IQVIA MEDTECH

White Paper

Delivering patient-centric care with digitalization in MedTech

How digital health is adding value to MedTech companies' approach towards patient-centric care

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Introduction

As the healthcare landscape continues to evolve against the backdrop of an ageing population and rising chronic diseases, greater constraints on government spending is expected. Public policy is expected to focus on cost-effective ways to provide greater quality of care and shift towards preventive care, in a bid to minimize the impact on national healthcare budgets. In parallel, the advent of big data, technology and the firepower of analytical computing, has ushered in an era of increased connectivity, making it possible for organizations to achieve operational efficiencies and increase productivity which might have been unthinkable previously. Not only is digital disruption impacting workflow efficiency and processes but it is also bridging the gap between the industry and patients by providing innovative solutions to engage, educate and encourage, thereby driving improved patient outcomes.

The introduction of digital services will be among the most important factors in transforming healthcare over the next decade. Healthcare is one of the few industries that has the potential to be impacted profoundly by digital technology. However, many challenges still lie ahead for early adopters. Regulatory barriers, economic hurdles and difficulties in effectively digitizing and utilizing data derived from patients data are among the hurdles awaiting those who wish to launch pioneering services powered by digital technologies, or in other words, digital health.

In this article, we demonstrate the added value that technologies enabled by digital health will bring to the healthcare industry. The paper also examines the pressing need for the adoption of digital health and associated technologies by MedTech companies.

Digital health is already delivering patient-centric care

Healthcare has been a traditionally risk- averse sector, lagging behind when it comes to the adoption of digital tools due to considerations such as regulations and data sensitivity. However, factors such as rapidly ageing population, rising chronic disease burden and downward pressure on healthcare costs are compelling the industry to open up to disruption of the traditional processes via adoption of digital tools. There is an urgent need to increase productivity, optimize efficiencies and reduce waste through job re-design, automation and right-siting of care. In the coming years, digital health and related technologies will play an even larger role in facilitating this transformation process.

At the same time, the advent of the digital age has given rise to a crop of 'connected patient', presenting the industry with the opportunity to engage patients appropriately so that the latter can actively take ownership of their own health, thereby driving improved patient outcomes.

Health activation is a critical factor in enhancing patient outcomes and care experience through upstream prevention, early disease detection and prediction.

This gives care-givers the opportunity to take better care of their own health as they can now cope with the burden of care more confidently.

Recognizing this opportunity, early adopters have already started piloting and deploying programmes that leverage digital tools to either optimize existing workflow inefficiencies or to engage patients in order to improve their quality of life.

Case study: US Centers for Disease Control and Prevention (CDC) deploys a digital health platform for diabetes prevention

Diabetes is one of the most common and costly chronic diseases with an estimated 23.1 million people in the United States who are diagnosed at a cost of more than US$245 billion per year[1]. In 2017, the global diabetes prevalence was 8.8% of the world population and is expected to further increase to 9.9% (95% confidence interval 7.5-12.7%) by the year 2045[2].

Furthermore, a large percentage of the population either remains undiagnosed or is disposed towards prediabetes.

Diabetes is also often associated with a number of co-morbidities and is known to be a major cause of blindness, kidney failure, heart attacks, stroke and lower limb amputation[3]. Given this, Diabetes remains one of the most challenging chronic diseases to deal with for a country's healthcare system.

In order to delay in the onset of diabetes and promote a preventive, healthy lifestyle, the CDC established the Diabetes Prevention Recognition Program (DPRP) standards to accredit digital Diabetes Prevention Program (DPP) translations that deliver an approved curriculum, provide health coaching and group support, and equip participants with skills and self-monitoring tools to support behavior change. The study's objective was to examine clinical outcomes up to 3 years post-baseline and the relationship between program engagement and clinical outcomes in a digital DPP. Participants who completed 4 or more lessons and 9 or more lessons achieved significant weight loss and A1c reduction. Patient engagement (website login, group participation, lesson completion) and consistent health behavior tracking are key success factors to the program[4] (*Figure 1*).

Omada Health, the digital DPP provider, is one of the first digital health companies to receive reimbursement from the U.S. federal government for its online diabetes prevention program.

Figure 1: Overview of Digital Diabetes Prevention Program

DPRP delivers an approved curriculum, provide **health coaching** and **group support**, and **equip participants with skills** and **selfmonitoring tools** to support behavior change

The Omada Health Program is a digital translation intervention that is accessible via **internet-enabled desktop or mobile devices.** The program consisted of:

1. One year of a behavior change curriculum
2. Technology-enabled tools to track nutritional intake, physical actitivity, and body weight
3. Personalized health coaching
4. Small group support

Significant outcomes: Weight loss and A1c reduction maintained from baseline to 3 years

- This program engagement revealed that **website logins and group participants *(patient engagement)*** were significantly **associated with weight loss** at 16 weeks and 1 year
- This research **validates the longterm efficacy of a digital DPP,** supporting its **expanded use in standard clinical practice & reimbursement**

This programme clearly demonstrates the shift in the payer mindset towards increasing healthcare spend towards preventive care. Furthermore, it emphasizes the importance of leveraging digital tools for engaging and educating patients to help them strive for better quality of life.

Digital health is rapidly gaining traction in MedTech

As digital health continues to disrupt an essentially traditional healthcare ecosystem, MedTech companies will need to keep pace in order to remain relevant and successful in this dynamic market.

Early movers have identified the need to transform their existing processes to provide better value to patients, physicians and payers. When considering deployment of digital health or technology-driven solutions, two broad trends stand out in terms of business and operating models: collaboration and acquisition.

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Case study – Collaboration: Cloud-based oncology care and workflow tool to foster collaboration on patient management and inform physician decision making via dashboard

Tumor boards often share a series of inefficiencies related to workflow challenges, with many practitioners investigating the role and efficacy of tumor boards in hospitals, health systems and academic medical centers5.

In order to improve workflow efficiency, Roche Diagnostics and GE Healthcare have partnered up to launch the innovative NAVIFY Tumour Board, which enables a more personalized approach to cancer care. The NAVIFY Tumour Board leverages medical imaging and patient data together with its Clinical Decision Support apps portfolio, enabling multi-disciplinary teams who determine treatment plans for cancer patients to have a more comprehensive view of each patient in one place and enable efficient, more informed decision making.

The partnership provides an ecosystem of workflow solutions and apps on an industry-first shared integrated diagnostics platform. Both companies are aiming to seamlessly integrate and enable analysis of comprehensive lab and medical imaging data, patient records, medical best practice, real time monitoring and the latest research outcomes. The aim of the platform is to instill confidence in clinicians so that they can make the best possible treatment decision for each patient.

NAVIFY Tumor Board was launched in several APAC countries including Singapore starting in April 2019 and demonstrates how MedTech companies are already harnessing digital tools to optimize the hospital workflow processes and improve patient outcomes.

Case study – Acquisition: Development of a fully integrated digital surgery platform across continuum of care

Smith & Nephew and Brainlab have entered into a strategic collaboration for future development of technology for digital surgery in orthopaedic joint reconstruction business. This partnership will offer Smith & Nephew access to a broad range of Brainlab technologies in cloud computing, tracking, augmented reality, robotics, AI, machine learning, image fusion, and anatomical segmentation. The combined competencies are expected to result in a powerful digital ecosystem from which ground-breaking clinical solutions can emerge, bolstering Smith & Nephew's technology base for robotics.

Digital health is here to stay: Adapt or be left behind

Digital health is no longer a buzzword, it is nearly a norm. MedTech companies have already started investing in solutions that leverage digital health in order to meet specific objectives.

In order to understand how crucial digital health is to MedTech companies, IQVIA surveyed 33 senior executives representing mid-to-large MedTech.

Survey respondents included executives across multiple functions from medical device, diagnostics, and imaging companies.

When asked if digital health and associated technologies were a priority for their organizations, recognising the urgency, 100% of the survey respondents acknowledged that these were indeed a top priority for them and that their adoption is crucial for these companies to stay competitive in the market.

All survey respondents also agreed that these technologies could provide a new way to bridge the existing unmet needs and identify new market opportunities. Above 60% of the senior executives surveyed, indicated that the adoption of digital technologies is critical for their companies (*Figure 2*).

SURVEY METHODOLOGY

IQVIA surveyed 33 respondents, from mid-to-large MedTech companies. The survey was conducted to understand the reception of digital health technologies by the MedTech industry.

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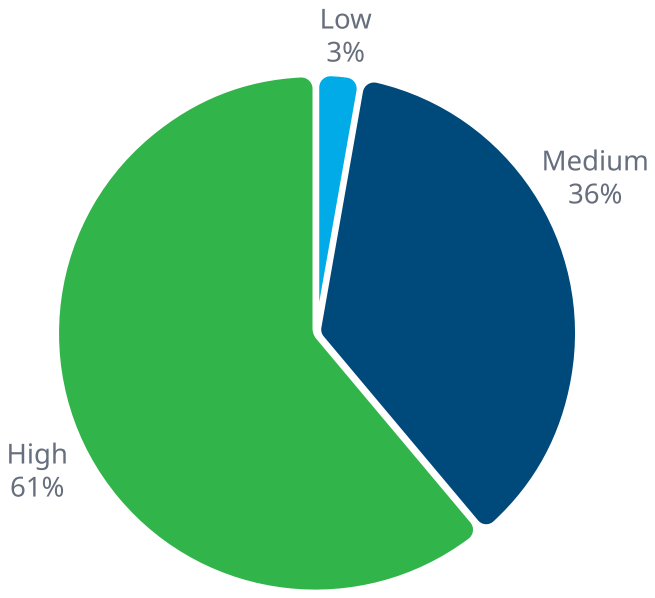
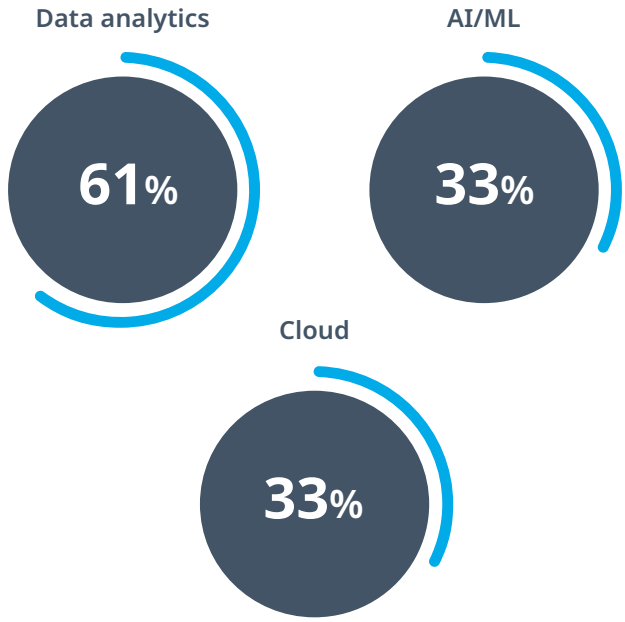
Figure 2: Level of criticality for the adoption of digital technologies for MedTech companies



Source: IQVIA Analysis, Data from IQVIA Survey, n = 33

Figure 3: Key technology adoption priorities for MedTech companies

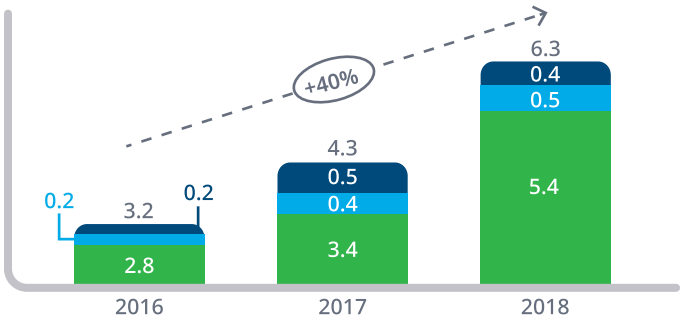


Source: IQVIA Analysis, Data from IQVIA Survey, n = 33

Figure 4: Asia Pacific digital health technology funding

	CAGR	Avg. deal size (US$ Mn), 2018
China	+38%	39
India	+71%	7
RoA[1]	+38%	5

Total Asia Pacific funding value by region (Bn US$, 2016-2018)[6]



Source: 2018 Asia Health Tech Investment Landscape report. Galen Growth Asia, 2018

When asked about their organization's key technology adoption priorities, 61% senior executives indicated data analytics, while 33% have already deployed artificial intelligence (AI)/ Machine learning (ML) related initiatives and remaining 33% have deployed cloud-based technology related initiatives within their organizations (*Figure 3*).

These findings show that digital technologies are increasingly being adopted in MedTech companies in order to reduce cost, improve quality and access. Between 2016-2018, Healthtech funding in APAC increased significantly, at 40% p.a., closing at US$6.3 billion in 2018. Asia Pacific Healthtech funding value is highly concentrated in China with the highest average deal size, which contributes to 80-90% consistently over past three years[6] (*Figure 4*).

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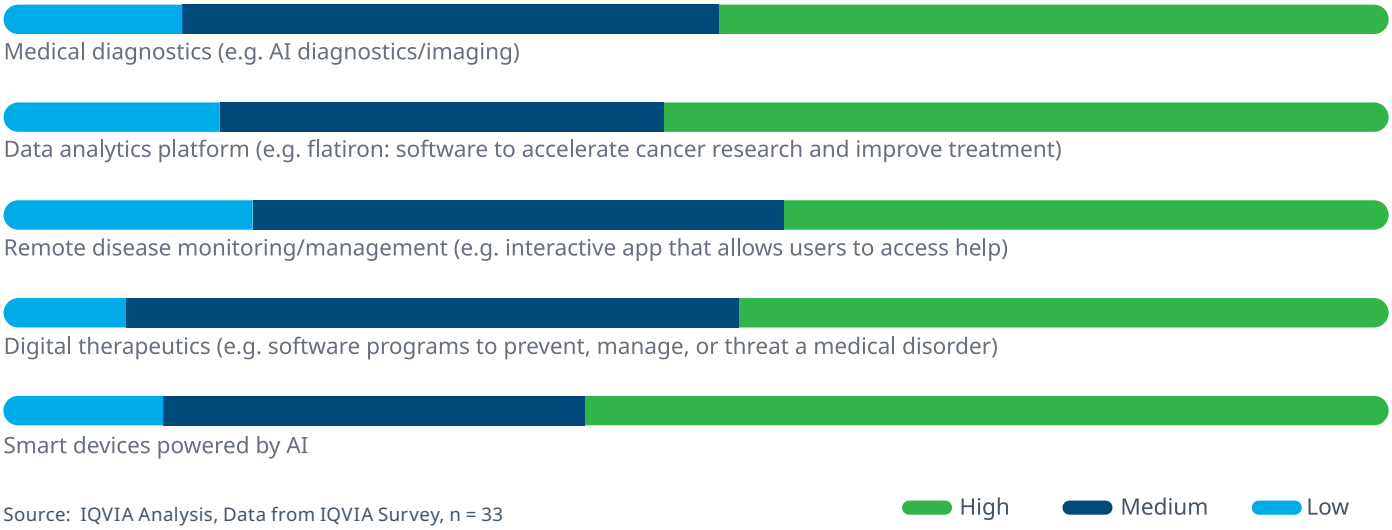
Figure 5: Investment appetite of MedTech companies for different digital health technologies



Source: IQVIA Analysis, Data from IQVIA Survey, n = 33

Most MedTech executives show a strong inclination towards investing in smart devices powered by AI followed by digital therapeutics and analytics platforms (*Figure 5*). About 90% of the survey respondents were open to investing in or collaborating with digital Healthtech startups.

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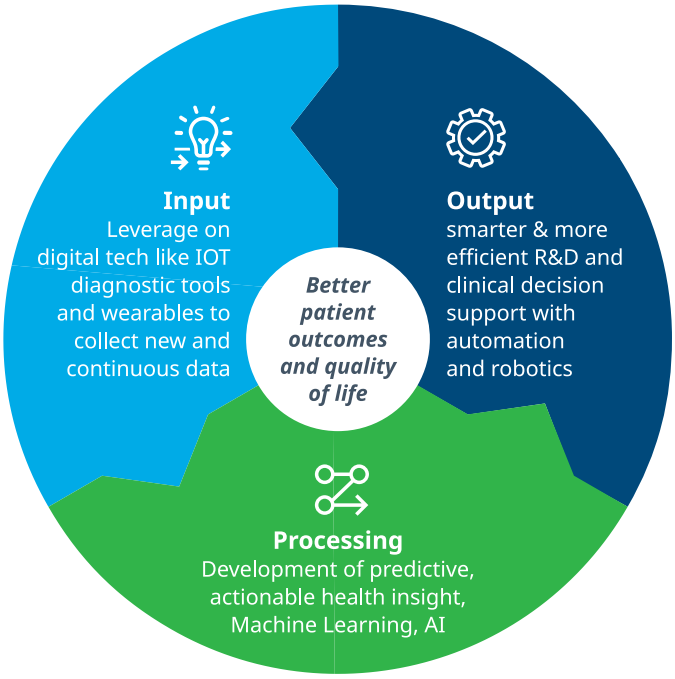
The next generation of care

Digital is disrupting healthcare just like how it has already disrupted the way we hail our cab and the way we shop.

It has already revolutionized conventional pharmaceuticals by introducing a new drug classification – 'digital therapeutics' (*Figure 6*), which rely on an AI-enabled software to treat a disease, which may also include ancillary components such as connected hardware device(s), adjunctive pharmacotherapy, or live clinical support, but the software component could still drive meaningful outcomes as an independent contributor to treatment.

Figure 6: Rise of digital therapeutics: Technological evolution and its impact on healthcare

Figure 7: The patient-centric model as supported by digital healthtech deployment



Furthermore, in home and community care for instance, digital health is already leveraging technology akin to the application of IOT and wearables in order to collect new and real-time data, develop predictive and actionable health-related insights through AI / ML and translate these into automated actions such as automated diagnostic for X-ray image and robotic surgery guided by AI to increase precision and reduce turnaround time (*Figure 7*).

In addition, novel digital technologies, continuous data collection and analytics could lead to novel ways of collecting scientific evidence which can help improve patient care through more accurate clinical decisions and improve the decision making for value-based healthcare where positive outcomes are the standard for reimbursement.

Companies that embrace digital and leverage digital health tools in order to deliver high-quality, cost-effective care, will undoubtedly lead the pack in the coming years.

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