A Call to Action for Multisectoral Coordination on Digital Health

EDITORIAL

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ABSTRACT

Multiple stakeholder need to collaborate to govern and manage various aspects of the national digital health infrastructure. Unlike other sectors where minimal coordination is needed from outside entities, health is very complex and requires good communications and transparency even among competing groups. It is therefore important that governments take a leading role in gathering all the stakeholders and creating an environment for cooperation. This paper demonstrates a simple approach to establishing clear lines of engagement that will enable various players to achieve their respective organizational goals while still contributing to the general well-being of every citizen.

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The COVID-19 pandemic disrupted the world in the year 2020. Countries scrambled to understand the situation even as they attempted to establish mechanisms to stem the spread of the disease. Amidst all the confusion, many agreed that information and communications technology (ICT) was an important tool against the disease.

In 2005, the World Health Organization (WHO) defined "eHealth" as "the use of information and communications technology in health [1]. Examples provided showed how ICT could be used in various healthcare situations such as patient care, education, research, and administration. Yet even as governments and the private sector dove into such use cases, there was unanimous agreement that the efforts had been fragmented and not well synchronized [2]. More recently, the World Health Assembly began using the term "digital health" and adopted it in a recent resolution urging ministries of health "to assess their use of digital technologies for health [...] and to prioritize, as appropriate, the development, evaluation, implementation, scale-up and greater use of digital technologies..." [3]. This shift of terms was borne by the persistent fragmentation that burdened the field of eHealth. Digital health was aimed at directing attention towards the infrastructural components that were sorely lacking and that were preventing the development of more effective, efficient, and responsive eHealth systems.

The Asia eHealth Information Network (AeHIN) was formed by WHO in 2011 to help countries collaborate and look for solutions to the fragmentation problem. By then, many ministries of health had advanced in electronic data collection systems but all reported interoperability challenges. Through constant knowledge sharing and continuous monitoring of national and regional developments, the AeHIN community has arrived at an analysis of the root causes of fragmentation and has crafted a clear set of steps to address them.

SITUATIONAL ANALYSIS: MIND THE GOVERNANCE, ARCHITECTURE, PROGRAM MANAGEMENT AND STANDARDS (GAPS)

In 2011, WHO and the International Telecommunications Union (ITU) released the National eHealth Strategy Toolkit [4], a three-part volume that aimed to assist countries with their efforts at digitization. After the global launch in Geneva, orientations in Asia were hosted by AeHIN at their Second General Meeting in Manila.

While comprehensive, the Toolkit was also daunting. Guided by a seven-component framework (***Figure 1***), countries were expected to use the Toolkit to advance their efforts towards eHealth planning and implementation. Key members of AeHIN kept constant communications sharing their experiences with eHealth policy development and implementation. Together they realized that despite the guidance of the Toolkit, ministries were still facing substantial roadblocks to progress.

Serendipitously, AeHIN discovered the root cause of the problem. After training a cohort of its members on HL7 (an international health information standard), participants commented in the post-course evaluation that while such standards were important building blocks, they were difficult to implement unless there was an overarching blueprint or enterprise architecture to serve as a reference for developers on how to put the components together. Responding to this gap, AeHIN hosted a certification training on enterprise architecture

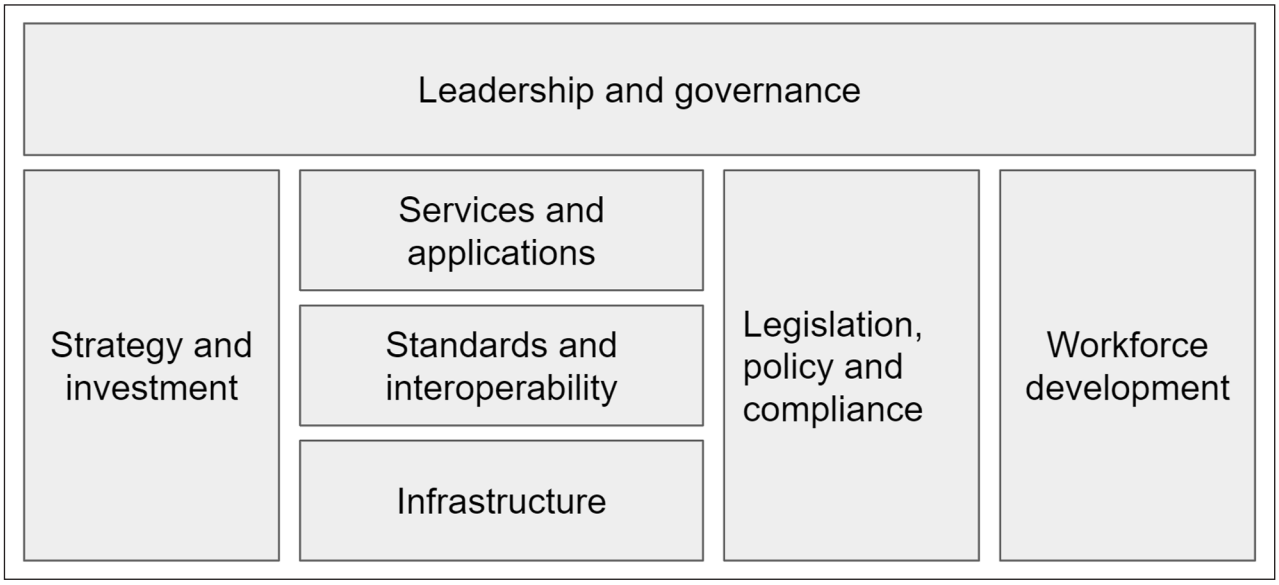

Figure 1 eHealth components of the WHO-ITU National eHealth Strategy Toolkit.

for another group who in turn commented that developing such a blueprint is tedious, time-consuming, and will not be adopted widely by stakeholders in a country unless there is a clear governance mechanism to support it. Following this thread, AeHIN then co-organized the training of another group on IT governance. This was when senior leaders of the network realized that the root cause of the challenges countries were facing with their national eHealth programs was the lack of foundations of governance, architecture, program management and standards (GAPS) in that sequence.

GOVERNANCE

While governments already offered many programs to its citizens and held its respective ministries accountable for their successful implementations, eHealth presented itself as a complex program because it required several sectors, some from outside health such as ICT, to collaborate and ensure that the benefits are received by the stakeholders. For example, an electronic medical record program will fail without proper infrastructure investments from the Ministry of Information and Communications technology and trust in telemedicine services will be hampered unless there are clear government legislations on privacy and confidentiality. A national eHealth program is composed of several projects owned by different agencies and sectors and a multisectoral coordination mechanism led by the Ministry of Health is an important governance method to monitor the different activities and achieve success.

ARCHITECTURE

Left by themselves to design and implement their own eHealth projects, different government agencies could aggravate fragmentation and create silos if they do not reference a shared interoperability blueprint. Enterprise architecture ensures that there is a single common view of the whole eHealth program. The the blueprint constrains the interoperability capabilities of each component even as these are being built separately by different sectors.

PROGRAM MANAGEMENT

The complex nature of eHealth systems requires that all its components, co-dependent on projects being managed by different agencies, are properly built within scope, budget and time. This demands effective program management capabilities from the Ministry of Health as the lead agency to convene, synchronize and coordinate regularly with other sectors such as ICT, finance, social protection, and development partners.

STANDARDS AND INTEROPERABILITY

Lastly, governments must ensure that the right standards, responsive to its needs, are made available to all stakeholders. Equipped with the proper tools and building blocks, both public and private institutions will be able to develop applications that are able to communicate effectively with each other and with national reporting systems. All of these require tremendous investments that could only be afforded through the leadership of the national government.

CALL TO ACTION: FILL THE GAPS AT NATIONAL AND REGIONAL LEVELS

The field of eHealth (now digital health) faces complexity that requires substantial investments. While the WHO-ITU National eHealth Strategy Toolkit provides detailed guidance for countries, AeHIN further simplifies it as a sequence of interventions that starts with the creation of an active multi sector coordination governance mechanism (***Figure 2***). This governance structure then prioritizes the design and dissemination of a shared enterprise architecture for all stakeholders to use in developing their respective healthcare applications. Building human resources with capabilities for professional program management will contribute to successful eHealth projects, which in turn delivers benefits to the citizens. Governments should make standards available to all stakeholders, so they are empowered and equipped to build applications that contribute to a secure interoperable national health information system (***Table 1***).

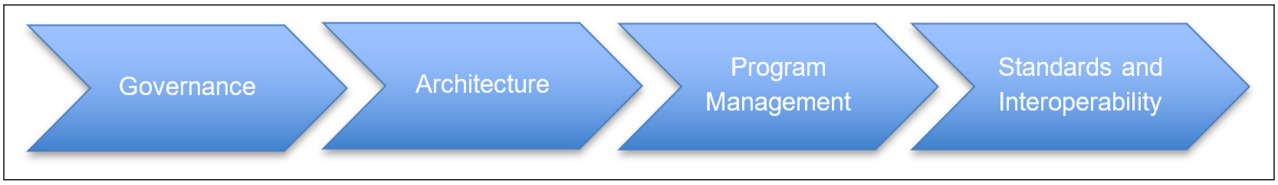

Figure 2 AeHIN's proposed sequence of interventions towards strengthening national digital health infrastructure.

	BEFORE AEHIN	AFTER AEHIN
Governance	Sectors worked on their projects separately	Sectors coordinated their projects to complement each other
Architecture	No shared design	Interoperability blueprint shared to stakeholders
Program management	Fragmented project management	Coordinated by a Program Management Office across agencies and sectors
Standards	None provided, none adopted	Focus on shared standards and building capacity for stakeholders to adopt them

Table 1 Changes effected by knowledge exchange and resource sharing within the AeHIN community.

GLOBAL RESPONSE

After several consultations and conferences, and with the shift to digital health, the World Health Organization has provided guidance on the matter with a series of documents aimed at supporting countries with their digital health strengthening. The WHO Classification of Digital Health Interventions [5] organized the concepts emerging from health-related ICT implementations in different countries. This was followed by the Recommendations on Digital Interventions for Health System Strengthening [6]. Finally, the WHO release the Global Strategy on Digital Health 2020–2025 [7] which resonated with the call for strengthening governance for digital health at the global, regional and national levels. These developments showed the evolving body of knowledge around eHealth and later digital health.

The severe impact of the pandemic is a clarion call for civil society, including development partners, to participate and support the leadership of government in strengthening the health system with digital health. It is only through such coordinated work where comprehensive national health information systems can be built.

COMPETING INTERESTS

AM sits in the boards of the Asia eHealth Information Network and Digital Square but does not receive financial compensation for these positions.

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