



Dialogues on Digital Health 15th-29th January, 2021

In January 2021, Asian Century Foundation launched its signature new dialogues series, ACF Dialogues. ACF Dialogues is a virtual platform for policymakers, academics, and practitioners from India, East and Southeast Asia to discuss and share their views on key socio-economic developmental priorities. This initiative provides a well-curated opportunity for experts in their respective fields to connect with their peers, learn through exchanges of diverse perspectives, and build a network for further collaboration and interaction.

The first edition of **ACF Dialogues on Digital Health** was comprised of **3 different sessions covering 3 topics** critical to the sector. The first session took place on 15th January, on the topic, **'Use of mHealth Apps for Preventive Care'**, the second on 22nd January on **'Integration of Digital Health with Primary Care'** and the third on 29th January, on **'Regulatory Framework for Digital Health'**. The discussions were moderated virtual panels with a curated, by-invite only audience in attendance. The session was conducted under the aegis of Chatham House Rules. Over the course of the three sessions, around 16 experts participated in the panels from 6 countries and 80 audience members were in attendance in total.

The following brief outlines the discussions that took place over the each 2-hour session. The aim of the brief is not to detail the conversations; rather, it provides a qualitative overview of the discussion in key points.

Digital Health – Dialogue 1: Use of mHealth Apps for Preventive Care

Highlights

- The uptake of mobile health or mHealth applications by key government agencies remains limited, resulting in low public funding for innovation in the sector.
- mHealth applications that service the general public can be segregated into those that provide services to patients directly, those that are designed to enable interaction between healthcare providers and patients, and those that improve the overall functioning of the healthcare system.
- Most innovations made in the mHealth space are incremental and process-based, and rely on high-quality devices.
- The mHealth tools in circulation today have taken years to be scaled up after initially being designed based on a small sample size; as a result, when such apps are scaled up, they require significant adaptation and development.
- Most countries in the region do not have standards for mHealth applications.
- mHealth impacts frontline healthcare workers, many of who have never used smartphones before. Yet, mHealth apps that have been designed to provide a seamless user-engagement have a better chance of being adopted by frontline healthcare workers.

Introduction

Mobile health or 'mHealth' is increasingly seen as a **cost-effective tool for expanding access to care** by various stakeholders in the public health space. However, the uptake of mHealth apps by government health departments and ministries, particularly at the population level, remains limited. Nevertheless, there is tremendous opportunity for leveraging the penetration of smartphones and smart devices in rural and far-flung areas in India, China, and South East Asia, especially for preventive and promotive care.

mHealth apps can be used in many different ways to improve the health of individuals and populations including

- i) Apps that provide services to consumers or patients directly,
- ii) Apps for health providers or health professionals for direct interaction with patients, and
- iii) Apps that improve the functioning of the health system and healthcare delivery

At present, **most mHealth apps seek to address only a specific aspect of preventive or promotive care**. In the absence of all-encompassing applications that cover the full patient journey, it is **important to identify which specific aspect of preventive care each mHealth**

intervention seeks to address; health promotion and well-being, screening programs, early detection, or disease prevention.

Challenges

The services provided by the current generation of mHealth applications are not new. In fact, most of the innovations are incremental, process-based and highly dependent on high-quality devices. **High quality, device-agnostic apps are yet to reach the market.**

Presently, there are **no standards for mHealth applications** to ensure highest accuracy.

mHealth is largely seen as a **point-of-care intervention**, focusing on a single aspect of the patient journey.

There is a limited understanding of digital tools within the broader public health space. **Systems are not designed with the end-user in mind**, inevitably resulting in low-engagement levels when they are rolled out.

Digital tools often take years to scale after being designed. In fact, most of these tools are not designed to scale but to maximize the impact on a selected population. Thus, when these tools are scaled up, they require a lot of **adaptation and development to be suitable for a wider ecosystem**. Therefore, there is a need to define the type of scale and functionality as a part of the core architecture or design itself.

There is inadequate public spending on preventive healthcare programs. Thus, there is **low funding** available for these kind of projects, and **low scope for innovation**.

Opportunities

mHealth has multiple relevant applications. It needs to connect all the aspects of the patient journey rather than operate in silos.

mHealth can provide valuable insights from the kind of information that can be generated from these apps. mHealth is not a cog in the wheel, but the wheel itself, encompassing various elements.

Most frontline health workers in far-flung areas or areas where mHealth apps can be vital have never used a smartphone before. **Training these workers to use digital tools without hindering their primary functions** is a major challenge. However, past experience has shown, that **when these apps are designed to maximise user-engagement, health workers are gradually able to adopt it** over time.

Next Steps

The scope of the discussion was vast, covering a wide-range of topics related to mHealth and its use for preventive care, such as the present stage of development, design and UI, applications in public health, etc. Some key themes emerged that the experts felt warranted greater exploration, either in the form of more ACF Dialogues or through research and discussion on other platforms.

Some of these themes are:

1. How can mHealth be used as an enabler, in particular through the integration of mHealth tools into the healthcare system?
2. How does mHealth fit into the larger ecosystem of digital technologies?
3. How can such digital tools be effectively evaluated in real time? By the time relevant regulations are passed, the technology has already evolved, rendering these regulations useless; therefore, what mechanisms can be designed to address this challenge?
4. How can mHealth tools be effectively leveraged in order to design a prevention-oriented public health campaign?
5. How can mHealth tools be designed for scale and to ensure equitable access across geographic, economic, and cultural lines?
6. What are the implications for healthcare workers? How will the role of healthcare workers change in the future? Are a new cadre of community workers needed to support the adoption of digital tools in rural areas?

Moderator & Panellists

PANEL OF EXPERTS



Moderator: Prof. Brian Oldenburg, Chair, Non-Communicable Disease Control Unit, Melbourne School of Population and Global Health, Australia



Dr Anurag Agrawal, Director, CSIR Institute of Genomics and Integrative Biology, India



Tina Ja, Country Director, ACCESS Health International, China



Nardev Ramanathan, Senior Consultant, ACCESS Health International, Singapore



D Praveen, Head, Primary Healthcare Research, George Institute for Global Health, India



Kanishka Katara, Head, Digital Health, PATH Foundation, India

Digital Health – Dialogue 2: Integration of Digital Health with Primary Care

Highlights

- As digital health technologies get integrated into healthcare delivery, it is essential to ensure that a digital divide does not reinforce underlying health inequities.
- Adding an extra layer of 'digital care' without ensuring integration into existing primary healthcare systems can result in failure to build a system that is sustainable in the long run.
- While COVID'19 has enabled the use of digital health tools, it could be temporary phenomenon as many patients still prefer face-to-face interactions with healthcare providers.
- However, the success of certain digital health initiatives in the past year has illustrated how digital tools can be used going forward to address critical public health issues in non-emergency situations as well.
- In the light of constantly evolving technologies, certain general principles concerning the quality of care delivered online need to be established by the government to ensure that the upcoming tools adhere to minimum quality standards.

Introduction

Application of digital health cannot be limited to COVID'19 or any other public health emergency situation. It has to be integrated into health system functioning if it has to provide real, long-term benefits. Primary health care is the foundational basis of an efficient and equitable health system because it provides a range of services in health care. These services extend beyond health care into a variety of other social determinants. Therefore, **digital health should be defined in terms of its potential to be integrated with primary health care**, which addresses all the three dimensions of universal health coverage: population, service, and financial coverage, in the best possible manner.

Primary care encompasses a variety of functions, including health promotion, immunisation, disease surveillance, diagnosis and consultation. **A single technology or mobile application will not be sufficient** for providing the full-range of functions involved in primary care. Therefore, **a network of multiple technologies**, where each technology specialises in a particular aspect of primary care, **may be required to build a digitally-enabled primary care system**.

Digital health interventions should be tailored to the specific needs of the local population depending on the health profile, socio-economic indicators, linguistic patterns, etc., to achieve maximum engagement and impact on health outcomes.

In the world of digital health, **a digital divide could reinforce the underlying health inequities** in a population. Therefore, improving digital literacy, building the necessary communication infrastructure, and increasing access to mobile phones and smartphones are essential for operationalising digital health at scale.

Challenges

Digital tools are still at an early stage of development. At present, the ability of existing digital tools to perform critical functions related to primary care remains limited. Specifically, the development of digital health tools specialising in the following areas needs to be accelerated:

1. Early diagnosis
2. Telepathology
3. User-centric design
4. Awareness
5. Logistics

Primary care is not fully integrated with other tiers of the health care system in India and China. Therefore, adding another layer of digital care without proper integration of primary care with the health care system could prove ineffective in building a sustainable, digitally-enabled primary care system. For instance, China has built telemedicine platforms in primary health centres to improve access to care. However, the utilisation of these services continues to remain low because primary care is not well integrated into the health system. As a result, patients do not visit their primary care facility in the first place. Similarly, **digital interventions need to be embedded into the health care system** in order to be sustainable in the long-term.

Lack of availability of data is a major impediment to the evaluation of digital health programs. It is necessary to establish mechanisms to **generate and collect real-time, high-quality data** to effectively monitor and evaluate these programs.

During COVID'19, it was observed that **high-income countries were quick to adopt digital technologies for the management of non-communicable diseases (NCDs)** in comparison to low-income countries. Furthermore, it was seen that high-income countries deployed advanced technological tools, like machine learning and AI, for the management of NCDs, while the interventions in low-income countries were limited to the use of smartphones and mobile applications.

Although a rapid increase in the availability and utilisation of digital health tools has been observed in the past year, it may not be able to outlast the temporary disruption caused by COVID'19. A number of studies have revealed that **people still have a strong preference for face-to-face consultations** over virtual care.

Opportunities

Digital health tools are being used in innovative ways to provide operational support to providers; **hospitals are using robots for all kinds of activities**, including cleaning, temperature screening, information systems, and even for minimally-invasive surgeries.

Digital health interventions have the potential to eliminate the need for physically accessing a point-of-care facility for basic care. The transition to digitally-enabled modes of working during COVID'19 has reinforced the idea of **providing digital, direct-to-home services in the medical arena** as well, opening up the possibility of providing **continuous, round-the-clock care**.

In response to COVID'19, **digital technologies, like smartphones and geographic information systems (GIS), were innovatively used by public health departments** to track and control the spread of the coronavirus. The success of these initiatives has illustrated the potential of using digital tools to address critical public health issues in non-emergency situations as well. The learning from these initiatives could be embedded into the health system for using digital tools for public health on a regular basis. However, the resulting **collection of data also needs to be monitored to ensure privacy** of the individual.

As the uptake of digital health increases across the world, the lead time for the development of new digital health tools is expected to reduce significantly. Thus, providers and policymakers could benefit from actively seeking new technologies that could help them achieve their objectives in their specific domains.

Digital health could be empowering if it is able to deliver care in a satisfactory manner. People have a strong preference for physical interactions with the health care system. However, if digital health is systematically linked with the physical health care system, it could significantly **enhance patient experience and improve the quality of care**.

A new understanding of digital health, that is beyond the context of the physical health care system, needs to be developed in order to formulate the necessary regulations for digital health. In the light of constantly evolving technologies, **certain general principles concerning the quality of care delivered online could be established** by the government to ensure that the upcoming tools adhere to these minimum quality standards prescribed by the government.

Next Steps

Some of the important questions that emerged from the discussion that merit further exploration, either in the form of more ACF dialogues, or through research and discussion on other forums. Some of these topics include:

1. What steps are necessary to enable digital health to improve the regular functioning of the primary healthcare system?
2. How can equitable health outcomes using digital health be best achieved?
3. How can policy and financial mechanisms be used to promote digital health?
4. How can the adoption of digital tools by frontline workers be increased? How can tech-enabled frontline healthcare workers in urban and rural primary care settings be used to supplement the healthcare needs of the people, wherever possible, without depending on a physician-centric model?
5. How can real-time, high-quality data be generated to enable evaluation and improvement the quality of primary care?
6. How can payers (social insurance programs, insurance companies, etc.) improve the quality of healthcare delivery in digital and non-digital settings?
7. What can be done to design user-friendly digital health interventions that maximise user engagement?

Moderator & Panellists

PANEL OF EXPERTS



Moderator
Dr K Srinath Reddy, Public Health Foundation
of India, India



Girish Bommakanti, ACCESS Health
International, India



Dr Suresh Munuswami, Public Health
Foundation of India, India



Prof Lijing Yan, Duke Kunshan
University, China



Dr Maoyi Tian, George Institute for
Global Health, China



Prof Brian Oldenburg, Non-
Communicable Disease Unit, University
of Melbourne, Australia

Digital Health – Dialogue 3: Regulatory Framework for Digital Health

Highlights

- **COVID'19 has presented an opportunity to reassess and redesign the healthcare system where technologies play a critical role in healthcare delivery.**
- **Currently, there are no global standards to enable international interoperability of regulations concerning digital health.**
- **Regulatory frameworks for digital health need to be tailored to the local context of a country.**
- **Healthcare regulations should promote interoperability between health systems and technologies within a country.**
- **New tools and methodologies need to be developed to evaluate digital health interventions.**

Introduction

In response to COVID'19, most countries in Asia have released guidelines for regulation of digital health. However, **there are considerable differences in the guidelines released by countries** with respect to technical standards, safeguards for privacy and security, as well as for regulating digital health in the public and private domains.

Countries also arrived at their regulatory frameworks through **different processes and in order to regulate various aspects of digital health**. The Therapeutics Goods and Administration Act of Australia was arrived at as a result of a multi-stakeholder consultative process. The Act also has provisions for regulating emerging technologies such as artificial intelligence and internet of things. In China, the regulations have focused on building digital networks between providers based in rural and urban areas before opening up telemedicine to the consumer market. India, like many other countries, also released new digital health guidelines in the middle of the recent pandemic. These guidelines restrict the use of artificial intelligence and machine learning platforms for healthcare.

Challenges

Some of the major barriers and systemic challenges to regulations during COVID in the broad Asian region include access to digital health technologies, privacy and cybersecurity.

For many countries in the region, regulations have been difficult due to the evolving nature of digital health interventions. Thus, such **countries tend to adopt the norms and practices followed by other countries where regulatory frameworks are already deployed** and

regulations are more developed. However, this approach may not always be appropriate; **regulations cannot be easily transplanted from one country to another** as they may not be compatible with local conditions.

Digital health technologies, specifically artificial intelligence and machine learning platforms, developed in western countries are often trained using local datasets that are representative of the conditions prevalent in those countries. Therefore, these **technologies may not be suitable for developing countries without training the underlying algorithms in the local datasets.**

In countries such as India and China, where healthcare falls under the jurisdiction of different state or provincial governments, health systems and healthcare services available to the public tend to vary across the country. As a result, it becomes particularly **difficult to design digital solutions and regulations that could be deployed at scale.**

Opportunities

COVID'19 has forced different players in the healthcare sector, including hospitals, pharmacies, doctors, etc., to digitise their operations at scale, presenting **an opportunity to consolidate the digital health ecosystem** in the future. This global crisis has also presented **an opportunity to reassess the traditional hub-and-spoke model** of primary healthcare delivery. Given the current state of technological development, it is possible to redesign the healthcare system by deploying advanced technological tools to address the inefficiencies in the current system.

Specialised methodologies can be designed to evaluate the benefits of using digital health tools because the **real impact of using these tools is not adequately captured under the current regulatory procedures** based on clinical trials.

For digital health, the **system must move beyond one-time approval processes** and create mechanisms for actively monitoring these interventions to receive feedback in real time.

The need of the hour is to build **open, transparent, and verifiable data platforms that can be accessed by and shared with multiple stakeholders.** This approach will not only promote collaborations but also **generate trust in health systems.**

Next Steps

Some of the important questions that emerged from the discussion and require further investigation include:

1. How can relevant standards and performance benchmarks for digital health interventions be designed?
2. How can digital health systems be built that are both customisable yet interoperable at the sub-national level to account for the differences in the local context while ensuring continuity and interoperability at the national level?
3. How can new methodologies, including regulatory processes and approvals, be developed to evaluate the efficacy of digital health tools?
4. What are some of the mechanisms that can be used to monitor and evaluate digital health interventions in real-time?

Moderator & Panellists

PANEL OF EXPERTS



Moderator
Dr Jennifer Bouey, RAND Corporation, US



Prof. Mohd Khanapi Abd Ghani,
Technical University of Malaysia,
Malaysia



Dr Oommen John, George Institute for
Global Health, India



Dr Sonu Bhaskar, Brain Clot Bank, NSW
Hospital, Australia



Mike Liu, Center for China and
Globalization

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