



# Telehealth as a Pandemic Silver Lining: Healthcare Lessons from COVID-19

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Received: 12 Nov. 2020 Accepted: 12 May 2021 ePublished: 29 Nov. 2021

## Dear Editor

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the third coronavirus to emerge in the past decade after the 2010 SARS-CoV and 2012 MERS-CoV, which originated in China and Saudi Arabia, respectively.<sup>1,2</sup> The virus is transmitted via small droplets which are produced during activities such as coughing, sneezing, and talking and spread through close human contact or touching infected surfaces.<sup>3</sup> Since its first reported case in Wuhan, China in December 2020, the virus has proved to be highly infectious, reaching epidemic levels with about 2.8 million COVID-19 cases recorded globally. As a result, the World Health Organization was prompted to declare it as a public health emergency of international concern.

The virus is of unknown aetiology and has no clinical countermeasures to date; therefore, prevention is the best strategy to prevent its spread. Many countries have enforced physical distancing, banned public gathering, and restricted mobility and transportation options.<sup>4</sup> However, such preventive measures have side-effects which negatively impact healthcare and population health at various levels. Physicians and nurses treating COVID-19 patients are often required to be isolated from their family.<sup>5</sup> Further, clinicians who are not well-versed in the complexities and risks of infectious diseases are facing new challenges. Patients requiring regular or urgent care (e.g., expectant mothers and patients awaiting elective/emergency surgery) are experiencing limited access to care.<sup>6</sup> Telehealth can ameliorate some of these side-effects and improve healthcare access along with the quality of life for both patients and practitioners.

## Telehealth for Curbing the COVID-19 Pandemic

Lockdowns and stay-at-home orders limited opportunities for referring to health centres, leading to undiagnosed COVID-19 cases which increases the risk of transmission.<sup>7</sup> For patients with relatively minor conditions which resemble COVID-19 symptoms, the fear of being a source

of cross-contamination leads to the self-isolation and reduced uptake of needed healthcare services. Telehealth via user-friendly video chat with health professionals can significantly enhance the diagnostic capacity of healthcare system without an increasing flow at health centres and the associated risk of cross-contamination.<sup>8</sup> Primary assessment algorithms, based on age, symptoms, and comorbid conditions, can also be provided via telehealth to determine whether an in-person medical visit is warranted.

Telehealth platforms can also facilitate knowledge sharing and awareness building about COVID-19 risks and prevention. For example, in Singapore, some companies have used chat-bots to share COVID-19 updates and to inform employees of the available help.<sup>9</sup> Telehealth technologies can also be used for training of volunteers and new professionals to address healthcare staffing shortages<sup>10</sup> and for disseminating accurate and timely data to health administrators and policy makers so as to assist them in choosing appropriate responses. Online recording and storage of health-related data can accelerate efforts to understand risk factors, to reach evidence-based interventions, and to fill in the research infrastructure gaps in limited-resource countries so that their researchers, clinicians, patients, and healthcare administrators can find appropriate solutions for advanced research and decision-making.<sup>11</sup>

In the context of COVID-19 and beyond, telehealth can add digital infrastructure to tackle pandemics, disastrous events, and post-disaster conditions, as corroborated by experts in other fields (e.g., North Atlantic Treaty Organization Multinational System).<sup>12,13</sup>

## Telehealth for Mental Healthcare Services During the Pandemic

The socioeconomic impact of COVID-19 (i.e., loss of employment, property foreclosures, and bankruptcies at unprecedented rates) is triggering a mental health crisis

as evidenced by a significant increase in depression, sleeplessness, self-harm, suicide, as well as alcohol sales. Further, the fear of being infected or infecting others has been reported as the cause of several suicide cases.<sup>14,15</sup> The increased suicide rate during the previous SARS-CoV outbreak, due to loneliness and disconnectedness, especially among the elderly, reminds us that supporting the population's psychosocial wellbeing during the pandemic is as critical as fighting the virus itself.<sup>16</sup>

Telepsychiatry, a subclass of telehealth, is a validated method to screen for suicidal dispositions<sup>17</sup> and to provide remote emergency mental healthcare in order to reduce suicide rates. Telemedicine experts can also collect data at physiological distress levels (e.g., the fear of COVID-19 scale)<sup>18</sup> to identify populations at risk of self-harm.

Psychiatric patients, especially substance abuse patients who are highly stigmatized and marginalized in terms of accessing healthcare services, face a higher risk of decompensation and addiction relapse as self-quarantine restricts therapy attendance. However, several web-based and smartphone applications already offer drug rehabilitation and withdrawal management services to improve outcomes for substance abuse patients worldwide, confirming that digital health innovations can serve the mental health needs of physically and socially isolated populations.

### Conclusion

The COVID-19 pandemic has challenged practitioners in all fields and overwhelmed even the most advanced healthcare systems. Physical and social distancing requirements have also contributed to the reduced healthcare access, especially for mental health patients whose needs are overshadowed by the public health need to control the spread of the virus. In conclusion, since the COVID-19 crisis was proven to be extremely challenging, telehealth has emerged as a silver lining, which we hope will advance to become a mainstream health service and a standard component of effective public health responses.

### Ethical Approval

Not applicable.

### Conflict of Interest Disclosures

The authors declare that there is no conflict of interests.

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