

Views on information technology during COVID 19

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In April of 2020, the International Telecommunication Union and World Health Organization released a position statement entitled “Unleashing information technology to defeat COVID-19”.¹ The statement consistently intonates the positive aspects of technology solutions to key areas of the challenge that the world faces with the pandemic with little noted of the technical and bioethical dilemmas that technology may create.

The crippling nature of the SARS-CoV-2 virus results from its level of transmissibility between human hosts and it’s powerful pathogenicity with a documented case fatality rate of approximately 3%.^{2,3} While other viruses have exerted similar pressures on healthcare systems in the past, the global surge associated with this pandemic has repeatedly overwhelmed hospital capacities and caused increasing levels of unexpected death and human suffering.⁴ While scientists attempt to unscramble the mysteries of the disease to decrease the viral pathogenicity, the world must innovate methods to decrease the transmissibility.

The Center for Disease Control (CDC) has documented general precautions (social distancing, masks and handwashing) and public health measures (case investigation and contact tracing) that should be followed to decrease transmissibility.⁵ From even an anecdotal perspective, the task of contact tracing in a small country such as Trinidad and Tobago with a population of 1.3 million has been challenging because of inefficiency, lack of population cooperation and high levels of human mobility. It therefore stands to reason that the use of contact tracing innovations, though disruptive, would be most impactful. It should also be noted that technological solutions have been used to assist in encouraging social distancing in health systems through the more accessible forms of telemedicine and improving sanitation.^{6,7}

The bioethical debate regarding the use of these disruptive innovations is the classic matchup of the principle of beneficence as evidenced by the usefulness of the tools above weighted against the potential for violation of autonomy. The privacy risk is also well noted in contact tracing applications where third parties may gain access to confidential information. The personal and economic implications of this are far reaching if there is

social stigma attached to the disease in their community.⁸ Similar to most bioethical debates, there is no clear answer to this question since it enters the realm of instrumental harm of some individuals by applying Kantian utilitarianism. But ultimately in this dilemma, by applying the principle of the greater good, the value of implementing technology can be seen as pivotal. Furthermore, the concerns can be softened with the implementation of appropriate safety measures to protect the population from real or perceived exploitation.⁹ The protection of health information systems has also been well described through standardized measures such as making information available only when appropriate, making health systems accountable for data use, acknowledging information perimeters and abiding to the limitations, controlling and protecting access and finally comprehensive control of access.¹⁰ It is therefore imperative that significant oversight is applied while the technology is utilized. Of note as well is that as the disease transmission is brought under control, the technology should similarly be scaled down with a clear aim of allowing the global population to regain its full autonomy.

Information Technology scholars have cited several ways in which innovations have minimized the impact of COVID-19 including telemedicine, cashless payments, artificial intelligence (AI), modern networking, service robots and 3D printing of medical supplies.¹¹ While some of these measures have been possible in developed countries, it would be inconceivable that lower and middle income countries would have existing and excess income to spend on AI and upscaling 3D printing. Indeed, upfront costs is a challenge for even some communities in developed countries where disposable incomes are low and families struggle to obtain appropriate hardware and software to facilitate online learning and access to social services.¹²

In conclusion, technology can be seen as a double edged sword in the fight against COVID-19 but the world must leverage the positive aspects while remaining cognizant of the potential threats.

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