



THE COVID-19 CATALYST: HOW A GLOBAL PANDEMIC IS ACCELERATING THE NEED FOR DIGITAL HEALTH

In this article, Marcus Bates, Business Development Director, Digital Health, Aptar Pharma, discusses the positive impact covid-19 has had on the digital health industry, including the acceleration and development of remote patient services.

On 11 February 2020, the World Health Organization (WHO) made an announcement regarding the official name of a new respiratory illness thought to have originated in Wuhan, China, and now found to be spreading among populations across the globe.

At that exact moment, covid-19, the disease caused by infection with the SARS-CoV-2 coronavirus, had been responsible for just over 1,000 deaths in China, but among the 395 cases confirmed elsewhere across the world, just a single fatality had been recorded.

Fast forward to near the end of 2020 and the picture is very different. Covid-19 has struck populations throughout the world, and with previously unimaginable consequences. Almost everyone has had to adjust their life in some way to adapt to levels of social distancing, whether through enforced lockdowns or government guidelines. For most people, working from home has now become the norm and soaring demand for e-commerce sites, business and personal, has underlined the pandemic's role in driving digital service provision.

These enforced, dramatic changes in behaviour have inevitably impacted the healthcare space. Prior to the pandemic, digital health was building momentum, with many sharing Aptar Pharma's vision of a connected future where technology is increasingly integrated into an intelligent

patient-care ecosystem. In the space of just a few short months, this trend has shifted several gears, with early adoption accelerated by the need to continue to provide high levels of patient care while also limiting person-to-person contact as much as possible.

REACHING A DIGITAL TIPPING POINT

While many changes to everyday life have been enforced, research carried out pre-pandemic shows that consumers were already displaying a readiness for digital health services. One such example, is a study that showed a nearly unanimous 97% are mostly willing to try one or more digital health innovations and 58% of consumers find the vision of digital health exciting.¹

These figures reflect an increasingly positive sentiment among some patients. At the same time, this group also hints at a level of frustration that healthcare is only now coming into line with many other aspects of life where digitisation is bringing significant benefits. Retail, media and travel, for example, are all sectors that have transformed their consumer offerings through digital technologies, and consumers have now come to expect these higher levels of immediacy, convenience, flexibility and control across other aspects of their lives.



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“Conceivably, the outbreak of covid-19 has created the perfect storm of conditions to force healthcare over its digital tipping point.”

Conceivably, the outbreak of covid-19 has created the perfect storm of conditions to force healthcare over its digital tipping point. Systems that have been in development for many years were suddenly pushed to the forefront as the protection of staff and patients through social distancing became a key priority. Telehealth and telemedicine services, which demonstrated compound annual growth rates (CAGRs) between 2014 and 2018 of just 13% and 4%, respectively, became vital tools for facilitating ongoing patient communication as many surgery centres closed their doors or severely limited access (Figure 1).²

This evidence is further supported by data from the UK publication, NHS Digital. Overall, the figures show a stark decline in the total number of consultations carried out as patients retreated from a health service becoming overburdened by covid-19, but they also give evidence of the marked increase in the number of consultations conducted remotely.

In April 2020, the number of remote consultations carried out in England reached 7.7 million – an increase of 120% on February’s figure. This represented a share of 49% of all consultations, while just a year previously this figure stood at 14%. Among these numbers, there are marked rises in the number of patients from older demographic segments, who are at higher risk from covid-19, seeking medical advice

through telehealth. Rather than being left behind by technology, these groups have embraced it and found it a valuable way to decrease their risk of exposure.³

CONNECTING ON A DIGITAL LEVEL

Further evidence can be obtained from a PharmaVoice special publication into telemedicine.⁴ The covid-19 pandemic has dramatically reduced in-office medical encounters among both primary providers and specialist caregivers by up to 80%, moving these interactions online. Hospitals and other healthcare providers are increasingly using telemedicine to lower costs, increase satisfaction and better protect both patients and practitioners. Telehealth is similarly growing, providing nurses with the opportunity to guide patients remotely about self-care and treatment plans. To best support these rapidly emerging areas, the tools and technology must enable a connectivity of data so that the most effective care can be delivered.

The conclusion of the report projects a fascinating future landscape, full of opportunity for the entire ecosystem in digital health: “Telehealth will continue to grow and improve in areas where it has already been implemented, and it is likely to expand into areas that have not yet reaped its benefits. Digital health options will accelerate in all areas of healthcare

“Covid-19 has fundamentally altered the nature of the relationship between healthcare providers and patients.”

from product distribution to surgical procedures. We are likely to expect innovations in drones and robotics in healthcare. It is important that the healthcare industry is committed to this growth and improvement. Implementing telemedicine into medical curriculum and offering extensive continuing education courses involving telemedicine, especially in rural communities, will improve the use and function of telemedicine in both urban and rural areas, and will help improve overall patient care and treatment.”

REMOTE CONTROL IN CLINICAL TRIALS

Covid-19 has fundamentally altered the nature of the relationship between healthcare providers (HCPs) and patients, accelerating the rise in remote interactions through digital health. This acceleration can also be seen in clinical trials. Prior to the pandemic, remote trials were already a feature of the drug-development landscape, but restrictions within physical settings and limits on movement imposed by covid-19 means greater focus is now being applied to remote trials.

Remote trials have the advantage of being naturally more patient-centric as everything takes place in an individual’s home, rather than in unfamiliar and perhaps intimidating medical environments. The patient can receive all drugs, materials and diagnostic equipment directly to their door or via local healthcare providers, such as pharmacies. Communication and data transfer are managed via supporting software applications to provide an intimate, real-time, real-world view of the candidate’s experiences.

As with all clinical trials, the key challenge is in controlling the many variables that have the potential to influence results. This, of course, represents more of a challenge when trials are conducted in individual homes rather than being led from centralised, controlled environments. This change in environment and respective impacts create a greater importance on the need for digital health solutions that can minimise these variables and support a flow of accurate, high-quality data. Telehealth and user-friendly apps become crucial in supporting the onboarding and training process. Furthermore, robust connectivity to the clinical monitoring site is essential to satisfy the need for transparent tracking and traceability via secure data transfer.

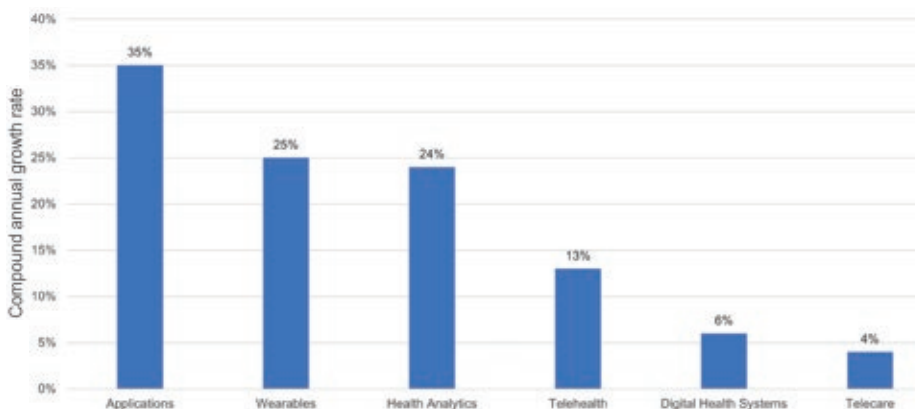


Figure 1: CAGR 2014–2018 in UK market shows year-on-year increase in telemedicine/digital health.

ADDRESSING COMPLEX PATIENT ONBOARDING

Whether looking at candidates in a clinical trial or patients managing long-term conditions, technology alone can only go so far in tackling the challenges presented by the shift to remote healthcare relationships. Digital capability is only truly effective if it is married to a clear understanding of the various behaviours of a specific cohort of patients and the challenges of their diseases, which may result in non-adherence or non-compliance. Like any technology platform, the outputs are only as good as the user and their conscientiousness in data entry.

Noble, which became part of the Aptar Pharma family in October 2019, is a leader in drug delivery training devices and patient onboarding. Its service offering includes providing pharmaceutical partners with deeper insight into the clinical trials environment, by addressing and optimising the pre-launch planning process for medical devices. When applied to the patient onboarding process, Noble's patient-centric approach helps to overcome non-adherence in the use of autoinjectors, prefilled syringes and on-body and respiratory devices. This novel approach not only negates drug product wastage but also combats poor disease management by ensuring patients are properly administering their medicines.

According to Noble's proprietary research, levels of adherence are correlated strongly with the amount or quality of training received. A total of 49% of HCPs do not train patients to use their self-injection devices correctly⁵ and 84% of patients do not use an autoinjector correctly.⁶ Rather shockingly, 90% of treatment information is forgotten within a week if patients do not practise at home, a phenomenon attributable to the "forgetting curve" theory, which is without practise and repetition, retention and recall degrade over time.⁷ Without sufficient support, patients are likely to be less engaged and more likely to suffer from poor confidence and experience higher levels of anxiety. The prescribing rate for devices requiring self-

administration has not declined because of covid-19, however, the pandemic has hampered patient training in two essential ways. Firstly, the already limited resources available within healthcare systems have been placed under further strain by the pandemic, resulting in cancelled appointments. Secondly, the widespread anxiety caused by the threat of infection has led patients to avoid medical settings.

AN IMMEDIATE AND IMPORTANT ROLE FOR DIGITAL HEALTH

The combination of a lack of healthcare resources and anxiety about meeting people in close proximity leaves a dangerous vacuum, where patients in need of HCP guidance are not engaged with the system and are failing to manage their own health effectively. Noble's innovative AdhereIT[®] system is an example of a digital health solution capable of filling this void (Figure 2). AdhereIT[®] is a complete ecosystem that trains and guides patients that are self-administering the self-injection process while sharing data in real-time with a designated HCP for ongoing monitoring and management. The result is more accurate dosing, less wastage and an overall improvement in the patient experience to help build confidence and ease anxieties.

BECOMING A "MUST HAVE"

Aptar Pharma has been a leading advocate for the creation of a digital health ecosystem for some time now, demonstrating the clear benefits for patients, HCPs, payer and pharma partners.

Patients benefit from greater control and better outcomes. HCPs can take



Figure 2: AdhereIT[®] is a complete ecosystem that trains and guides patients.

advantage of more flexible and effective treatment models. Payers should see costs reduce. Lastly, pharma partners are able to create points of differentiation, provide disease management solutions and deliver new, sustainable revenue streams through potential digital therapeutics applications.

The benefits are clear, but it is probably fair to say that, to date, it has been the innovators and early adopters that have been most excited about the evolving digital landscape. And then came covid-19, which has proved to be a potent catalyst for digital health, accelerating the development and implementation of remote patient services by a factor of years.

"The rules around healthcare engagement are being rewritten. AdhereIT[®] exemplifies how technology has the potential to augment patient care and deliver better outcomes for all stakeholders in a more connected future."

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As a result, the rules around healthcare engagement are being rewritten. AdhereIT® exemplifies how technology has the potential to augment patient care and deliver better outcomes for all stakeholders in a more connected future. For pharmaceutical companies looking to adapt to this rapidly evolving digital-health ecosystem, success will depend on an approach that balances sustainability in all its guises, from cost management and regulatory compliance to environmental impact and long-term support for patient-disease management.

In our opinion, digital health is becoming a must have whereby a seamless ecosystem generates the data necessary to support patients remotely and safely, while delivering greater adherence and enhanced outcomes for all.

ABOUT THE COMPANY

Aptar Pharma provides drug delivery systems, components and services globally. Products include: nasal spray pumps, MDI valves, dose indicators and counters,

DPIs, electronic/connected devices, eye-droppers, elastomeric components (for injectable delivery devices), and a two-step autoinjector.

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ABOUT THE AUTHOR

Marcus Bates is Business Development Director, Digital Health, at Aptar Pharma and has spent nearly 20 years working in the world of drug delivery devices and connected health. He has worked for two industry-leading companies in a range of roles and is currently responsible for the implementation of the supply chain for Aptar Pharma's connected devices business, as well as leading business development activities in Europe.



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