

What's Holding Back Digital Transformation in Healthcare?

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Today's healthcare companies use technology in multiple ways. These include using technologies to improve their interactions with patients and ecosystem partners and reduce costs, all the while capturing real time data. Companies acknowledge the shift toward evidence-based medicine and are constantly exploring ways to use data to personalize healthcare. Although most life science companies have now embraced the idea of leveraging digital health technologies to go "beyond the pill", many companies have still not integrated technology into the core of their businesses [1]. There are 4 main challenges that companies need to address to enable digital transformation in healthcare and transition towards health equity.

The first challenge is to alter their business model on a sustainable basis to monetize digital health. To do this companies need to do one of two things. First, they need to shift aspects of the patient's care journey from a higher cost provider or venue of care to a low cost one. Second, they need to stratify the patient population by risk to allow calibrated spending linked to the likelihood of progression or severity of disease. This is currently possible only in closed loop health systems that have control over both the payor and provider networks. Hence, in order to have a broader impact, companies would need to artificially create closed loop health systems leveraging technology that are not necessarily bound by ownership. This would require reimagining a world of partnerships that moves away from M&A to networks and alliances that will be constantly adjusted based on what is needed.

Secondly, currently the perceived benefit that digital health provides is different for each of the stakeholders- payors, providers, pharmacos and employers [2]. For payors and employers, digital health is appealing if it improves their bottom line whereas for providers and pharmacos, a top line benefit or improvement in operational efficiency would resonate. If the objectives of the potential partners, payors and employers on the one hand and providers and pharmacos on the other, do not match, then it is hard to implement and benefit from digital health. This will require value creation and recognition across stakeholders to be based on contribution towards the overall "jobs to be done" and the outcome achieved.

Thirdly, digital health technologies lead to improvement in efficiencies, but gain for one system may or may not always be a positive outcome for another. For example, a gain in efficiency for a payor may result in the requirement to reconfigure some departments within the provider organization, leading to job losses, and this can detract stakeholders from implementing digital solutions. Thinking through these practical considerations therefore becomes important and requires a staffing model that links talent to value within their organizations and is continuously reconfigured based on demand.

Finally, traditional alliances between companies were about the complementarity of assets. E.g., airlines pooling capacities to maximize value on routes. Digital partnerships, however, are about data and information not hard assets. Despite regulators and policy makers advocating for the development of open data and technology standards as well as knowledge-sharing initiatives among companies in the industry, organisations in the healthcare sector remain resistant

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to the collaborative nature of innovation that is characteristic of digital partnerships. There is history to contend with here and requires trust building between these stakeholders. Each of these stakeholders have had transactional relationships with each other in the past and joint value creation that digital offers is less understood [3].

Moving from Healthcare to Health Equity

Digital health can improve people's lives by increasing access to healthcare services and health information, especially in environments where health infrastructure and access to health workers is scarce [4]. Never before have so many technologies with the potential to affect the healthcare industry matured so rapidly. Healthcare companies across the world face a very different competitive environment than they did even a few years ago-in part, because of the degree to which digital tools and technologies are disrupting products and services. Each of these new stakeholder have transient advantages that call for a whole new playbook which involves a strategy that is more customer-centric, outcome oriented and less industry specific. Today's reality post COVID, requires us to move towards health equity and democratise healthcare much more rapidly. To do this we need to think of strategy and competition amongst the players in health equity in terms of competitive arenas, not industries, where an arena represents a chunk of resources controlled by different stakeholders [5]. For example, spend on achieving optimal health outcomes in a disease area, say diabetes, is distributed amongst several stakeholder-payors, providers, tech, device, food, lifestyle and pharmaceutical companies. In the future, if all stakeholders were to reorient their value creation based on, 'jobs to be done', for example minimizing progression of co-morbidities in diabetics, all of a sudden they would have resources committed optimally to a common objective. There would be limited overlap with input and information freely shared across multiple stakeholders as the contribution towards value creation would be clearly demarcated. When each of these "jobs to be done" gets delivered by both reimagining ways of working and integrating new technologies that multiple stakeholders bring to bear, benefits from Digital Transformation will begin to accrue.

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Since most non-communicable disease sits on a derangement continuum, health equity within these populations requires modifying the intensity of derangement of this continuum by impacting both lifestyle behaviors and access to (or quality of) care. The collective 'job to be done' by players within this new arena, will require a combination of data science and digital technologies to detect clinical risks dynamically [6], while behavior science will help to shape preventive, ameliorative, or reversal behaviors required to manage such risk and improve health outcomes. Integration of user health data, calibrated risk profiles and behavior markers into a "Unified Health Algorithm" for every individual would help dynamically track the two interdependent streams of risk, clinical and behavioral. While an intelligent decision support system would help predict, diagnose and treat a condition, an intelligent behavior support algorithm can help the patient minimize the presentation of such a condition, by engaging in prescribed or preventative health behaviors, for example, nudging patients to exercise more frequently, or taking medication on time, etc. If the ownership and custody of such a Unified Health Algorithm is with an individual and not any one stakeholder, this could be dropped into any open source network promoting collaboration amongst stakeholders, reducing wastage from overlapping tasks and opening the gateway for pay for value models amongst all players within the arena. The outcome could be truly transformational!

Competing Interests

The author declare that there is no competing interests regarding the publication of this article.

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