Big Tech Is Rewiring Healthcare in the Platform Revolution

The healthcare industry will consolidate around a small number of platforms.

The digitisation of patient data and the adoption of cloud-based healthcare management systems have created efficiencies and new business models across the value chain. Advancements in AI provide superior decision support systems to doctors, while connected devices enable the remote delivery of care and monitoring.

But the most important transformation in healthcare is only just beginning to take shape. Digitisation of healthcare demand and supply will eventually lead to the creation of large platforms that aggregate industry-wide demand and supply, and orchestrate interactions between producers and consumers of healthcare.

Sensing this opportunity, Big Tech firms from Tencent and Alibaba to Amazon and Google, as well as industry incumbents like Philips and UnitedHealthCare, have been moving towards platform models. To understand the importance of platforms in healthcare, we need to start with the forces driving the digitisation of demand and supply in healthcare: the digitisation of patient data and provider workflows.

From personal gadgets to the cloud

First, the digitisation of patient data digitises the demand side of healthcare delivery. Electronic health records (EHR) digitise patient information

while the introduction of sensors in medical equipment is enabling the digitisation of clinical test data, particularly medical imaging data. Furthermore, the uptake in the use of consumer activity trackers (like step counters) is powering digitisation of consumer health data outside the confines of traditional care.

Next, companies across the healthcare value chain have been transitioning their workflows to the cloud. Originally, it was about reducing costs but it has simultaneously led to the digitisation of the processes and workflows of these companies, thereby digitising the supply of healthcare. API-enabled connectivity between these increasingly cloud-based services results in the creation of a connected platform ecosystem.

These factors are driving the rise of platform business models centred around the patient. However, poor interoperability and the fragmentation of patient data across health systems make it difficult to create a comprehensive view of the patient across the continuum of care.

The rise of mega-platforms

Many companies from diverse industries are seeking to capture this patient data and build their own ecosystems. Healthcare tech manufacturer Philips is in the process of building HealthSuite, a

data analytics platform centred around device-captured data. The digitisation of sales receipts is allowing pharmacies such as Walgreens to create patient profiles. Tech giants such as Google and Amazon are re-purposing their abundance of user-data to enter the healthcare industry. EHR data is being used by care providers as the core of their platform efforts. Insurance companies are also moving from servicing claims towards creating ecosystems based on a continuous stream of patient data captured using sensors and connected services.

Regardless of the starting point of the company, these various players across the value chain are all aiming to build a patient-centric ecosystem. As firms invest across the value chain, we will see the rise of healthcare mega-platforms.

Tencent is one pioneer. Tencent's WeChat Intelligent Healthcare platform allows usage of WeChat public accounts to book appointments and payments. In collaboration with insurance firm Taikang, Tencent also offers WeSure, a medical insurance that offers money back based on WeChat users' step count data. Also included in Tencent's mega-platform is the AI Medical Innovation System (AIMIS), a widely used imaging service in hospitals. The Chinese government ratified AIMIS as the national AI diagnostic medical imaging service in November 2017.

The importance of alliances

Another mega-platform in China, Alibaba, is pursuing strategic partnerships to create its own platform-enabled ecosystem. Central to this ecosystem is Alibaba Health's partnership with Carestream Health to create a medical image management cloud platform. The Alibaba Health platform benefits from Carestream's image management capabilities. Alibaba also leverages its strategic alliance with pharmaceutical company GSK Consumer Healthcare to facilitate appointment booking and telemedicine services. Pharmaceutical firm Merck is another strategic partnership for the Alibaba Health ecosystem, which also includes Allergan for medical aesthetics and Bayer for self-care products.

One of the largest telehealth platforms in the world, Ping An Good Doctor, has more than 200 million registered users. This healthcare provider-patient interaction platform captures data from patient interactions to train its learning models which increasingly support provider decision making. Other participants in this ecosystem feature insurance firms and healthcare administrators. Ping An has also invested in TytoCare, a platform that allows patients to measure their vital functions remotely using a smartphone. It also allows doctors

to perform remote tests on their patients. Ping An Good Doctor and Grab have also formed a joint venture to carry the platform to Southeast Asia. Grab's digital wallet, GrabPay, will be leveraged as a payment provider for these services. A platform itself, Grab will act as a capability provider and distribution channel.

Amazon's acquisition of mail-order pharmacy PillPack for US$753 million puts the firm squarely in the pharmaceutical distribution space. There are key synergies between PillPack's prescription management platform, PharmacyOS, and Fulfillment by Amazon. Using PharmacyOS, PillPack will conduct the dispensing and monitoring of medication as well as providing customer support. It also provides a pharmacy delivery API for manufacturers and new companies to plug into. Moreover, AWS gives Amazon the advantage of readily creating a healthcare cloud service, combined with its infrastructure capabilities.

Tracking interaction across the healthcare value chain

Device-generated data is enabling manufacturers like Philips and Medtronic to create their own platforms. Both companies are moving away from their device-driven origins and towards a data-driven model of value, featuring a common data platform for their connected devices and applications.

Philips HealthSuite provides a digital platform for partners to work with, including a range of services and devices across the healthcare value chain. Philips' own devices are integrated into this platform and created the initial consumer pull, which in turn, is expected to attract more partners on the platform with complementary solutions. The platform integrates multiple devices and applications across the Philips portfolio, ranging from baby care to medical imaging and eldercare solutions.

Finally, the shift of global healthcare regulation to a value-based model will drive the adoption of platform business models, which track interactions across the healthcare value chain and can reliably quantify results. Coupled with the digitisation of patient data and provider workflows, this regulatory shift will increasingly enable platforms across the healthcare value chain. The digitisation of patient data and provider workflows will grant these platforms access to the essential data for connecting patients to specialised healthcare services. Ultimately, the industry will consolidate around a small number of platforms that best harness these connections and orchestrate ecosystem interactions.

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