcare system.

Chair Martin West set the scene and kept the discussion on track, opening by quoting the National Advisory Group on Health Information Technology in England report – 'Making IT work' – which said that the goal of digitisation in health systems should be better health, better healthcare and lower costs.

"Are all the developments we are talking about aligned with all or one of those, are they the right objectives and how will they influence how things develop?" he asked.

What followed was a stimulating discussion with everyone contributing to a debate which ranged far and wide.

Rather than present the debate verbatim, we've decided to focus on the key themes the panel touched on.

If you'd like to discuss any of the issues raised, please don't hesitate to get in touch. Contact numbers and addresses can be found at the end.

The panel

Chair

Martin West   Angel investor in healthcare and three NHS non-executive roles

Hosts

Peter Jennings	Director, Healthcare, Corporate Finance	Grant Thornton
Anthony Platt	Director, Technology, Corporate Finance	Grant Thornton
Tim Nye	Partner, Co-head of Health and Social Care	Trowers & Hamlins
Alison Chivers	Partner, Health and Social Care	Trowers & Hamlins
Hilary Blackwell	Partner, Health and Social Care	Trowers & Hamlins

Panel

Sorina Casian-Botez	Associate Director	Eight Roads (Principal Investing Arm of Fidelity International)
Simon Lucas	Marketing and Strategy	Virgin Care
Andy McKeon	Non-Executive Director	EMIS Group
David Ravech	Executive Chairman	Doctor Care Anywhere
James Sanderson	Director of Personalisation and Choice	NHS England
Hugo de Savary	Founder	Home from Home Care (HFHC)

Can technology innovation save the NHS?

The panel were all in agreement that technology could play a big part in helping to head off a deepening crisis in the NHS, but felt there were some real challenges.

These included the NHS's dominant position in the UK healthcare market, which had historically squashed innovation; the lack of common standards in the system, which meant new apps, for instance, might not be able to talk to each other, or interface with NHS systems; and the issue of funding.

Wearable tech was one area where tech developers had let themselves get a little bit carried away by the possibilities offered by the technology, rather than focus on the healthcare problems the tech was trying to fix.

Simon Lucas summed it up: "They need to ask 'what is the problem we are working with today?' They need to understand that we are not planning for what Utopia is going to look like, we are dealing with a system that is facing serious structural challenge."

One example of where technology innovation had failed to produce results – giving blood pressure monitors to older people to attempt to reduce admissions.

James Sanderson said that demand reduction was definitely part of the key. "We have a system which if you look at outpatients for example, thousands of people go to appointments every day who don't need to see a surgeon – a lot don't even attend. How can we reduce demand on surgeons?"

Sorina Casian-Botez felt outsourcing could be part of the solution. "Pressured NHS services (for example imaging diagnostics) increasingly get outsourced to private providers. These are privately-funded companies which are faster to adopt technology and innovation."

Martin West pointed out that a large amount of the NHS drugs bill is wasted because patients don't take their medication properly. "There's a cost-opportunity for the pharma industry in reducing wastage; there could be a gainshare there." He mentioned a new development in medications that send a signal when they start to get dissolved by stomach acid.

The panel noted that the private sector could provide valuable assistance to the NHS in managing its £15bn drugs budget. This included efficiencies in the area of logistics, for instance in supplying and dispensing from hospital and community pharmacies, where real savings had already been found, and with patients, where technology can play a part. One example here involves mental health patients, where compliance with treatment regimes not only wastes often expensive drugs, but can cause knock-on effects. To combat this, one innovative tech company has devised a patch which can detect whether a patient has taken their medications.

Hilary Blackwell said that she was aware of one NHS Trust which had installed a mechanised pharmacy, which had meant some lifesaving improvements. "This involves drug cabinets on the wards which can control access, and prevent inappropriate dispensing," she explained. "Part of the problem is the capital cost of installing that kind of system, but if we can bring the cost of that kind of tech down, it could be applied more widely."

Compliance was also an issue in paediatrics, Martin West explained. "There is an app which came out of Imperial College, aimed at helping asthma diagnosis," he said. "The child blows into a tiny plastic whistle, the iPhone hears it, and displays either a dragon breathing fire, or balloons drifting across the screen. It's much more effective than medical equipment which can be quite scary for small children, whereas this is like a game."

"I want that app!" said David Ravech, a lifelong asthmatic. "But it has to integrate into primary care. GPs need to know if there is a trend. If I respond to a letter telling me to come in, it's one peak-flow reading once a year, which is hopeless. Now that app is great, but it's standalone. How do you join it all up? How do you use data analytics to flag three days of poor readings in a row and send it to your GP?"

Data analytics (see also 'Eating up the NHS budget') was one area ripe for a sea-change, the panel felt. "The problem with analytics is that it takes a long time to measure the results," said Sorina Casian-Botez. "So historically you could not identify fast enough the small tweaks you need to make to deliver the change you want. So you often lost momentum. Now we can look to Rapid Cycle Analytics tools to provide near real-time insight. Such solutions have been used successfully in the US and in Italy. In the US, they were able to measure the change in respiratory admissions and feed back within two weeks what was working and what wasn't. It's at a very early stage, and is very dependent on good data from hospitals and GPs, but it's showing a lot of promise."

Is the NHS really a graveyard for private capital?

"How put off are we by all the carcasses of companies which have invested heavily to try to serve the NHS?" asked David Ravech. "Are we in an entirely idiosyncratic market, squashed by the NHS, and will the innovation come from elsewhere, or, alternatively, are we on the cusp of an amazing opportunity which flows from the struggles the NHS is having and which allows a bit more space for the private provision of services to gradually pervade?"

The dominant presence of the NHS in the UK market was felt to be a challenge by many of the panel. Chair Martin West pointed out that 2015 saw $4.5bn invested in healthcare technology start-ups in the US, four times what it was in 2011, and he wondered what the equivalent figure might be in the UK.

Anthony Platt said the solution in the UK would have to be, in part, international. "There probably isn't enough venture funding coming from UK providers," he said. "I suspect the number for the UK market is a tenth of the $4.5bn figure you quoted for the US."

Peter Jennings questioned whether the UK healthcare market was indeed set up for the venture funding of healthcare technology. Was there enough money coming from UK providers to underpin innovation, he asked.

Simon Lucas said it remains a challenging landscape. "People come from abroad and are told that the NHS is the biggest single payer healthcare system in the world, but return home having struggled to crack the market. While the NHS is good at creating individual solutions, these are more often bottom-up solutions rather than top-down innovations transposed from elsewhere."

The panel was sceptical about the introduction of international capital into the UK market as a potential "saviour" for the NHS, not just because of potential political opposition, but also because of the complexity of navigating a sector which had for decades operated entirely as part of the public sphere.

White Knights for the NHS? Banking on the 'worried well'

With the NHS facing an unprecedented funding crisis, the idea of getting the better-off to pay extra for some services – top-up funding – is an obvious one, but is something of a political hot potato.

"The NHS Constitution prevents top-ups," confirmed James Sanderson, but the panel consensus seemed to be that change was on the way.

"That is the situation now," said chair Martin West, "but is that the way it will remain? Can it?"

The panel felt that one of the traditional solutions to increasing demand – increased capacity via new hospitals – would result in increased costs with no slowdown in demand. Politicians and public alike would have to ask themselves a key question: are we willing to pay directly (perhaps via top-ups) for an increased range of healthcare options, and more expensive treatments?

"Do we think the real challenge in this country is reducing costs," said David Ravech, "or is it just about reducing the proportion of the national income spent on healthcare? If it's the latter, will technology help people put their hands in their pockets and take the pressure off the NHS so that the people who really need it will get the benefit."

"Will consumer brands and general insurers – as opposed to health insurers – start to get market share via new services?" he asked. "PMI might be too expensive for most people, but what about a top-up service which might cost £500 for a year for a family, is that possible as the NHS retreats? If we can collectively find ways to spend more money on healthcare, it will make a massive difference to the overall standard of healthcare in this country."

Martin West said he felt change would come from consumers, and therefore from developers looking to satisfy consumer demand, because no political party would get elected on a platform of enforced charges for NHS services. "In that way, innovation can come from the bottom, up," he said.

"You need to be a little bit careful, changing the relationship that the NHS has with patients," said Tim Nye. "There's a difference between wellbeing and medical diagnostics. One argument is that apps are just driving the creation of a whole generation of 'worried well', arguably increasing costs, providing a symptoms-check rather than offering a diagnostic solution."

Simon Lucas agreed: "By way of example, I spoke to one GP who had a patient who was coming in four times a month with mobile dashboard data, and had to tell him 'go home, there's nothing wrong with you!'."

Personalised health budgets and the future of choice

"The next decade will see an increase in patient power," said James Sanderson. "The Five Year Forward View calls for a rapid movement towards much more patient involvement across the system. People will increasingly have the ability to become their own health commissioners, and when you harness the power that individuals have, you get a much more precise relationship forming between the patient and their healthcare provision. One-size-fits-all is an outdated concept."

The panel saw personal commissioning as potentially providing far better healthcare data, which could drive technological change and, as Martin West noted, could potentially "provide the necessary evidence to back up the introduction of top-ups."

Technology could certainly provide a plethora of solutions to increase choice, the panel felt, but James Sanderson sounded a note of caution. "I see a lot of really exciting apps, tech and processes that could make a massive difference. But we're trying to move from A to B and some of these are presenting at S and T. We need to work with the reality of where we are now to support real change to happen."

Some of the panel pointed to successful top-up systems abroad as a way not just of solving funding problems, but also empowering patients. It was noted that in some jurisdictions where there is a top-up system you can choose a GP who costs you nothing, or you can pay a premium. You are much more active in your choice of care. Here in the UK, it has historically been quite passive, the NHS is something people have 'done to' them, rather than making an active choice.

"Nearest thing to a national religion": cultural barriers to reform

"While we all agree on the potential of technology," said Sorina Casian-Botez, "the reality is that there needs to be a cultural and mindset shift both in the NHS and from patients. Patients do not necessarily need to see the doctor face-to-face, and they need to get comfortable with the idea of private provision. Unless those shifts happen, technology will be trying to solve a problem which doesn't want to solve itself."

Part of the problem, noted chair Martin West, was the high degree of compartmentalisation in the NHS.

Simon Lucas agreed. "The MCP (Multispecialty Community Provider) framework and the PACS (Primary and Acute Care Systems) model is trying to address that by creating vertical integration, but at the moment payment structures don't support this. The payment mechanisms incentivise acute care to do as much activity as possible, while the opposite is true for community care."

David Ravech thought provider-incentive – or lack of it – might also be a major issue. "Admission avoidance has to be the Holy Grail," he said. "What reward would anyone get for solving that problem? I don't see anywhere in the system that anyone has considered providing the necessary incentive."

Can you teach old docs – or patients – new tricks?

"Digitalisation is a generational issue," said Tim Nye, "There's no point talking to my parents about apps or digital booking, they want a letter. You have to think about the population you're trying to reach out to. Its only going to be in 20 years that the whole population is going to be au fait with digitalisation, but many people today aren't going to adopt it."

Chair Martin West pointed out that the problem wasn't just with patients. "Most of the current doctors in post come from a paper and pen background, and until we have a generation of doctors comfortable with digital tech at the bedside, you won't break that."

Sorina Casian-Botez agreed. "Apps will only thrive if adopted across NHS and that requires not only good user tech, but thinking about the way people who are not tech-savvy operate. It's a very difficult challenge."

Anthony Platt felt the solution lay not just with individual users or patients, "Text comms, to book appointments are a fraction of the cost of letter-based systems. Part of the issue is successful procurement of the right systems, but that is complex, and has to come from the centre."

Eating up the NHS budget: co-morbidity and the 4% problem

"One of the major issues is that 4% of the population by headcount consume 50% of healthcare resources," said Panel Chair, Martin West. **"This is where health analytics comes in. If you could focus on the data, you could really start to make some progress."**

Anthony Platt foresaw a problem. "Unfortunately the systems aren't there at the moment. Friends and family testing is bringing up data but it's not sophisticated enough for a Big Data solution."

The panel agreed that a data-led solution to solving the problem of high resource use by a small number of patients was difficult to get a handle on. CCGs had been trying to identify so-called "frequent flyers" for several years, but this is problematic because people might have several admissions within a short period of time, and then none. Not only that, but the trick is to be able to identify not who is currently a heavy user, but who is likely to be in future, and there, the currently-available data can only take you so far.

James Sanderson hoped that integrated personal commissioning – which is being trialled currently – would provide something of a solution. "We are targeting the 5% with the greatest need, and we're getting really good evidence around creating personal budgets. We have 7,600 people on the trial, and we're hoping to build that to 100,000 people by 2020. That way, we think we can take 10-15% out of the system in costs savings."

Integration and interoperability: getting tech talking

The panel was very animated on the topic of interoperability and legacy systems, particularly within the NHS, and were sceptical about some of the solutions being offered at present.

"Fitbit and similar tech is silo technology," explained Hugo de Savary, "There are no common standards in the NHS, so you might develop a particular app with a particular function but there is no system to get it to talk to other apps, and that's how you need to build it, so you can get a completely holistic approach. Added to that, there's a reluctance by people working in the system to give up technology they're familiar with. We've developed our systems from within, so you avoid many of the issues of change management you might get, enforcing it on people, by developing it in an incremental way. It allows the adoption of new technology and you can work far more collaboratively."

The panel felt that whether new tech can link to medical records remained an open question, as things stand, with many unresolved aspects to it.

Alison Chivers saw integration as a major issue in general. "If you're talking to a doctor in a hospital, they're often taking notes by hand and then someone has to type in those notes, and very often they have to log in to three separate systems in order to upload them to all the relevant places. Someone has to integrate them."

Anthony Platt agreed. "None of these systems link up, and you need systems to talk so that you can flag hotspots and find the problems to address. I don't see that happening in the short to medium term."
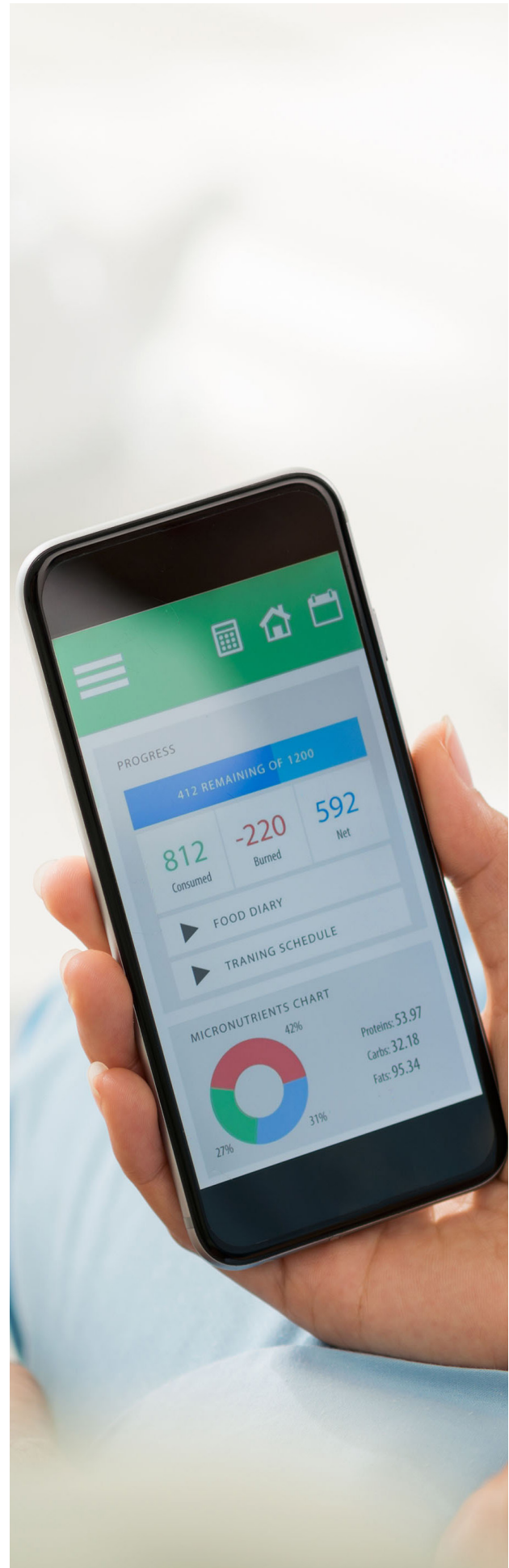
Digital is not the only game in town: don't forget analogue!

While the panel focused inevitably on the introduction of digital tech and the advent of digitalisation, James Sanderson reminded everyone it was important not to see digital as providing the only solutions.

"Anything that draws disparate strands together will help," he explained. "If you're concentrating on people with long term conditions, you need to look at anything that works on prevention, anything on self-management. Let's not forget about analogue innovations. For instance, on wheelchairs, we are trying to kickstart a deal for much better chairs in the NHS. Currently, you'll pay about £18,000 for three chairs: a hospital chair, essentially an armchair on wheels; a self-propelled one which can go outside, and then another built specifically for use in a school, and it's all quite basic tech."

The panel was surprised, and James Sanderson added: "If you were spending £18,000 on a bike, you'd get amazing tech. We need to focus on that."

HR – an 'old-tech' solution

Hugo de Savary, of Home from Home Care, said that although his organisation was quite small, it provided 500,000 hours of service a year in its specialist care homes, which was an amazing challenge for traditional HR techniques. While technology – which has made great advances in the HR sphere – might seem to be an obvious solution for a 24hr, 365-day workforce – the human touch was actually what was making the difference.

"HR in our kind of care environment is usually at the end of a phone, but we have put HR in our homes, so that we can nip problems in the bud and create a really transparent place to work. Care home managers often don't know much about management, they run homes because they're good negotiators, but too often they turn a blind eye to HR problems. With HR in our homes, we avoid fiefdoms, and we have a really high rate of HR (representation) to (care home) employees, (the ratio is) somewhere from 1/40-1/50. Now we get really good people working for us who are in an environment where they can really thrive."

A final word from the hosts... who will be winners in the technology race to save the healthcare system?

If the overriding objective of Government is to achieve better health, better healthcare and at lower costs then change is inevitable in the UK health sector and technology will be a catalyst for affecting that change. Technology is having a real impact on how sectors perform and develop, ranging from banking to logistics and healthcare will not be immune to the technological impact.

While care providers, commissioners and funders will be responsible for creating and underwriting the changes required by – and inspired by – a challenging environment, that change will be driven principally by the end-user: patients. It will be a bottom-up, rather than top-down led transformation.

The comment that we in the UK have grown up with the notion that healthcare is something "done to us" had great resonance around the table, not least because it was delivered by someone who had not grown up here but who has been working in the UK health sector for a number of years.

The future of UK health – powered by some amazing technological innovations, whether hardware, digital, data-led; or involving 'analogue' changes in areas such as personal budgeting, medical devices, pharmacology, HR or socio-psychology – will see each of us as individual healthcare consumers being steadily more involved in our healthcare choices. Our demand will change the relationship patients have with the healthcare system, will lead to patient led centric changes and will drive innovation.

It is often said that the NHS has been awaiting some kind of technology revolution for years, but our discussion enabled us to understand that this will not be a revolution – with all the disruption that revolutions entail – but evolution.

This makes sense: technology providers are all too-often consumed with, as one panel-member noted, taking us from A-T, when we need to get to A-B. In a sense, A-B is the only thing which will work, because the vast structure, end-to-end ambit and deeply-ingrained practices of the NHS make it naturally change-conservative. The structure of the NHS is also one of the key challenges any successful technological solution needs to overcome, the technology needs to be able to integrate across horizontal and vertical practices within the NHS.

As one attendee commented, if the real challenge is to reduce the proportion of the national income spent on healthcare, providers need to focus on what the healthcare system needs and not what they think will be a revolutionary idea or product. Providers that are trying to establish themselves within the NHS need to develop technological solutions that are able to be integrated across the entire service.

Grant Thornton and Trowers & Hamlins agree that winning the technology race to save the NHS means funding, creating and providing technology that is user friendly and easily accessible for patients, constantly able to evolve and adapt to meet the demands and habits of patients; and able to harness, investigate and analyse data. Providers need to focus on what the system needs and not what they think will be a revolutionary idea or product and if providers are going to establish themselves within the NHS then any technological solution needs to be able to integrate itself across the entire service.

Further information

If you would like further information from Trowers & Hamlins or Grant Thornton then please see contact details below. You can also find further information our about the panel and their companies from the websites.

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