HIMSS

The Role of Interoperability in Health Systems' Digital Transformation:

Five key takeaways from a HIMSS APAC virtual government roundtable

Overview

Interoperability is a key concept that dominates discussions about digital transformation of health systems around the world. While many countries have embarked on their interoperability journeys, most of them are at different stages of implementation due to governance, technological, and cultural barriers. Nonetheless, many of the goals and challenges that mark the way to systemwide interoperability are shared across borders and exchanging best practices is essential for learning and advancement.

Context

HIMSS presented a set of interoperability policy recommendations at a virtual roundtable held on 30 September 2021. This discussion was attended by representatives of central and regional digital health and health IT authorities from nine Asia-Pacific countries: Bhutan, Hong Kong, India, Japan, Malaysia, Singapore, Thailand, Pakistan, and the Philippines. As the roundtable was held under the Chatham House Rule, the participants quoted in this report have been de-identified.

Moderators:

Jeff Coughlin
Senior Director, Government Relations, HIMSS

Andrew Pearce
Senior Digital Health Strategist, HIMSS

Amit Trivedi
Director, Informatics & Health IT Standards, HIMSS

Key takeaway 1:

Interoperability is a key lever for digitally transforming health systems toward more agile and patient-centered delivery of health services, but the U.S. experience serves as a cautionary tale.

Interoperability, which HIMSS defines as *secure, appropriate, and ubiquitous data access and electronic exchange of health information*, is a health system movement and aspiration for governments around the world. Jeff Coughlin, senior director of government relations at HIMSS, set the stage for the roundtable discussion by providing a historical overview of the concept's origins and how it rose to the top of the digital health transformation agenda. Notably, it gained momentum through a series of legislative initiatives dating back to the mid-1990s that were passed with rare agreement from both sides of the isle in the politically divided U.S. Congress.

One of the most impactful among those bills was the HITECH Act, passed in 2009 and generally considered a cornerstone of the interoperability era by creating financial incentives for providers to adopt electronic health records. In the years following its introduction, EHR adoption rates in the U.S. jumped significantly and currently more than 80 percent of healthcare professionals and more than 90 percent of healthcare organizations in the country use certified EHR technology.

In 2016, another piece of legislation known as the 21st Century Cures Act sought to accelerate interoperability further by focusing on the impact of a phenomenon known as "information blocking" – the refusal by healthcare institutions or providers to share patient health data with other providers or with patients under the cover of the Health Insurance Portability and Accountability Act (HIPAA). The Cures Act defined penalties for providers who unjustifiably withhold such information and put in place additional regulations, overseen by the Office of the National Coordinator for Health Information Technology (ONC) and the Centers for Medicare and Medicaid Services (CMS).

Nonetheless, despite widespread adoption of EHRs and strong disincentives for locking up personal health data except in narrowly defined circumstances, the proprietary software programs on which EHR platforms run and the legacy payment systems for providers in the U.S. impede rather than support interoperability.

"Our healthcare system is focused on making sure that interoperability and broader data sharing are happening. However, the payment system that goes along with it does not necessarily always support that because the way it is set up is not focused on value across our entire healthcare system," explained Coughlin.

In search of enduring solutions, HIMSS sees technical standards and implementation guides as some of the tools through which a stronger commitment to interoperability can be forged.

Key takeaway 2:

Technical standards, education, and implementation guides are essential necessities for countries' interoperability journeys

Emphasizing that legislative measures alone are not enough to sufficiently "move the needle" on interoperability, Amit Trivedi, director of informatics & health IT standards at HIMSS, said what is also necessary is an alignment of policy and technology. He highlighted the work of the Global Consortium for eHealth Interoperability – a joint project by HIMSS, HL7 International and IHE International – in supporting cooperation and coordination among different interoperability standards implementation efforts.

"The multi-stakeholder approach to standards development, which has been established and developed over the years by organizations such as HL7 and IHE, recognizes that we need an integrated approach when it comes down to putting together all the different workflows and stakeholder needs in order to make interoperability happen," said Trivedi. "Ultimately, one of the things we have found throughout this process is that standards-focused education is pivotal because this space is constantly evolving and it's a complicated process no matter where you sit, whether you're an end user, a developer, or a policymaker."

On the topic of education, a participant from Bhutan affirmed that that is a decisive factor in how fast the country – which they acknowledged is lagging behind others in the region in terms of both connectivity and EHR adoption – begins to implement interoperability. "Improving the digital literacy of our health professionals is critical because they will be the first ones to use the new electronic Patient Information System," they said, referring to a forthcoming nationwide eHealth initiative. "So first it is important to train the health professionals through targeted programs and then the general population in the form of a nationwide program from the Ministry of Health and Communication."

In a candid statement, that participant also acknowledged that Bhutan does not have in-country technical expertise on interoperability and EHR vendors are having to bring specialists from other countries to develop the system. "We are looking at this as an opportunity because then our local capacity will be built for sustaining this e-health system that we are going to implement," they added.

A similar sentiment was echoed by a participant from the Philippines, who said that when their institution was implementing electronic vaccination monitoring systems within local government units, it encountered real difficulties in terms of users' readiness to adapt to digital systems. To surmount this challenge, the implementation team took a step back and introduced capacity development programs for the different stakeholders involved in the effort, including the government's own CIO program.

To sustain motivation while implementing complex interoperable systems on the one hand, and to drive alignment and collaboration across the healthcare ecosystem on the other, the promise of better health outcomes through value-based healthcare can serve as a "North Star", said Coughlin. Then, once a commitment is in place, using implementation guides such as the technical frameworks developed by IHE International can help cement that agreement into practicality, as they spell out the steps and stages of interoperability implementation within individual clinical domains. Just as important, however, is the growing awareness that implementers must use input from both longstanding and emerging data sources beyond EHRs.

In that regard, Coughlin noted that throughout the history of interoperability "we have focused too much on the clinical information that contributes to care delivery, but there are also other sources of data that are relevant and that are becoming much more prominent, such as the social determinants of health (SDoH)". He urged attendees to figure out ways that make sense in their countries or in their organizational contexts to incorporate SDoH data into broad-based interoperability policies along with genomic, immunization-related, and other types of data.

Key takeaway 3:

Measuring progress toward digital transformation is a way to pinpoint health organizations' strengths and opportunities for improvement.

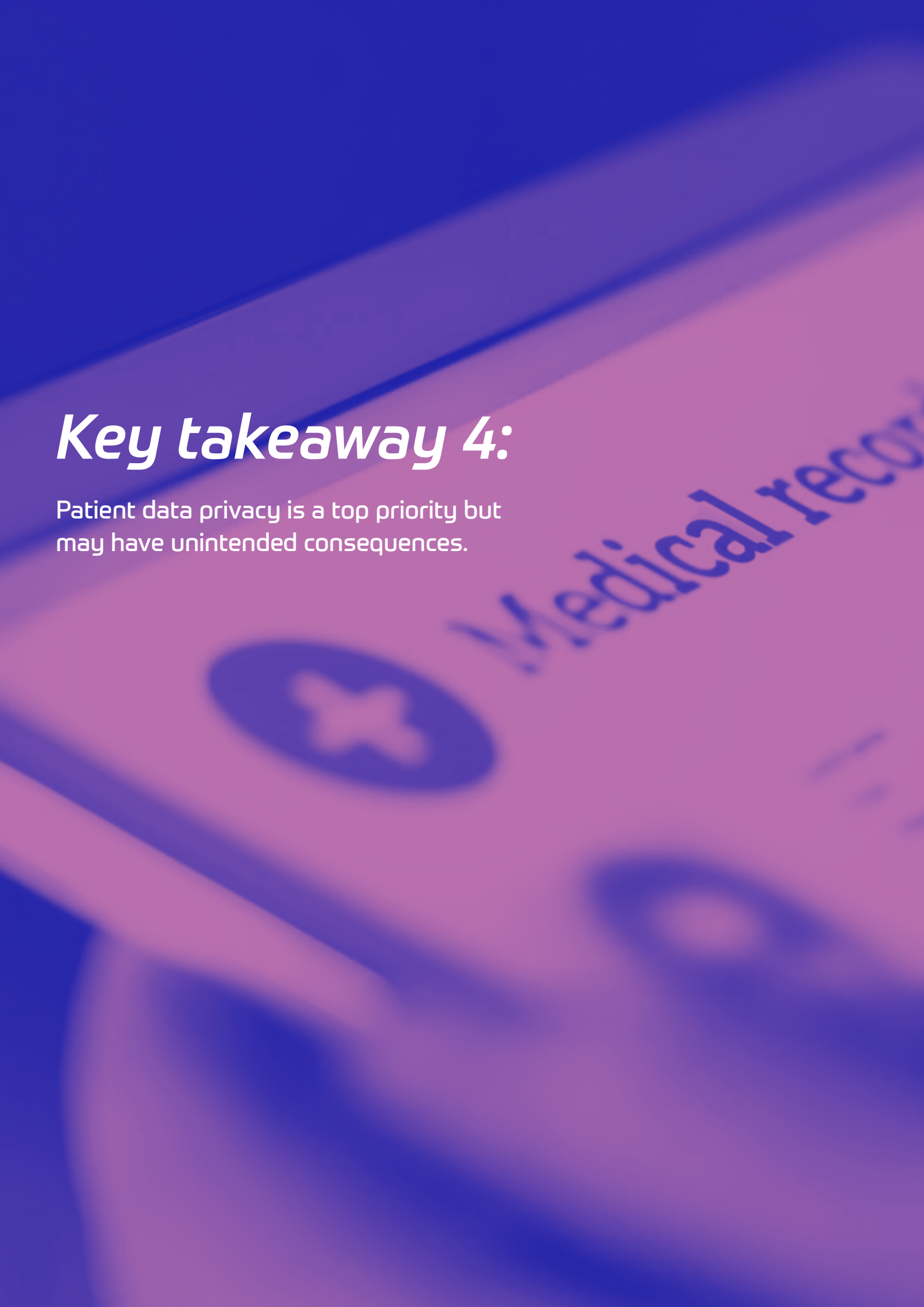
As a practical approach to supporting organizations on their interoperability and broader digital transformation journeys, HIMSS uses the Digital Health Indicator (DHI). The tool, which is built around the concept of the health system building blocks – governance and workforce, interoperability and democratization of data, analytics and traceability of outcomes, digital capacity, and population health and wellness – tracks the levels of activation of four distinct types of tools, capabilities, and data.

Andrew Pearce, senior digital health strategist at HIMSS who led this part of the discussion, told participants how HIMSS had applied the tool to help health systems identify problematic areas related to interoperability and ways to address them. He presented as case studies the digital health challenges and transformation journeys of Calvary Health Care in Australia (a private not-for-profit healthcare organization), Hospital Authority in Hong Kong (public healthcare system), and the Ministry of Health in New Zealand.

Using the experience with the digital health indicator at the organizational level as a guide, HIMSS plans to roll out a similar measurement system for evaluating country-level interoperability. That tool is currently being tested and validated and the ambition behind it is to take collaboration with health systems one step further by tracking interoperability maturity at a whole country level.

Speaking to the need to track such progress at the national level, a participant from Singapore shared that at the moment "data sharing is not that welcome" in the country. General practitioners and hospitals do not cross-reference patient data and the challenge now is how to equip GPs with access to a common EMR championed by the Ministry of Health.

"That's the major problem we are having, trying to find a way to incorporate all these data into one single repository so that we can have better longitudinal data when it comes to precision healthcare," the participant said.



Key takeaway 4:

Patient data privacy is a top priority but may have unintended consequences.

No discussion on interoperability is complete without recognizing the importance of patient data privacy and security protocols. The HIMSS government roundtable was no exception, but it went a step beyond by acknowledging that the way privacy norms are often written into law and interpreted can have the unintended effect of instilling reluctance and fear in healthcare organization managers to cooperate and share patient health data for legitimate purposes.

A participant from the Philippines testified to this, saying that when a strict patient data privacy law – punishable by imprisonment – was passed in the country, that is exactly what happened. They attributed this in part to digital transformation innovators' tendency to create norms in the digital world without necessarily factoring in how they reverberate in the real one, and in part to doing it too fast.

"From my experience, rapid digital transformation only highlighted the gaps in a weak health system. It created more chaos than value. Digital transformation should not lead to chaos, but to value add for both the provider and the patient, you need to align the digital and the physical worlds in terms of parameters," the participant commented. They further suggested that perhaps the primary focus should not be on digital health transformation and interoperability for their own sake, but on the value of health system strengthening. "When you are working on strengthening the healthcare system, it is easier to implement digital transformation with all the standards and protocols that implies," they added.

Another roundtable attendee from India also raised the question of how to go about creating a culture of openness rather than of fear around patient privacy rules. Trivedi addressed it by pointing out that the unintended effects of patient privacy-related restrictions are a recurring problem globally, but can be mitigated if political foresight is "baked into" the design of such laws from the outset. He gave the example of the Netherlands, which allows exceptions to its own strict patient data privacy law in the case of public health emergencies, such as the COVID-19 pandemic.

"There are ways you can balance strong privacy regulations with interoperability when you need it, but it´s in an evolving state," Trivedi said.

Key takeaway 5:

Having an interoperability implementation roadmap and measurement tools does not rule out a bumpy ride, where cultural context and political considerations sometimes stand in the way.

As both the HIMSS roundtable moderators and many of the attendees acknowledged over the course of the discussion, having a vision, a toolbox, and a plan of action for implementing interoperability can be sabotaged by neglecting to lay the groundwork with healthcare professionals, citizens, and other stakeholders beforehand. "Instead of pushing for digital transformation as a principle from the top down, especially in middle-income countries such as ours where we struggle with costs, I think what we should push for is alignment in terms of health system strengthening. And in the gaps we find there, we should push digital transformation – whether that´s related to EHRs, population health, or health financing," said the participant from the Philippines.

Expressing what seemed to be a general sentiment by several of the participants working on the frontlines of interoperability implementation, the participant concluded:

"Talking about digital infrastructure and interoperability is like putting the cart before the horse. In the health systems of several low- and middle-income countries, the truly important interaction is between health system strengthening and digital infrastructure. Both must be interoperable. That's the interoperability we need to talk about, and for that to happen it´s very important to improve governance at scale – financial and not just digital governance – to drive transformation even better."