

Can Pharma Keep Up With The Challenges Of Digital Healthcare?

By Kevin Grogan & Lubna Ahmed



The digital revolution is transforming the world of healthcare, which is awash with new technologies and floods of data. Pharma companies are beginning now to focus on harnessing these advances in their businesses, from mining genomic data to identify new drug targets, to establishing the most appropriate patients for targeted and personalised treatment, and creating tracking systems to monitor clinical trials in real time.

That there are opportunities is not in doubt, however the sector realises its models have to change in order to capture these. Ali Parsa, chief executive of UK digital healthcare provider Babylon, believes that pharma as a whole “needs some reengineering” given that its operating model has not really changed for decades. This new territory also triggers questions about the challenges that come with digital health including data privacy, security, patient behavior, and rules and regulations.

In this feature Scrip, in partnership with international law firm CMS, gets the perspectives of leading industry players, including AstraZeneca, Novartis and Qualcomm on the inevitable coming of digitized healthcare and discusses the key challenges they will face.

Digital integral to healthcare

AstraZeneca’s pharmaceutical project director, Matthew Bonam, notes that “it is hard to believe that the use of digital will not become an integral part of healthcare delivery”, saying “there are many potential benefits including enabling patients to self-manage their conditions, providing a more complete picture of a patient’s current and future health status to healthcare professionals to support decision-making.

“These technologies, and the data they generate, have the potential to revolutionise care, identifying ‘at risk’ patients earlier and supporting more cost-effective management for populations and improved outcomes for the individuals”.

Pharma doing enough to embrace the digital age?

Yet there is still a feeling that pharma has been moving too slowly and is only reluctantly embracing the digital age. Healthcare “is one of the last remaining sectors of our economy and our society that is yet to go fully digital” says Qualcomm’s chief medical officer Jim Mault, adding that “the way we deliver healthcare hasn’t changed for 100 years. When we write someone a prescription, we say take x mg of x medication, but why is every human being getting the same dose of x?”

Do you really think everyone will respond the same? With digital health, what we will see is personalised care, intelligent care”.

Indeed, while the traditional business model has taken a bashing and many observers believe that the days of the blockbuster are over, a glance at the sales figures of AbbVie’s anti-inflammatory drug Humira (adalimumab) and Gilead Sciences’ hepatitis C big-sellers Sovaldi (sofosbuvir) and Harvoni (ledipasvir and sofosbuvir) suggests the old ways are still effective and perhaps explain a reluctance to change.

Pharma should not fear disruption

Nevertheless Novartis’ global head of digital medicine, Amy Landucci, suggests pharma should not be afraid when technology disrupts its current ecosystem. Indeed when the Swiss major was looking to reach out in to this upcoming space, it became aware that technology and digital medicines were already up and running and would continue to fundamentally change how healthcare is delivered.

In deciding how best to gain a foothold in this space, it soon became clear that partnerships with tech-savvy companies would be the way to go. “We are not looking to build capabilities in our company but we are looking for companies to partner with,” Landucci said.

Partnerships best path to take

Christopher James, professor of biomedical engineering at Warwick University, says: “If you consider the fact that technology can be lighter, smaller, harmless and dissolvable, then I think it’s only natural that pharma asks for help in personalising medication and healthcare”.

Novartis, with the full backing of chief executive Joe Jimenez, has inked a number of digital pacts. It was an early investor in Proteus Digital Health, best known for its ingestible sensor, or ‘chip-in-a-pill’, which could send a patient or a doctor alerts when it’s swallowed (however Proteus’ investigational digital pill, which is designed to measure adherence to Otsuka’s antipsychotic Abilify (aripiprazole), has run into regulatory problems).

Novartis has also set up a \$100 million joint investment fund with the mobile chip giant Qualcomm which provides cash for early-stage tech companies. The partners are also developing a smart inhaler that is designed to improve adherence by detecting usage in patients who are using the Swiss

major’s portfolio of chronic obstructive pulmonary disease treatments. The connected version of Novartis’ Breezhaler is expected to be launched in 2019.

Respiratory ripe for digital deals

The respiratory area is a prime example of drug developers linking up with digital healthcare groups to help personalise their offerings and improve their gathering of real-world data. In 2016 Boehringer Ingelheim teamed up with Qualcomm to improve patient adherence in chronic obstructive pulmonary disease by developing a fully-integrated data-capturing module for Respimat - Boehringer Ingelheim’s platform inhaler.

The firms say it will allow physicians to remotely monitor patient outcomes, help patients better follow their treatment plans and so decrease healthcare costs and hospitalisations associated with COPD, as well as the number of avoidable deaths.

AstraZeneca is another group looking at pacts in the respiratory area. It has signed a 10-year supply agreement with Adherium to access the latter’s platform which consists of a cloud-based server that collects data gathered by Adherium’s SmartInhaler - a device that can be clipped onto any prescribed inhaler to treat asthma or COPD.

Beyond respiratory

Though respiratory is one disease area in which companies are digitally active, the potential of this technology does not stop there. Babylon’s CEO Parsa says the company has been in discussion with a pharma company around the digital expertise it can offer them. Through Babylon’s app individuals can track physiological parameters by taking blood tests and having results including iron levels and vitamin

levels sent directly to the app on a digital device. Parsa believes that this sort of technology can aid patients in keeping track of vitals when taking a certain medication.

Equally, in its collaboration with Qualcomm, Novartis is using the company’s 2net platform as a basis for its clinical trials. Jim Mault points out that if one was to be carrying out a clinical trial on a drug for heart disease, blood pressure is a parameter that would need to be measured. In the past a nurse would have to be sent out to physically take participants’ blood pressure. However, with technology such as the 2net platform, participants can be given a blood pressure



“This digitisation has to happen, the healthcare system is so broken and dysfunctional it’s a scary notion for it to not change – the problem is; it’s just not changing fast enough.”

meter allowing them to take readings themselves that are then saved instantly on the cloud.

Safe and secure

As a highly regulated industry though, pharma does have its concerns about digital healthcare and they are valid ones. As companies begin to grapple with great blocks of data, it is clear that privacy and security become increasingly more important.

AstraZeneca's Bonam says "there are issues which need to be carefully addressed. Issues such as data privacy and security, along with the use of the data for further research, all need to be managed well by the providers and consumers alike. It is also critical that providers deliver digital health tools with the same level of rigour in design, development and evaluation that would be expected of any healthcare intervention".

Pharma must take care to pick the right partner

Choosing which company to team up with thus requires a rigorous approach. Carina Healy, a partner at the multinational law firm CMS, who acts for a range of biotech, speciality pharma, medical device and medical technology companies, says that "partnering with tech companies that know pretty much everything there is to know about data would appear to be straightforward," she says.

However she advises caution as tech companies "may not be as used to dealing with compliance". Their starting point is to see "what they can do with data but [they] don't always understand the privacy aspect of it or how that data might be regulated".

For patients, privacy is paramount

Pharma needs to think through all the issues right from the beginning to ensure patient privacy is protected and to guarantee that secure processes are in place so its systems are not vulnerable to hacking. As Healey notes, "all the challenges surrounding data protection and security are manageable if they are thought about in advance and if appropriate processes are put into place". Patients are very happy to partner with pharma and offer up their data if they believe it is being used to benefit science and innovation, Healy says. However, that partnership is based on trust which collapses very quickly if patients believe their privacy is being compromised.

Transparency and consent are crucial. Quintiles' head of digital health acceleration, John Reites, says that "people are concerned about their security, privacy and what they're giving up, the only way we can change this is by a very open opt-in consent." He believes that when it comes to participation in clinical trials in particular, if there is a digital element to it, patients need to know what data they are giving up, what data will be collected, why it is being collected, the purpose for it and how long it's going to be stored.

Regulation no excuse to do nothing

So is it possible for an industry as strictly regulated as pharma to go above and beyond in something as

limitless as digital health? GlaxoSmithKline's head of global multi-channel marketing platform, AJ Ploszay, believes that being a highly regulated industry is no excuse for pharma not to embrace this innovation. What he questions is the industry's ability to build up multiple new commercial models at the same time.

With the arrival of technology, consumers are more demanding about new ways to receive information and services, and Ploszay believes that the real challenge here is whether pharma can shape its strategy to adapt to these new capabilities. When asked if a firm can act in a highly regulated industry and still be digital, he says: "I don't buy into that argument because I could give you examples of countless financial service companies that have the ability to be digital and they are as regulated as the pharmaceutical industry – GSK and other companies are already showing it can be done in an ethical, compliant manner and there is a pocket of brilliance."

Qualcomm's Mault is also wary of those who push the privacy argument too much: "When you get a prescription filled, they will have a record with your name on it and the medication you're taking. All that stuff is on a database, in lots of different places – so you're already facing it, whether you know it or not."

He goes on to say "you have already been exposed for a long time to the risk of someone hacking into your information – you're already exposed to risks that exist. The problem is you're not getting any of the benefits – the benefits that could save your life."

Mault argues that "this digital evolution is bringing a whole different model of care that everyone will need to adapt to and though there will be bumps and frustration, it needs to happen. When you start talking about whether you want your health information digital or somewhere on a piece of paper – it's an unfortunate level of concern right now, because it's not rational when you look at the facts."

Change just not fast enough

"This digitisation has to happen, the healthcare system is so broken and dysfunctional it's a scary notion for it to not change – the problem is; it's just not changing fast enough."

CMS Cameron McKenna's Healy also believes that the privacy argument should not stall digital progress. While digital health is perceived as a relatively new concept, data protection has been around a very long time and there are directives at a European level that lay out standards for companies handling personal data across all sectors, not just pharmaceuticals and healthcare.

She concludes by saying that "the companies who will do well in big data are those who are ahead of the game and have worked out how to deal with data protection, how to get the right consent, how to put the right security process in places and how to give their customers confidence in those processes."

