

The Rise of Telehealth in Medical Education and Healthcare in the Era of COVID-19 and Beyond: Can Psychiatry Take the Lead?

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Telemedicine has been a trendy topic in the medical field in recent years. The possibility of increasing access to healthcare for remote or limited-mobility populations, improving provider efficiency, and possibly reducing costs to providers (including reduced physician travel time and personnel costs) has made the idea of implementing telehealth more enticing to many physicians.¹ However, most still hesitated on its widespread adoption in their field, especially among seasoned practitioners, due to fears of reduced patient satisfaction, issues with reimbursement and licensure, breaches in privacy or safety, and difficulties with technologic operability.² For example, in the field of psychiatry, though overall telemedicine use had been increasing, its use was not evenly distributed as only a select few physicians accounted for most visits: 100 physicians in 2014 accounted for over half the tele-mental health visits that year in psychiatry.³ The COVID-19 pandemic has presented a new urgency for the utilization of telemedicine tools for patient care and medical education, forcing rapid acceptance of a previously possibly controversial health care tool into the daily lives of many providers and medical students nationwide. Despite the difficulties and uncertainty of telemedicine tools, this pandemic presents the medical community with an opportunity to both improve our ability to respond to future crises and usher in an era of healthcare that allows increased access to care and medical education.

Kannarkat *et al.*⁴ remark on this phenomenon in psychiatry noting how policymakers have taken action to remove restrictions on licensing as social distancing guidelines have limited patient contact with healthcare. The use of telepsychiatry and telemedicine in general is now being more readily accepted by once-hesitant prac-

tices and providers as previous legal, reimbursement, and technological barriers are being resolved quickly in order to increase access during the pandemic.⁵ Adjacent to patient care by providers is medical education for our future physicians, which has similarly been impacted by social distancing restrictions. While this technology is being adopted as a possible staple in the future of healthcare, we believe that it too may play an important role in the future of medical education. In light of the increasing transmission of COVID-19, in March of this year the AAMC guidelines strongly supported pausing clinical rotations, leading to the removal of medical students from in-person clerkships in medical schools nationwide.⁶ During this time, faculty members had to work quickly to adjust their curriculum to be based remotely using online platforms such as Zoom not only for lectures, but also for inpatient rounds, standardized patient encounters, and direct patient care. Some have previously called for standardized telehealth education guidelines for students to provide basic knowledge of its use and include skill competencies pre-COVID-19.⁷ However, as with telemedicine use for patient care, the COVID-19 pandemic has quickly pushed the utilization of telehealth in education to the forefront. This shift in education delivery towards remote learning has also illuminated the potential for teleteaching technologies to substitute in-person learning not only during the pandemic, but beyond.⁸ At the University of Missouri School of Medicine in Columbia we are interested in how the utilization of telemedicine and remote learning tools has affected the quality of medical student education and if this technology may indeed play a role in future curricula. We are in the process of gathering data from students and educators based on their experiences transitioning into using remote learning tools

in both educational and clinical settings when first affected by the pandemic in various settings across the medical school.

This widespread adoption of remote-learning tools for telemedicine and tele-education in medical schools presents both beneficial opportunities and possible shortcomings. Benefits of online platforms tools such as Zoom include the ability to incorporate multiple learners into telehealth visits without much disruption to patient care. Students are able to partake in the patient interview process and turn their camera off to avoid pulling focus from the provider when the student is observing, allowing the encounter to continue naturally. Additionally, tele-education represents an opportunity to improve medical student mental health by offering an improved work-life balance—remote sessions allow students to be in their home environment and to increase productivity between sessions which is more difficult to achieve during down-time in a clinical setting. The incorporation of telehealth within the medical school curricula is also exposing students to this platform for patient care, an experience which some believe is necessary for more widespread adoption of telehealth in students’ future practice as providers.^{2,3,9} Conversely, a potential downside of tele-education is the issue of anonymity for students during large group sessions with the option to forego displaying their video, which may disincentivize students from actively participating in lectures, problem-based learning groups, or team rounds. Also, relying solely on telemedicine for clinical education may not be ideal for specialties that largely depend on in-person contact such as surgery, likely resulting in lower quality of educational experience for

students on these clerkships. Lastly, medical students this year face the uncertainty of virtual residency interviews which invite a great degree of anxiety about having only limited contact with potential future employers and co-residents as well as remote school examinations which conjure worries about dishonesty and academic integrity that are relying on little more than faith in a school’s honor code. Regardless of such uncertainty, medical schools around the nation are relying on remote learning and telehealth during this crisis to continue educating our future physicians and awareness of both pros and cons of such a change is needed to achieve the best quality training for our current students (See Table 1).

One arena of medicine and education that adapted smoothly to such transitions was psychiatry. At our institution we noticed that the Department of Psychiatry was one of the first to offer direct patient care learning opportunities to students after the policy for remote learning for students was implemented. This was done utilizing Zoom for multidisciplinary team rounds, patient rounds, standardized patients, and student lectures. This graceful transition is likely due to the department having had prior experience using telepsychiatry to deliver patient care. In addition to there being an increasing body of literature that reports effectiveness and outcomes equivalent to in-person care across a broad range of mental health disorders and patient populations, telepsychiatry seems to be preferable to in-person care in specific child and adolescent populations, including children with depression and adolescents.^{3,10,11} In addition, embracing this technology grants the ability to gain access and awareness of a patient’s

Table 1. Pros and Cons to the Use of Remote Learning Tools and Telehealth in Medical Education	
Pros	Cons
Involve learners in telehealth visits without disruption	Increased anonymity, decreased participation during group learning sessions
Improve student mental health	Telehealth not compatible with well-rounded learning in all specialties
Early exposure to telehealth platforms	Limited contact with residency programs before The Match
Reduced travel costs with virtual residency interviews	Concerns over academic integrity with remote examinations

home and personal life as clinical interviews via Zoom often occur from a patient's own living room. This significantly aids in the biopsychosocial approach to the patient formulation that psychiatrists strive to achieve and may even bring up socioeconomic barriers faced by some patients and their families such as discovering a mother is unable to afford toys for her child when asked to find a toy for a parent-child interaction coaching session.¹² Lastly, widespread access and use of telepsychiatry has the potential to reduce no-shows and increase compliance among patients as the barriers of transportation, access to care, and higher healthcare costs may be avoided.^{1,13} On the other hand, possible downsides to widespread adaptation of telepsychiatry may include difficulty establishing trust with patients experiencing paranoia and maintaining adequate patient privacy given the option to record sessions on some platforms.^{2,3,14} As the COVID-19 pandemic has accelerated the rise of telepsychiatry, it is important to be aware of both the opportunities to improve psychiatric care and the potential pitfalls that we must work to prevent.

Overall, it has become impossible to ignore the growing role and utility of telemedicine and remote learning tools in healthcare today. The rapidity with which this technology has become a necessity for medical practice and education has shed light on the many opportunities these platforms provide and the possible complications they may cause. While many will phase out telehealth once this pandemic eventually subsides, we believe there are advantages to permanently incorporating this technology into the future of both medical education and the field of psychiatry, the latter of which appears to be leading the medical community in its adoption and application of telemedicine and remote-learning tools in both the clinic and the classroom.

Take Home Summary

The widespread employment of telemedicine during the COVID-19 pandemic offers a unique opportunity to better understand and embrace this technology to improve the future of healthcare and medical education.

References

1. Hilty DM, Ferrer DC, Parish MB, Johnston B, Callahan EJ, Yellowlees PM. The effectiveness of telemental health: a 2013 review. *Telemed J E Health*. 2013;19(6):444-454. <https://doi.org/10.1089/tmj.2013.0075>
2. Deslich S, Stec B, Tomblin S, Coustasse A. Telepsychiatry in the 21st century: transforming healthcare with technology. *Perspect Health Inf Manag*. 2013;10(Summer):1f.
3. Cowan KE, McKean AJ, Gentry MT, Hilty DM. Barriers to use of telepsychiatry: clinicians as gatekeepers. *Mayo Clin Proc*. 2019;94(12):2510-2523. <https://doi.org/10.1016/j.jmayocp.2019.04.018>
4. Kannarkat JT, Smith NN, McLeod-Bryant SA. Mobilization of telepsychiatry in response to COVID-19—moving toward 21st century access to care. *Adm Policy Ment Health*. 2020;47(4):489-491. <https://doi.org/10.1007/s10488-020-01044-z>
5. Chen JA, Chung WJ, Young SK, et al. COVID-19 and telepsychiatry: Early outpatient experiences and implications for the future. *Gen Hosp Psychiatry*. 2020;66:89-95. <https://doi.org/10.1016/j.genhosppsych.2020.07.002>
6. Important Guidance for Medical Students on Clinical Rotations During the Coronavirus (COVID-19) Outbreak. AAMC. March 2020. Accessed September 10, 2020. <https://www.aamc.org/news-insights/press-releases/important-guidance-medical-students-clinical-rotations-during-coronavirus-covid-19-outbreak>
7. Chike-Harris KE, Durham C, Logan A, Smith G, DuBose-Morris R. Integration of Telehealth Education into the Health Care Provider Curriculum: A Review. *Telemed J E Health*. Published online April 3, 2020. <https://doi.org/10.1089/tmj.2019.0261>
8. Mian A, Khan S. Medical education during pandemics: a UK perspective. *BMC Med*. Published April 9, 2020. <https://doi.org/10.1186/s12916-020-01577-y>
9. Saeed SA, Johnson TL, Bagga M, Glass O. Training residents in the use of telepsychiatry: review of the literature and a proposed elective. *Psychiatr Q*. 2017;88(2):271-283. <https://doi.org/10.1007/s11126-016-9470-y>
10. Nelson EL, Barnard M, Cain S. Treating childhood depression over videoconferencing. *Telemed J E Health*. 2003;9(1):49-55. <https://doi.org/10.1089/153056203763317648>
11. Barney A, Buckelew S, Meshierakova V, Raymond-Flesch M. The COVID-19 pandemic and rapid implementation of adolescent and young adult telemedicine: challenges and opportunities for innovation. *J Adolesc Health*. Published online May 14, 2020. <https://doi.org/10.1016/j.jadohealth.2020.05.006>
12. Jeffrey J, Marlotte L, Hajal NJ. Providing telebehavioral health to youth and families during COVID-19: Lessons from the field. *Psychological Trauma: Theory, Research, Practice, and Policy*. (2020;12(S1): S272-S273. <https://doi.org/10.1037/tra0000817>

13. *Psychiatrists Use of Telepsychiatry During COVID-19 Public Health Emergency Policy Recommendations*. American Psychiatric Association. June 2020. Accessed online on November 27, 2020.
14. Krzystanek M, Krysta K, Skołacka K. Treatment compliance in the long-term paranoid schizophrenia telemedicine study. *J Technol Behav Sci*. 2017;2(84-87). <https://link.springer.com/article/10.1007/s41347-017-0016-4>

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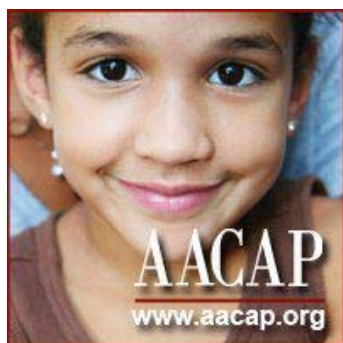
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