COVID-19 Pandemic: Opportunity to Accelerate e-Health in Indonesia

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The COVID-19 pandemic is still unfolding. At least, 214 countries have reported confirmed cases, and 185 countries have confirmed local transmission, including Indonesia.[1,2] The pandemic has transformed the way people interact, including in healthcare settings. Patients are under lockdown; human movements are restricted, and health workers are at risk of infection. There is no certainty regarding how long this pandemic will endure.

In an attempt to reduce the transmission risk, health facilities and providers are trying to minimise face-to-face encounters with e-health technologies to protect patients, clinicians and the community from exposure. E-health encompasses the use of information and communication technologies for health to support and promote distance clinical care, education, and health administration.[3] It includes online or distance consultation, live video teleconferencing, store and forward technology, remote patient monitoring, mobile health application, text or email, and online prevention programs.[3] E-health can strengthen the medical responses and continuation of health service delivery during and after natural disasters and health emergencies.[4]

Many countries have shifted their health care provisions toward virtual healthcare models during the pandemic. Soon after the pandemic erupted in Wuhan City, the Chinese Government launched a virtual health initiative – encouraging patients to seek online services rather than in person. It was followed by health financing reform to include reimbursement for online health services.[5] The US government leveraged its telemedicine technology to screen patients with respiratory symptoms.[6] After the pandemic erupted in the US, the amount of online consultations has increased at least 10 times in comparison to the data before the pandemic.[5] Similarly, this situation is observed in Canada, Australia, Singapore, and the UK among other wealthy nations.[5,7,8] The pandemic provides a window of opportunity for a rapid shift in health care provision towards online prevention, consultation and treatment. It is expected that this will be a 'new normal' for many countries worldwide. Along with this rapid shift, there is a growing concern that it might compromise the quality of health services. However, with the escalation of the COVID-19 pandemic globally, health facilities and providers are willing to accept this trade-off to reduce transmission rates.[5]

While telehealth might be a viable option for many high income-countries, Indonesia has unique challenges in adopting wide-scale e-health technologies. As the fourth most populous nation and one of the largest archipelagos in the world, the full implementation of e-health in Indonesia will require changes in infrastructure, health system readiness, as well as adaptation to the socio-cultural contexts.

Firstly, implementation of e-health technologies is dependent upon electricity and functioning internet or cellular service. This basic infrastructure is inequitably distributed across islands of Indonesia. Some health facilities and communities in eastern part of Indonesia continue to face limited access to sustainable electricity source, let alone broadband internet services to support implementation of e-health. These circumstances indicate that e-health will be more likely to benefit wealthy regions. This inequity signals the urgent need to improve basic infrastructure required for implementing e-health, especially in areas with low fiscal capacity. A systematic health assessment and planning is required to identify health facilities that have functioning equipment to implement e-health, as well as availability of health provider networks who can provide e-health services.

Secondly, telemedicine has not been integrated into routine health care practices in Indonesia, largely due to the lack of acceptance by health professionals and the lack of perceived benefits from patients. As such, the adoption of telehealth in the Indonesia healthcare system has been very slow despite a significant increase in internet consumption over the last two decades. Telemedicine is assumed to be less effective than face-to-face services in establishing a conducive therapeutic relationship between health providers and patients. Furthermore, many physical

examinations cannot be replaced by digital services leading to compromised quality of health services. In primary care settings, the triage strategy to screen patients requiring face-to-face consultations will remain a challenge during and after the COVID-19 pandemic.

Nevertheless, in some parts of Indonesia, we are now witnessing transformation in e-health services. The COVID-19 pandemic has catalysed the proliferation of e-health tools (e.g. tracing apps, online booking systems, online drug store and delivery service, online education materials) and escalation of telehealth consultations. Alongside this, we have also witnessed the escalation of smartphone use in Indonesia, where more than 50% Indonesian of all ages are currently using a smartphone.[9] The pilot project of 'Desa Broadband' ('Broadband Village') implemented in 50 villages[10] provides another opportunity to expand the use of e-health nationally.

There are some possible scenarios for Indonesia moving forward with e-health implementation during and after the pandemic. Firstly, the COVID-19 pandemic has highlighted that the poor health literacy is an under-estimated public health issue.[11] A large segment of population is reported not having competencies to acquire, filter and apply health information. Health literacy is an important element for the prevention of both infectious and non-communicable disease. Enhancing health literacy is a key strategy to manage transmission risk during the pandemic. This should be coupled with enhancing e-health literacy, the ability to find and apply the right e-health information to solve a health problem.[12] Implementation of e-health technologies can be strategically positioned to facilitate wide-scale dissemination of health information. During the pandemic, it will improve the communication of public health risk and promote protective behavioural changes. Longer term, it will create greater demand for adopting e-health technologies.

Secondly, the pandemic has already enabled wide-scale acceptance of phone-consultation and video-conferencing by health providers and patients. Once health facilities have developed capabilities of serving patients through digital platforms, there is little reason for them to give these up as they offer many advantages. This means health facilities in Indonesia need to adopt e-health services based on their capacities and current demand from the population. Assessment of local capacity to implement e-health needs to be conducted to identify those who need further assistance. Health providers are urged to start adopting e-health modalities as methods to continue

their day-to-day care, and as interventions to cope with the imminent upsurge of patients during the pandemic. These will include for example online booking and associated administrative support, online consultation using telephone or video call, and distance clinical monitoring. The capitation model of the National Health Insurance scheme in Indonesia will enable this practice through the primary care provider networks.

The COVID-19 pandemic has catalysed the transformation of health care provision across the globe, including Indonesia. However, adopting and implementing e-health technologies in health care system has to be done gradually with careful planning and assessment to minimise negative consequences and to ensure equity. Strategies are required to address availability of basic infrastructure, broadband internet access, health system preparedness and acceptability from the community and health professionals. Promoting e-health also means transforming the overall landscape of health systems and the societal culture around health-seeking behaviour. It will not happen overnight, it takes time and substantial investment; but the process has to start now to leverage the 'magic' momentum presented by the COVID-19 pandemic.

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