Understanding the Global Digital Health Marketplace

EXECUTIVE SUMMARY

"The health sector is characterized by a fragmented landscape of ICT pilot projects and numerous data and health information systems with significant barriers to the effective sharing of information between healthcare participants.

Although the government, partners, and private institutions are continuing to invest in various ICT initiatives, without some form of a national plan and coordination, there is a real risk of continued duplication, ineffective expenditure, and the creation of new solutions that cannot be integrated or scaled across the continuum of care."

-Government eHealth Strategy

From the unanimous [WHO Member State request for a digital health strategy](#) to the launch of the [Donor Principles for Alignment in Digital Health](#), the last five years has witnessed growing momentum around digitalizing health systems. The COVID-19 pandemic has only accelerated the deployment and scale of digital health tools. However, stakeholders throughout the digital health eco-system continue to grapple with the question of financing: what is affordable for countries to scale? What is sustainable for digital health innovators trying to support scale-up in countries?

This publication series beings to respond to these questions. Focusing on low-resource settings, we investigated (1) which digital health tools get introduced, adopted, and scaled, and (2) the costs and potential impact of these digital tools. These analyses are foundational to identifying long-term financing sources and structures to support equitable digital transformation of health systems throughout the world.

Which digital health tools get introduced, adopted, and scaled

India has had great success in [scaling an electronic medical record in the state of Uttar Pradesh](#). In considering what supported scale in India and in other geographies, our research suggests [that market needs vary by digital health maturity](#). For example, offline functionality is very important at low levels of digital health maturity and not important at high levels of digital health maturity. Scale accelerated in India, and can accelerate beyond, when three key components are in place: (1) a product's attributes fit with market needs, which can be partly understood through the lens of [digital health maturity](#), (2) the market has appropriate local capacity to support scale-up and maintenance of digital tools, and (3) appropriate levels of financing flow through to the system to cover the costs of scale-up and maintenance.

Development actors play an important role in innovation, development, and piloting of digital health tools. However, scale and sustainability require reliable financing to cover the ongoing operating expenses associated with digital health deployments, such as data storage costs, routine training,

and software updates. In low-resource settings, there is little incentive for stakeholders to finance these ongoing operating expenses, although the root cause reasons for this vary.

Four root cause issues result in structural incentives that impede the financing of scale and sustainability. First, the lack of authoritative, transparent market information leads to information asymmetries across stakeholders, ultimately reducing trust. We hope these analyses start to address this issue. Second, a lack of equitable access to learning opportunities leads to talent gaps within governments and local organizations, resulting in a long-term inability to maintain systems. Third, financing is erratic and unreliable for global proprietary solution providers to design to solutions for low-digital-health maturity markets, and for global goods to expand their market penetration and scale. Subscription-based business models relying on cloud adoption face particular challenges, as articulated here. Finally, global health financing is structured to reward disease-siloed, time-bound investments, which frequently fail to capture the efficiencies of cross-cutting digital platforms and can alienate the end users trying to reconcile many siloed deployments. While end-user needs are known and well-documented across many deployments (including a needs analysis from this research here), competing incentives create barriers to meeting those needs. In the near-term, our checklist provides a resource for governments and philanthropic investors who want to optimize their digital health investments within current funding structures. Longer term, governments and philanthropic investors can collectively catalyze a movement towards solving the operating expense challenge but doing so successfully will likely require a restructuring of incentives within funding agencies and visibility into what resources governments are willing to commit long-term.

The costs and potential impact of these digital tools

Our research on total cost of ownership, anchored on existing efforts to scale digital supply chain systems in three countries, is available here (with an executive summary available here). This report validates what we heard qualitatively in our earlier research: that the often-ignored operational costs end up being the major cost drivers for digital health deployments. In Q3, we plan to collaborate with other partners working on Total Cost of Ownership models (e.g. Dimagi) to develop a costing toolkit that incorporates our findings and supports national implementation planning. We are also pairing these research findings with our impact modeling in order to develop a costed outcomes analysis, which we are submitting for peer-reviewed publication this month.

Our impact findings are currently under peer review. In the interim, we are publishing our impact and costed outcomes methods here for transparency, community feedback and input. Our hope is to catalyze further research on the impact and costed outcomes of digital health.

Looking forward

To create a market with reliable financing for the scale-up and maintenance of digital health tools, it's important to understand what the financing needs are and begin to develop a perspective on who will cover those financing needs. We have gathered relevant data across our analytics portfolio and compiled it into an early-stage, exploratory sustainability model, available on our landing page. We invite the global health community to use this model to begin to understand the potential financing needs, and to work with us to identify next steps in applying additional rigor to estimating the financial requirements for global, equitable digital transformation of health systems.