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Why is a Disruptive Policy Development in Digital Health Vital for Private Sector Engagement and Social and Economic Prosperity of Ethiopia?

Position Paper



Introduction

Digital health (DH) as a whole carries significant barriers including data sharing, security issues, consent, and the lack of interoperability and this is no different for Ethiopia. Our analyses in Ethiopia revealed several market-specific challenges that are opportunities for action through careful policymaking.

This position paper calls for a paradigm shift in policymaking in DH in Ethiopia and is grounded on the evidence from our analyses and subsequent stakeholder validation workshop conducted along private sector, development partners and government counterparts.

We propose the establishment of a "DH Learning Policy Lab" that is inclusive and dynamic process/platform for policy making and integrates learnings from the demand and supply side.

Background and Rationale for Argument Posed

The DH ecosystem is wide and broad: While DH is a simple concept, using technology to help improve individuals' health and wellness, it is a broad and growing sector. There are several components or tools in the use of DH today, across key categories of the healthcare ecosystem including data and information,

service delivery, supply chain, human resources, health diagnostics, and big data and analytics. DH tools have the vast potential to improve healthcare professionals' ability to diagnose and treat disease accurately and enhance healthcare delivery for the individual.



DH has demonstrated links to health outcomes: DH is no longer a thing of the future but is happening now, as it has become even more evident with the advent of COVID-19 and the urgent need to digitally engage and communicate with all levels of population and community. Digital technologies and accelerating technological changes are an essential component and an enabler of sustainable health systems and universal health coverage. It has been shown that accelerating digital technologies and technological changes will benefit the future well-being and economic growth worldwide especially Africa where a significant portion of the population has yet to access primary health care services. DH offers real opportunities to improve medical outcomes such as quality, access, equity, and enhance efficiency. Digital technologies give providers a more holistic view of patient health through access to data and giving patients more control over their health. Telemedicine, mobile health, improved health access to remote communities. Machine learning has enabled healthcare to predict public health emergencies and plan management and service deliveries. Digital technologies are also being used to improve the training and performance of healthcare professionals.

Africa and Ethiopia have more of an impetus to adopt a DH ecosystem framework: Today a large majority of Africans still do not have access to essential health services at primary level and with the large population and youth across the continent, there is more of an imperative for digital strategy as part of the agenda for economic transformation and job creation. Ethiopia provides for a strong, clear vision and leadership from the government, notably, a digital transformation framework from the PM office, encouraging banking, telecom, and business sector reforms. Furthermore, Ethiopia recognizes the need to leverage on private sector innovation, finance, and efficiency and is keen on ensuring strategic private sector engagement for economic transformation as can be seen across the banking, telecom, and manufacturing sector.

Evidence points to Ethiopia's need for a paradigm shift in DH policy framework: Although Ethiopia provides for the top-down policy framework DH policy framework, as a sector, DH is lagging behind and is even more notably "absent" when it comes to strategic private health sector engagement. Our analyses about the role of DH in Ethiopia revealed a fragmented DH ecosystem with no encompassing DH policy and strategy as well as strong and transparent governance. Furthermore, the private sector engagement is limited and further accentuated by several market constraints such as lack of incentives and regulatory tools to harness them and help them perform in areas where government has no interest or capacity to intervene in.

Indeed, most DH solutions rolled out to date across private and public sectors in Ethiopia have limited sustainability as they are not patient centric. For the most part, they fail to get past the "pilot stage" because policymaking has a top-down approach, with limited integration, inclusiveness and not well-informed on the needs and gaps of the market demand. With such fragmentation, demand side gaps and needs and any impact analysis of these innovations and solutions are difficult to do. Learnings from other countries further reinforce the need and urgency to include a human centric design process, build trust and include private sector data and know how in the development of policies. In Ethiopia, Digital transformation is a priority identified by the top level of government and integrating health as a sectoral capacity. This becomes even clearer with the advent of a single trade market for the continent of Africa under the Africa Continental Trade Agreement (AfCFTA) and the African Union DH strategy. Our global review identified key enablers/pillars for successful DH solutions including inclusive coordination of all stakeholders of the DH ecosystem, leadership and governance, enabling environment such as policy and regulation. Besides, digital infrastructure, regionalization of standard and interoperability, digital literacy, skills and human capacity, services. software and applications, standards and interoperability, digital innovation and entrepreneurship, data security, privacy, confidentiality, and funding/financing are of paramount importance for DH solutions.

A paradigm shift is needed in Ethiopia: Understanding and leveraging existing DH innovations in Ethiopia, and developing policies that integrate resources and capacities available across private and development partners with a goal to support and achieve the economic and social objectives and priorities of the country is a highly needed action to be taken for the successful utilization of digital health. We believe the status quo is no longer acceptable, and a disruptive model such as establishing a "DH Learning Policy Lab" is recommended, along with actionable points and recommendations to help realize this shift. Clear actionable recommendations are put forth, supported by the deep-dive analyses key findings and assessment of current Ethiopia DH ecosystem. These findings and recommendations were further validated through the various stakeholder workshops and interviews.

The key findings and identified market barriers, stated below are the premise for the proposed policy recommendations of this position paper.



Key Findings from Current Ethiopia DH Ecosystem

Despite scaling up health interventions and enormous progress in health service delivery in terms of infrastructure, human resources, service provision, and healthcare quality in Ethiopia, a visible gap exists in access to essential health services, quality of care, inpatient safety, effectiveness, and patientcenteredness.

Increasing enablers for the private sector in health engagement in Ethiopia were observed under HSTP (2015-2020), with various promising health sector specific strategies developed and implemented to impact health service delivery. The government's major strategic themes were to improve the quality of health service delivery, enhance leadership, governance capacity, and develop health infrastructure and resources. Implementation of these was challenged as the country's decentralized health system is still highly dependent on external donor sources.

We understand that enlightening DH agendas in developing countries like Ethiopia, with a dominant

rural population, is not an easy undertaking. Unlike other industries, the health data is complex, as most medical information is textual and not well-structured. There is also cultural complexity exhibited through a wide variety of actors, regionals, languages, and religions..

Although there are several mentions across key policy documents about the need to focus on digital transformation and engaging the private sector further, our assessment indicated there is no an all encompassing DH policy and strategy that enacts the key enablers and sets a national framework of private sector engagement. Ethiopia has a revolutionary vision for a digital transformation with its newly launched national digital strategy as a backbone for its economic transformations.

However, health and DH are the missing core component of it, although recognized as a key economic pillar for transformation. Drafts of "eHealth and Health Information Strategies" have been developed, but we realized that it is with a limited engagement from private sector, little capacity to implement and without the financial backing to ensure sustainability.

Our assessment found that the current Ethiopian DH initiatives are mostly driven by small private sector actors further downplayed and challenged with limited engagement and interoperability with public sector innovations and systems. The existing digital health ecosystem is fragmented, public and private digital solutions are not integrated within and across each sector. Furthermore, Ethiopia's DH ecosystem is highly donor supported further accentuating the programmatic nature of these solutions with significant sustainability issues.

Beyond the above findings, the sector and the country at large suffer from brain drain and a significant lack of skilled personnel and low digital literacy - a result of mainly "top-down, non-patient-centric and supply driven digital technology development". Overall government's financial commitment towards D H is limited, especially domestically for health and IT, although growing in recognition and priority. There is a concern about the government's heavy-handed need for digital data security that resulted in a visible lack of data standards, uncoordinated IT procedures, lack of interoperability, and limited engagement of users and patient-centric services. Foreign exchange and banking regulations, customs clearance and regulatory hurdles, bureaucracy for logistics, and supply chain related to digital equipment and supplies are shown to deter investments in this area.

Despite these shortcomings, we believe that Ethiopia has good opportunities to rapidly realize a paradigm shift towards a robust DH ecosystem that can demonstrate rapid impact on economic and social development. Firstly, there is a significant amount of human dividend; the country has a high, young, and growing population – an opportunity for disruption through entrepreneurship, innovation, and job creation..

The country has a visibly strong leadership commitment to Digital Transformation and has developed a National Digital Strategy. Being at the heart of the regionalization agenda, Africa Union and AfCFTA, Ethiopia is geographically and politically positioned to adopt and execute the continental initiatives like the Digital Transformation Strategy, co-developed by the African Union (AU), and the Economic Commission of Africa (ECA) that focused on supporting African countries' efforts to capitalize on the socio-economic benefits of digitization and advanced technologies. We also realize there are positive forces that give forward momentum for Ethiopia's DH policy and strategies. Ethiopia is committing substantial resources (funds and infrastructure) on Industrialization and Job creation for youth - IT Park, mobile, and Data IT infrastructures that are expanding significantly. There is a rapidly reforming business and banking environment which is expected to have a spill-over effect on DH developments.

The Covid-19 response collaboration effort between public and private sector has ignited the private sector engagement in governance and policy planning platforms. We strongly advise this should not be a missed opportunity for both parties and can be exploited for more structured, comprehensive, and strategic collaboration of public and private sectors.



Box 1: Kef Findings from the Deep-Dive Assessment

- Limited digital literacy (consumers and end-users): The private sector digital technology use is relatively ahead of the government's current capacity and potentially has the resources to support DH progress. However, issues such as digital technology literacy, its use, and penetration in the country are a few of the concerns.
- Limited private sector platform for unified voice: Private sector actors do not have a strong collaboration platform within their sector and are not unified in progressing the DH agenda. The private sector does not have a collective voice, are competitive, and work in silos.
- Nascent Public-Private dialogue and no private sector engagement in planning: There are few collaboration efforts between private sector representatives and government in the form of a steering committee, working group in the form of the currently existing HRH committee, and so on. There is no system for a platform to engage the private sector to work with the government in digital health, but COVID has initiated the discussion.
- No standardization and integration of digital innovations across private and public: The private sector digital system has no connection with the public system raising sustainability concerns. The government has not taken the lead in centralizing and linking information through digitization from the private and public sectors. The absence of standardized tools and integrated platforms makes private sector and government partnerships incomplete.
- Underdeveloped digital technology infrastructures: Infrastructures for enabling digital technology are underdeveloped. The internet unavailability and interruption, poor telecommunication services, inconsistent electrical power, bureaucracy to set up and receive consistent services, lack of access to good quality software and hardware, unavailability, inaccessibility and poor maintenance services, and unaffordability of functional and user-friendly systems are some of the main challenges Ethiopia are facing. There is a shortage of technology equipment for healthcare professionals at woreda level. The lack of a reliable local cloud or server storage system to store data is another problem.
- Financial sector engagement and investment opportunities: There is a need for change in mindset and that the
 implementation of DH should find ways for sustainability and should not be donor fund driven. In the public
 sector today, almost all initiatives are directed and withheld from progressing until donor funding becomes
 available. The private sector has challenges with financial capacity in accessing resources to purchase and
 import technology equipment. There is also difficulty in accessing foreign currency. Lessons from other African
 countries have shown that a developed finance system using technology results in spill-over to health sector.
 Therefore, the private sector can play a significant role here, especially the banking and financial institutions.
- Low trust in local capacity/short of well-organized local companies: The local companies are concerned that government institutions are open and willing to work with foreign companies more than the locals. The local private sector often gets overlooked by government sectors; engagement with foreign companies is preferred over local private sector. Government institutions think foreign companies know more. This could result from the knowledge of local decision-makers and lack of communication of technology needs with the private sector. The public sectors argue there are no strong and well-organized digital local companies that meet customer needs. Private-public partnership in DH is progressing in a piecemeal pattern between digital solutions companies and referral hospitals but not enough. The private sector also need to find out the areas of collaboration with the government initiatives for outsourcing DH opportunities that strengthen their link.



Proposed Actions and Solutions

We recommend the development of policy and strategic road map for DH: We strongly recommend developing an inclusive, bottom-up policy, strategy, and regulation for DH implementation as an important starting point. This should be developed in collaboration with the relevant private sector, development partners (for integrated and purposeful resourcing), and enduser stakeholders to encourage its adoption.

Government should remain the steward of health and will provide directives and guidance in the implementation, progress, and regulation. The policy should look at what exists today, and the market barriers encountered but also understand the market demand in terms of gaps and is required to digitize/ enable the health system and the key national priorities it needs to address first. Key performance outputs and outcomes such as the cost, affordability, and access to digital equipment, software, installation, administration, and maintenance should be reviewed and analyzed for purposeful, data-driven and evidence-driven models.

We advise for a review of existing policies such as the

Public-Private Partnership (PPP) and clarify directives and regulation in DH use and ways to regulate and harness private sector engagement in DH rather than a parallel restart of a new policy. The private sector involvement in strategy and policy development should go hand in hand and in an iterative way with the implementation of digital technology and integrate with the public sector to support government priorities.

It is our conviction that designing a DH strategy that has a comprehensive and intergenerational and regionally integrated is necessary. In collaboration with the private sector, the government should develop a strategy that embraces DH technology literacy and innovation from early stages – school, university, and so on. Digital technology use and literacy should be introduced in the education system to encourage familiarity and build confidence.

Pave a clear way for effective governance in DH: There is a need for foundational pre-work activities, a staged approach to problem identification, strategy development, and implementation planning to create a DH governance system that engages all stakeholders for collaboration, trust, clear direction, accountability, and transparency. The governance structure must link MOH, private sector, MInT, telecom, and other relevant stakeholders such as the banking sector and customs for decisions in developing and improving on key identified barriers such as the need for more DH infrastructure, technology etc. Government regulations for DH should be encouraging the engagement of private sector in an integrated and value creation way. Private sector engagement strategy for DH should be developed by the government to better understand areas of the DH ecosystem that the government would like to encourage and "not compete" with the private sector.

We strongly believe that for areas where government would like to encourage expanded private sector engagement activities (e.g government can decide that telemedicine for specific programs are best delivered by private sector), the government should think of incentives to address resource and procurement barriers, and where applicable, by prioritizing DH over other needs such as other equipment for construction etc.

Similarly, the private sector should agree and abide by a legal framework and ethical participation between tech companies and health facilities regarding the development, marketing, and sharing of software and systems. There is an ardent need for an established regulatory standard on access to patient information and utilizing information for decision making, research, and so on. Currently, private sector use software that is vulnerable to hacking and gives unregulated access to patient information.

Establish a robust, dynamic, DH platform (for market intel, data sharing and dialogue): Our assessment pointed towards the need to create a robust data and dialogue platform for DH transformation through a collaboration of care providers, end-users, solution providers, and government and development agencies to create a strong voice from each entity to shape policy and develop the solution. We call upon the government to start a platform for data and research sharing but also append to this platform regular dialogue platforms with the private sector and representatives from both sectors to engage in a discussion and identify problems, develop solutions, and create collaboration to develop ideas. The government, as the leader of this initiative, together with the private sector, needs to look at forming and supporting an organized umbrella association of private sector actors across industry, finance, and service delivery for singular common voice on digital solutions.

Integrate and standardize the existing digital innovations in health: We recommend a review and evaluation of existing solutions across sectors for integration and potential scale up, and develop any innovations based on learnings from these cases. Stakeholder interviews indicated clear "fatigue" of report and policy development that are not relevant or incentivize or evaluate existing businesses and innovations Government should take the lead, in collaboration with the private sector, and develop a framework for DH interoperable systems standards. For example, the development of health facilities management standards (clinics and hospitals) incorporating DH technologies guidelines for private sector and public services is critical.

Cultivate the DH financial sources and investments: We advise a "call to action" and a more purposeful DH financial support framework. Investments and resources from donor funding as well as private sector should be channeled along a clear implementation plan and ensure SMEs are incentivized in order to encourage local innovation and entrepreneurship. This is doable if designed strategically, and milestones are indicated in channeling donor funds to a more sustainable solution.

There is a need for integration of donor, government, and private sector funds and links to local and development banks, insurance agencies that can finance DH technologies like EMR under a system regulated by MOH and the private sector. We advise software and system developers (especially local ones) to be supported and to organize themselves to larger IT solution companies to have a competitive capacity in the local markets. The private sector has to explore untapped areas to could support through government outsourcing opportunities. Some examples are the development of health software and systems contextualized for use in Ethiopia, platforms or systems for administration, data protection, and security, installation, and maintenance.

Enhance DH capacity and literacy: The private sector's positive relationship and collaboration with public healthcare facilities should be encouraged across multiple fronts. As an example, the private sector can provide teaching and clinical placement support to healthcare professionals and universities for skills transfer and technology access. For Ethiopia, there is a strong linkage with diaspora and universities in health (Especially with the US and European countries) that can be leveraged both for e-learning but also digital literacy – some examples of programs could be mentorship and internship opportunities for students across countries to start exchanging information and technical expertise and other that builds digital literacy.

We advise the government to trust, test, understand, and prioritize local companies to strengthen their capacity and create a competitive environment. Locally developed systems are sustainable and cost-effective as the overall cost of development, installation, administration, maintenance, and payment is in local currency. Furthermore, there is a need for a concerted effort to improve end-users' literacy in Ethiopia. Media channels and social media platforms can be leveraged to encourage the population and communities to improve their health through digital technologies such as mobile phones and others. We learned some platforms such as "hello doctors" that have started up in Ethiopia are not successful due to a lack of literacy from consumers.

Align DH policy and strategy to Global, Regional and National Goals: We propose the development of DH policy and strategy to align with global, regional, and national goals. Any policy framework and strategy that is derived from this strategy should aim to address key national health priorities and answer questions related to quality, access, equity, and utilization. We believe regionalizing digital technology and strategy including digital skills is very important. The policy and strategy developed needs to consider regional frameworks and alignment, for best integration and economic potential.

Dimensions of the DH strategy to consider alignment may include regional health surveillance and data sharing platforms (e.g. COVID and others), technology standards and interoperability, and developing the capacity of the workforce in digital technology for outsourcing. Such models are for example seen in Asian countries where nurses are trained and exported. Ethiopia can, in the same way, leverage on its human dividend to create an economy based on it.

Develop a patient-centric DH ecosystem: Healthcare service delivery has for long been organization-centric. The providers were in the center, and the patients had to adjust. However, recent trends in healthcare delivery suggest a transition towards patient-centric care. This includes multidisciplinary teams and multiple care delivery settings working together to provide patient care. As a result, we recommend the digital healthcare ecosystem as an infrastructure to support the shift from an organization-centric to a patient-centric model of delivering healthcare services using digital platforms. The primary goal of this system is to encourage crossorganizational, multidisciplinary, and collaborative healthcare delivery. Placing the patient in the center means focusing on prevention and wellness rather than only treatment. It includes addressing the social determinants of health, such as people's physical, mental, and spiritual needs.

We recommend three priority pillars as a roadmap for enacting Ethiopia's DH policy framework:

Digital Literacy – one of the key barriers identified in Ethiopia's DH ecosystem is the limited human skills, capacity, and digital literacy of both consumers and end-users. The average population is in rural and remote locations. With low literacy in general, digital literacy remains to limit DH solutions' uptake beyond mobile access.

Factors such as awareness, data use, and limited access to digital (technical, financial and infrastructure barriers) affect digital literacy.



Therefore, we propose this as a priority pillar for policy reform and intervention.

Integration – The other priority pillar we recommend for Ethiopia is looking to integrate the various fragmented DH initiatives horizontally and vertically. Integration across the private sector, within the public sector, encourages development partners to support ONE integrated ecosystem rather than programmatic support. Indeed, Digital health should intersect and help strengthen at the system level and avoid vertical or diseasespecific support. Beyond horizontal integration (private, public, development partner), there should be horizontal integration of solutions within the public sector, private sector alike.

Innovation - As the third pillar of priority for Ethiopia, we propose developing financing sources and investments that can encourage SMEs, entrepreneurship and government to "harness" through relevant financial incentives for the private sector innovations. Some of the ways to encourage innovation may be ensuring that development funding allocated partner is directly to strengthening the capacity and training of private sector innovation. Such funding should also be allocated to the academic sector to encourage research and development and support and finance STEM and other incubators for innovations and local talent production.

Conclusion

Our main recommendation to moving Ethiopia's DH framework forward is developing a "dynamic" and iterative roadmap for the DH policy development process that leverages learnings, implementation, and value creation of existing innovations and DH solutions.

We propose a two-step roadmap for implementation.

Step 1: We propose the establishment of a "DH Learning Policy Lab" that is dynamic process/platform for policy-making and integrates the demand and supply side. Rather than taking the more traditional approach to establishing technical working groups and trying to craft a DH policy and strategy, we propose a disruptive roadmap of creating a "DH policy lab" that is iterative in learning and addresses the key pillars of priorities identified above. This will ensure that data, value creation across building digital literacy, integration, innovation, feeding into policy development, and structuring the governance and leadership needed are crafted through a patient-centric or Human-centered design.

The lab's ultimate vision is to achieve a DH enabling environment and public policy that is inclusive and harnesses private sector capacities whilst ensuring the policy promotes private sector engagement that impacts the country's overall health and economic priorities.

The DH public policy-enabled DH ecosystem emanating from this lab should harmonize to the national digital transformation framework and the health needs and gaps of the country when measured against safety and access type of health indicators. The DH Policy Learning lab will have the mission to create the DH ecosystem across the key pillars identified in global learnings. This dynamic process/platform under the "DH policy lab" can be enacted simultaneously as the country builds on better understanding (and creating) the demand for DH through a patient-centric model whose key pillars are digital literacy, data integration, and analytics.

Step 2: Align DH Policy lab activities to key priority pillars/barriers identified in Ethiopia. We recommend the DH learning Policy Lab to align with the three priority pillars of digital literacy, integration, and innovation that were identified by the deep-dive analysis. The framework further highlights the need to build on the key enablers of governance, platform/data, and resource/ finance.





Plan of Action

By this position paper, we call upon for buy-in of the proposed dynamic "DH Policy Lab" framework and way forward with key governmental, private, and development partners. This can help us confirm the proposed scope of the framework, political will, and the required timeline to implement the planning process. This can be done under a series of consultations to change the "status quo" of interventions and ensure buy-in.

We would like to encourage "organized" private sector (e.g. we strengthen/repurpose the EHF role in private sector) but also identify a focal point for DH within public sectors (e.g. "champion at national, sectoral level such as MinT, MOH, PCD, Tele, Universities, etc). Key champions/ able bodies from each sector and form "a core team of doers" and engage immediately post "buyin" of the way forward.

We keep consulting and engaging key funders who are interested in such a strategy of implementation. We are

keen to jointly develop an engagement platform with a key development Partner in the DH ecosystem.

Based on buy-in to the proposed roadmap for establishing a "DH policy lab", we will identify the capacities and scalability of key local players within DH in Ethiopia and create a database of current initiatives and potential for scale-up. We would like to develop private sector teams with scalability and integration interest and capacity, such as sub-teams of digital union, digital health blueprint, digital ID, and National ID integration. These sub-teams will be harnessed to continue development and look into policy constraints to be raised under the DH policy lab to have a sustainable impact on the enabling environment and public policy development.

Note:

This document is an extraction and summary of key findings from a formal study conducted by Precise Consult International. Both primary and secondary data were used. While the former were collected via key informant interviews and focus group discussions, the latter were collected from different organizations as well as from internet resources. In addition, the study employed descriptive data analysis techniques and benchmarking of best-practice lessons for Ethiopia.

All data that were used in this brief are referred in detail in the full research document which can be found by visiting www.preciseethiopia.com or by email request to info@preciseethiopia.com.



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