Leading Transformative Change in Digital Health – Lessons from Practice

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"As leaders of healthcare innovation, our close work with seed stage digital health startups has illuminated insights regarding digital health innovation. From our experience, startups that have partnered with healthcare organizations, as early as the research stage, have been able to innovate, adapt, and execute nimbly. In this article we discuss the basic tenants of such partnerships, including points which can help broaden accessibility and deepen efficiency."

The field of "digital health" is defined as the combination of healthcare and technological developments that deliver the next generation of digitized healthcare solutions. While the field may be only a decade old, it is rising in significance. This is partly due to the impact of the recent COVID-19 pandemic. More fundamentally, the rise of digital health reflects the need to improve healthcare efficiency and accessibility. Put simply, the field will likely play a significant role in bringing about the next era of healthcare delivery.

While venture investment has grown to embrace digital health, the field still appears to lack consistent and clearly defined paths to support new venture success. A key underlying question is how to improve the path to innovation where there is the potential for transformative change. When we probe further, we find that the gap between healthcare centers and the technologies meant to support them remains quite significant—and that it is within this gap that many digital healthcare startups seeking to innovate lie.

A few case studies drawn from our work can underscore the importance of crossing the chasm between practice among digital health startups, and their brethren working on site in hospitals and related healthcare settings.

GistMD: GistMD's mission is to create a smart platform that provides patients with personalized information about their medical journey, including explanatory videos about diagnoses and procedures. The platform engages patients in their medical processes, ➲

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leading to reduced patient anxiety, greater patient satisfaction and time saving for medical staff. To date, GistMD has raised $2.2 million. They have also successfully deployed their platform at a world-leading research hospital and are in the advanced stages of deployment at other leading hospitals, who will become the firm's first paying customers. The transformation from initial bedside observation to a funded digital health startup, would have been unlikely absent their early, hospital-centric trials.

Enroute: Enroute addresses intra-hospital transportation systems characterized by long waits for patients and staff. The venture's intelligent algorithms dispatch transporters on-demand to deliver patients and medical equipment, and transparently provide this data to medical staff. Their hospital pilot is expected to demonstrate a significant delta in accessibility and efficiency, ahead of funding and geographic expansion. Absent the opportunity to trial and transform the venture's underlying algorithms based on observation in practice, this innovation would likely have stalled.

While the above two startups may not be exactly what one thinks of when considering *medical* innovation, both capture and reflect the challenges that healthcare organizations face. They are precisely the type of innovations that are ripe to be incorporated into healthcare organizations—and, indeed, both these startups partnered with hospitals at early stages, with positive results that may not have been predicted.

It may also seem risky for healthcare organizations to partner with seed startups such as GistMD and Enroute. But as many top organizations are constantly searching for what can keep them on the cutting edge

of healthcare, tapping into the "innovation ecosystem" is one way to do so. Hence the timelines and specific contours of digital health-healthcare partnerships are worth exploring bilaterally. Below we therefore suggest elements of best practice which we believe can help build a solid foundation for potential partnerships, propelling startups and healthcare organizations alike towards innovation.

1. Finding the Optimal Partner

Once a seed stage digital health startup decides to partner with a healthcare organization, it is crucial to find those capable of facilitating its growth. This specifically means the organization should be willing and able to provide in-kind resources (e.g. time, manpower) or actual funding (e.g. via VC arms for later stage funding). An in-house startup collaboration unit dedicated to supporting practice-based partnerships can provide additional significant benefit. Startups will have to interface with multiple stakeholders across the organization, and an internal team can facilitate this. It is also helpful for the healthcare organization to overlap with the general aims and expertise of the startup.

2. Building a Long-Term Strategic Partnership

A key goal of a partnership between technology startups and healthcare centers should be to build the foundation for long-term collaboration. Designing and implementing a formalized agreement can help healthcare centers function almost like a startup incubator, giving the startup room to learn, grow and explore. If successful, the organization even has the potential to become the startup's first paying customer.

3. Not Just Doctors

Partnering with healthcare organizations, on the one hand, is a matter of finding physicians who deeply understand the startup's ecosystem and unmet needs they are tackling. But this partnership is by no means *just* about physicians—it's also about understanding the complex group of relevant healthcare stakeholders and finding ways to optimally interact with each. Depending on the project, the network can include psychologists, social workers, cleaning/cooking staff, as well as IT and financial departments, regulatory bodies and more. A key message here is that startups will have to interface with multiple teams across varying divisions, including diverse stakeholders and numerous internal systems.

4. Champion

The notion of a "champion"— particularly one from within the healthcare organization—is crucial to digital health startups. These champions will lead from within the healthcare organization, becoming actual startup partners who work diligently throughout the startup journey.

Practically, this means helping build roots within the organization by creating an in-house team which spans across the organization – clinical, administrative, and technological. The expertise of this champion can range depending on the startup's needs, whether a medical practitioner, operational manager or IT lead. They should also be an opinion leader within their field, envisioning where the startup exists within the ecosystem, and an early adopter, not resistant to industry change.

5. Digital Health Data

Digital health startups depend on rich data throughout their journey. For this reason alone, there is no better place to find healthcare data than within the healthcare organization. Healthcare data runs the gamut, from patient health to demographic information to operations. For digital health startups, filtering through this data to excavate insights is key. Partnering early also means being able to use data to help validate basic assumptions surrounding unmet needs. Finally, new data may be collected along the startup's journey—both quantitative and qualitative—which is a value-add for the organization.

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6. Process-Oriented, Human-Centric, Multidisciplinary Teams

Seed startups need to move quickly to develop a rough idea of how to solve unmet needs. But too often they spend months working in isolation on a prototype which doesn't meet real world needs. For this reason, digital health startups should not focus on solving specific outcomes, rather on the *process* of partnering early and learning from healthcare stakeholders, and then developing quick prototypes towards iterative solutions[1].

To ensure that startups don't over-engineer solutions that real humans don't need or want, much care should be put into making this process human-centric. Human-centricity is of extreme value within healthcare settings, which are typically centered around outcomes (i.e., curing specific illnesses). In complement, digital health startups should aim towards improving the patient and provider experience, keeping them front-and-center during solution building.

To optimize this human-centric process, a wide range of professions can be invoked. While this should include strategic design professionals able to facilitate human-centric methodologies, it can also include various other professions, ranging from UX designers to sociologists and beyond, to examine interactions between patients, families, and medical staff.

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The Path Forward

In the coming decade, digital health innovation will continue to grow. Funding may be readily available, but more than capital will be required for success. Partnering with healthcare organizations, and building on our model for change as outlined above, can help instantiate innovation, benefitting startups, their partner organizations, and even populations at large.

The initial innovative spark can come from organizations external to the startup or healthcare organization. And while partnerships are not quick and easy nor a guarantee of success, they tend to challenge the rigidity of the silos which separate technologists from their eventual contexts, thus improving outcome measured by the impact and scalability of any given innovation. As we build the next generation of healthcare, we hope that startups and healthcare organizations alike will recognize the mutual benefit in one another, and partner sooner rather than later. ■

[1] https://medicalfuturist.com/5-things-we-learnt-about-investments-in-digital-health-new-e-book/

About

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