

DIGITAL TRANSFORMATION AND INTEROPERABILITY IN VIET NAM'S HEALTHCARE SYSTEM

WHAT WILL **DIGITAL HEALTHCARE** LOOK LIKE?

Digital transformation initiatives are commonly associated with new and digitally-enabled user experiences. Most users of digital front door applications¹ are unaware of how the data/health information behind the scenes is aggregated and orchestrated to deliver the experiences, though they may need some training to realise its benefits. They expect interoperability as a “given”.



The real key to delivering on the promise is presenting the data/health information in real-time via a friendly interface that users know how to use.

“A truly digital healthcare industry would revolutionize diagnosis and treatment, with a shift in focus to prevention and management. With the widespread introduction and seamless coordination of digital apps and connected devices, the healthcare industry could be transformed from a reactionary system to one that is proactively centered on the patient and driven by data. The most tangible, expected changes will be that care will move closer to the home, and citizens will have more responsibility for managing their own health and well-being.”

- World Economic Forum



Interoperability can be understood as **the ability of two or more systems or components to exchange data/health information** and to use the data/health information that has been exchanged **without loss of meaning**.

In recent years, the Ministry of Health has invested in developing its **Smart Health initiative** as a mechanism to improve current and future services across the healthcare system. A number of interoperability-related policies have been issued, including Circular 54/2017/TT-BYT

HOW CAN INTEROPERABILITY SUPPORT DIGITAL TRANSFORMATION?

In practice, interoperability of electronic records would mean **digital health solutions could ‘talk to’ each other**; they would securely exchange data in ways that improve patient and community health, and make treatment more efficient. For example, they would allow patients with chronic conditions to have their symptom monitoring data sent to their general practitioner (GP), rather than having to go to the doctor’s office;

- hospitals and GPs to access the same health record to coordinate care for a given patient;
- health systems to aggregate data from different sources to derive insights and enable research;
- in general, interoperability enables transformation in four key areas, as shown below:



AI and Big Data

- Provide algorithms with clear data structure and semantics
- Ensure validity of analysis results
- Create trust in digital technologies



Healthcare Communication

- Enable easy information retrieval
- Avoid medical errors caused by communication barriers
- Reduce documentation burden
- Empower patients



Research Communication

- Improve the use of real-world data (e.g. for large-scale observational studies)
- Create new research hypotheses (with data mining and AI)
- Enable remote development of analysis scripts



International Cooperation

- Pool data across organisations (e.g. rare diseases, precision medicine)
- Tackle global public health issues (e.g. infection control, epidemics)
- Provide global access to new technologies

on assessment criteria for the application of information technology in health facilities and Decision 2153/QD-BYT regarding regulations on the establishment, operation and management of health identification. However, there is no regulation on a data exchange protocol or clinical data standards, leading to many of the information systems that are developed and applied in health facilities being specific to those settings only. In addition, many IT vendors lack knowledge of interoperability standards, leading to difficulties with designing digital systems that can both communicate and are aligned with

the real needs of end-users. Despite a plethora of digital tools generating/collecting health information, there is currently no legal framework on protecting privacy and security, leading healthcare providers to be reluctant about storing patient information in the cloud and/or sharing their network with outsiders. Meanwhile, patients are more and more concerned about the privacy and security of their health information with masses of data collected via different services, which has been highlighted with the widespread use of contact tracing apps for managing the COVID 19 pandemic.

WHAT SHOULD POLICY MAKERS DO TO ENABLE A NATIONWIDE **SUCCESSFUL DIGITAL TRANSFORMATION INITIATIVE?**

Establish interoperability requirements:

Firstly, interoperability should be addressed across the country. Adopting a single data exchange protocol (**HL7-FHIR** as an example) and clinical data standards (**ICD, SNOMED-CT, LOINC**, etc.) are necessary conditions for interoperability between health IT systems.

Certification to support adoption and optimization of health IT products and services:

The MOH should leverage the EHA's interoperability lab to ensure that a broad spectrum of health IT conforms to the technical standards necessary for capturing and exchanging data to support care delivery. Certification will be used to test that health IT conforms to standards, and also to certify that the technology has the ability to interoperate with other data sources so that users can exchange and use information from other systems.

Develop policies for the privacy, security, engagement and governance of health information:

The MOH should assess evolving models of health information exchange to identify and, with stakeholder input, develop solutions to address weaknesses and gaps in privacy protections. The MOH should encourage the development and use of policy, technology and workflow practices to advance patients' rights to access, amend, and make informed choices about the disclosure of their electronic health information.

Support capacity building:

Governments should identify what digital transformation and interoperability skills gaps exist in government and at the country level. This will require collaboration with the private sector, universities, and civil society. Armed with these results, the government should put investment in capability high on the list of priorities in their digital transformation strategies.



THE BETTER HEALTH PROGRAMME (BHP) IN VIETNAM

The Better Health Programme (BHP) is funded by the UK government's Foreign, Commonwealth & Development Office (FCDO) to collaborate with partner countries to strengthen local health system structures, processes, governance and capacities to improve quality of care and address the growing burden of non-communicable diseases (NCDs). In Vietnam, BHP is delivered by FHI 360 with management support from PwC. BHP Vietnam's assistance focuses on strategies to counter NCDs, education and training, and digital health initiatives.

In relation to digital health, BHP Vietnam is providing technical support to the Ministry of Health of Vietnam to build the digital health ecosystem, including the application of international standards for healthcare data exchange - Fast Healthcare Interoperability Resources (HL7 FHIR) among essential health information systems, and the introduction of the Systematised Nomenclature of Medicine - Clinical Terms (SNOMED CT) into the health service delivery system for effective clinical information exchange and interoperability.

How do I get more information?



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Footnotes

1. A strategy for engaging patients at every major touchpoint of the patient journey (e.g. symptom recognition, appointment booking) using technology and online services that patients have already adopted for everyday use. An example is a mobile app where patients can look up their symptoms in a symptom tracker, decide how they want to access care (virtual, eVisit, or urgent care), and make the decision after looking at the prices for the various options.
2. Why digital medicine depends on interoperability (<https://www.nature.com/articles/s41746-019-0158-1>)

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