

WEBINAR BLOG:

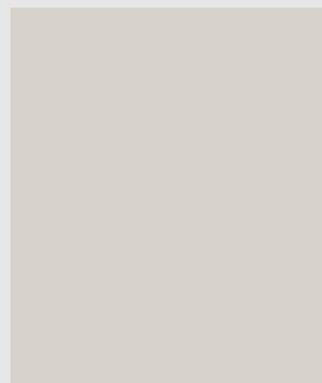
HARNESSING THE POWER OF DIGITAL HEALTH IN RESPONDING TO COVID-19 AND BEYOND



Dr. Stan Kachnowski



Dr. Ahmed Mandil



Dr. Marco Bardus

On the 17th of September 2020, the Knowledge to Policy Center (K2P) at the American University of Beirut hosted a webinar on “Harnessing the Power of Digital Health in Responding to the COVID-19 pandemic and Beyond”. The webinar is part of the K2P COVID-19 rapid response series and hosted three prominent speakers, Dr. Stan Kachnowski from [Columbia University, Graduate School of Business, Digital Health Program](#), Dr. Ahmed Mandil from the [World Health Organization, Eastern Mediterranean Regional Office](#), and Dr. Marco Bardus from the [American University of Beirut, Faculty of Health Sciences](#).

As COVID-19 continues to spread around the world, digital health has emerged as a fundamental tool for governments, healthcare providers, and institutions to respond to this public health crisis. Innovative digital technologies are being used on unprecedented scales to keep people connected, safe, and productive, while being physically and socially apart. The webinar highlighted the different digital health technologies utilized in the response to the COVID-19 pandemic, discussed the region’s readiness to harness the rapid adoption of these technologies, addressed concerns related to equity and patient privacy, and discussed key strategies to make the most out of digital health and available resources.



Virtual Health is here to stay!

While the amount of time physicians dedicate for virtual consultations is disproportionate to the compensation they are currently receiving, tech giants are expected to lobby law makers for greater compensations allowing the sustainability of an industry they have heavily invested in during this pandemic (with transactions reaching 18 billion USD). This technology like many other technologies is expected to diffuse rapidly to less developed countries around the globe including countries in the Eastern Mediterranean.

Blog summary developed by
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ROLE OF DIGITAL HEALTH IN MANAGING THE COVID-19 PANDEMIC

For hundreds of years people have managed pandemics, often with massive loss of life, with no digital technologies, yet the globalized societies we live in today have drastically changed. The need for rapid surveillance and diagnosis and the ability to rapidly treat people with COVID-19 is now more critical than ever. Different digital health tools enabled better surveillance, diagnosis, and treatment during this pandemic. This was of particular importance as the expression of COVID-19 symptoms and the subsequent response to treatment varied among different types of patients.

There seems to be patients with [higher genetic susceptibility](#) to express more severe symptoms of COVID-19. Therefore, the need for real-time symptom monitoring to assess whether the patient's health status is rapidly deteriorating and provide immediate treatment depicted the need for [remote devices and sensors](#) patients can take home to monitor various biomedical signals. Additionally, the digitization of hospital health records and their collection in centralized national databases allowed healthcare professionals to further understand what type of interventions are most effective on different patient types and what type of drugs can work best with specific DNAs. More importantly [electronic data capture tools](#) are optimizing clinical trials as scientists are being able to monitor in near real-time patients' response to treatment. Scientists are using these tools to rapidly conduct clinical trials for COVID-19 as they allow them to immediately conduct the biostatistics analysis needed to assess the efficacy of their interventions.

In the Eastern Mediterranean Region, digital health tools were also used to face the fast spread of this disease. For instance, contact-tracing applications were utilized to digitize and therefore optimize the contact-tracing process, yet, [in some cases, raising privacy concerns](#). Virtual health was also mobilized in the region to allow [continuity of care](#) while preventing the spread of the disease between healthcare professionals and patients. Finally, more affluent countries in the region are utilizing [artificial intelligence and machine learning to diagnose COVID-19](#) through [CT-Scans](#) by training machines to identify radiological signatures associated with the virus on these scans.

MAKING THE MOST OUT OF DIGITAL HEALTH AND AVAILABLE RESOURCES

Before adopting technologies, institutions need to look for independent verification that can evidence the efficacy of the technology in delivering it promises. This can be available through studies conducted by independent organizations such as academic institutions, think tanks, and family businesses. For newer technologies that do not have evidence from such studies decision-makers should consider conducting quick studies (approximately 30 days) with their own teams to assess the experiential performance of the technology. The model below may be used to guide the assessment process:

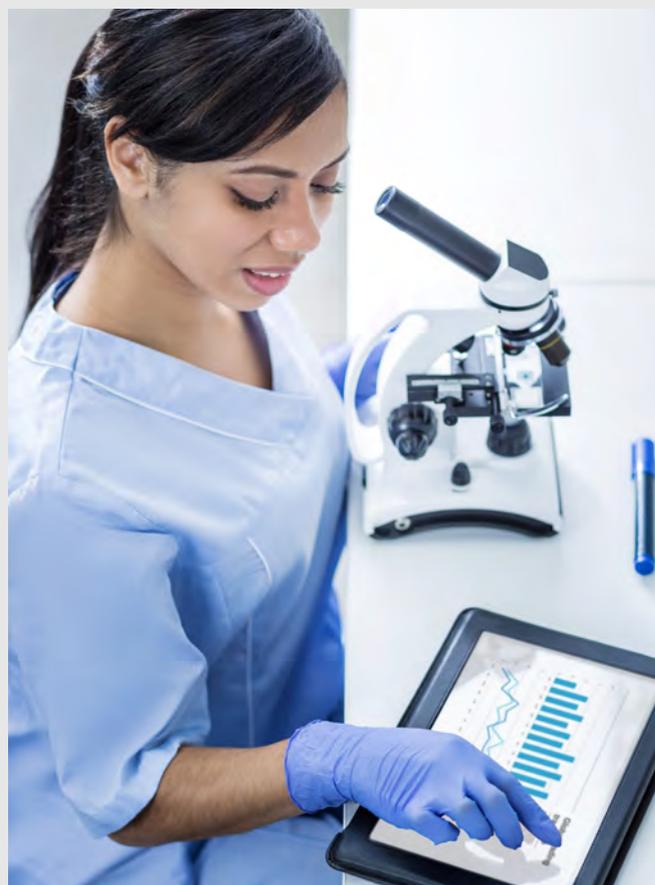
- 1. Technical:** Conduct user acceptance testing and basic qualitative interviews to determine whether the technology is delivering the technical attributes it promised
- 2. Economic:** Determine whether the technology creates new economic opportunities or saves money by doing something faster, better, or cheaper.
- 3. Experiential:** Assess whether the user will have a lot of friction while using the technology by understanding some key friction points such as requiring Bluetooth or requiring user training instead of user intuition.
- 4. Clinical Performance:** Determine whether the technology results in clinical improvement.

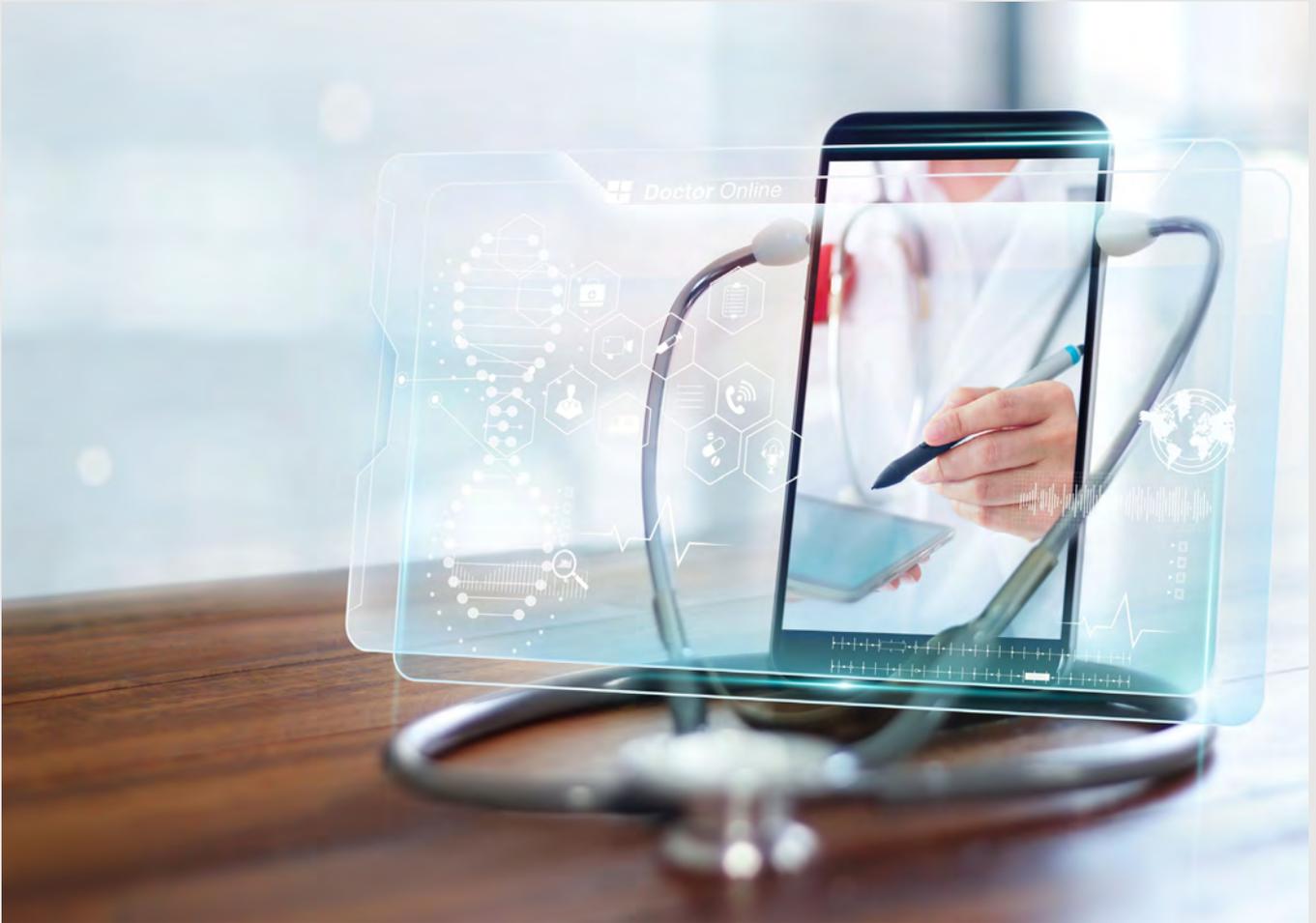


ADDRESSING EQUITY AND PATIENT PRIVACY

Numerous efforts are being made to deploy digital health in reducing health inequities. For instance, Facebook and Google are developing drones to access hard to reach individuals / remote communities using GPS locations instead of zip codes in poorer regions. Non-governmental organizations are developing [mHealth tools](#) to reach the most vulnerable Africans with key health messages related to maternal and child health among other health conditions. Yet, a lot of work is still needed to reduce health inequities especially for those resulting from the digital divide. For instance, [machine learning](#) algorithms that are now being used to develop treatments are based on information from populations in developed countries, such as European and North American countries, resulting in a disconnect. Immediate steps need to be taken to reduce the divide and to develop machine learning algorithms based on populations from Africa, Asia, the Middle East, and Latin America.

Relating to patient privacy, [a trade-off needs to be done](#) between personal information and public health priorities. For instance, contact-tracing applications vary in the amount of personal information they require with some collecting minimal information (e.g. mobile phone number) and others requiring the collection of the user's name, address and geolocation in real-time. More importantly, some of the applications developed even in European countries are [highly intrusive](#) accessing the user's phone camera, microphone, and gallery. To enhance user experience, these applications should have clear privacy policies mentioning what exactly is being accessed/collected, and should opt for collecting minimal information, requesting user's consent, and requiring minimal phone access whenever possible.





EASTERN MEDITERRANEAN REGION'S DIGITAL HEALTH READINESS

For the Eastern Mediterranean region to harness the power of digital health, it would need the proper infrastructure and an equipped population. The region is an example of the digital divide, the wide disparity in wealth is reflected in the [digital readiness of the region](#) with developed infrastructures in higher income countries such as the Gulf countries and poor infrastructures in lower income countries. Additionally, while phone penetration is more than 100% for many of the countries in the region, a large number of people are still not connected to the internet particularly in lower income countries.

From the consumer's end, during the COVID-19 pandemic, an unprecedented eagerness for the adoption of digital health tools was observed among populations across the Eastern Mediterranean as their governments accelerated efforts to provide governmental services, including health services, digitally. Yet, what is still lagging is the access to broadband in developing countries in the region.

The COVID-19 pandemic has reinforced for countries to take greater strides to ensure that the statement by the UN General Assembly to "[leave no one behind](#)" is achieved by 2030. Adopting digital health and integrating such approaches in Eastern Mediterranean region health systems is integral in ensuring that our region meets these ambitious goals.