

Use of Telehealth During the COVID-19 Era

Executive Summary



Main Points

- Telehealth may improve access to care; however, patients using telehealth during the COVID-19 era are, like before COVID-19, more likely to be people who are young to middle-aged, female, White, of higher socioeconomic status, and living in urban settings.
- Across a variety of conditions, telehealth produced similar clinical outcomes as compared with in-person care; differences in clinical outcomes, when seen, were generally small and not clinically meaningful when comparing in-person with telehealth care.
- Telehealth may be less suitable and less desirable for patients with complex clinical conditions, those needing physical exams, and for therapies requiring the development of rapport between patients and providers.
- Providers note that the cost of telehealth can be a barrier to care owing to the limits of insurance reimbursement.
- Some patients perceive telehealth as a barrier to improved health outcomes owing to the absence of a physical exam and challenges in developing rapport and communicating with their care team, potentially resulting in delayed or missed diagnoses.



Background and Purpose

Telehealth is remotely delivered and synchronous medical services (e.g., telephone/audio, video visit) between a patient and a healthcare provider in an ambulatory setting (e.g., outpatient or community-based clinic) or emergency department (ED) and is further defined by the Centers for Medicare & Medicaid Services as the use of telecommunications and information technology to provide access to health assessment, diagnosis, intervention, consultation, supervision, and information across distance.¹ The COVID-19 pandemic has resulted in an unprecedented increase in the use of telehealth. The question is no longer whether to use telehealth but how to provide



telehealth care.

We sought to answer: (1) What are the characteristics of the patients, providers, and health systems using telehealth during the COVID-19 era? (2) What are the benefits and harms of telehealth during the COVID-19 era? (3) What is considered a successful telehealth intervention during the COVID-19 era? and (4) What strategies have been used to implement telehealth interventions during the COVID-19 era?

Methods

We conducted a mixed-methods review using methods consistent with the Agency for Healthcare Research and Quality Evidence-based Practice Center Program Methods Guidance (<https://effectivehealthcare.ahrq.gov/topics/ceer-methods-guide/overview>) and described in the full report. Our searches covered publication dates from March 11, 2020, through May 2, 2022. We are updating the search during review of this draft report.

Results

We identified 9,987 unique citations, of which 764 were eligible and applicable to at least one of the four Key Questions (KQs); 310 were included in the syntheses:

KQ1. What are the characteristics of the patients, providers, and health systems using telehealth during the COVID-19 era? (Eleven studies were included in the synthesis.) Patients using telehealth during the COVID-19 era were more likely to be people who are young to middle-aged, female, White, of higher socioeconomic status, and living in urban settings. As before COVID-19, visits for mental and behavioral health conditions were more frequent than for other conditions and mental or behavioral care was also more likely to be delivered via telehealth than care for other conditions.

KQ2. What are the benefits and harms of telehealth during the COVID-19 era? (Sixty-three studies were included in the synthesis.) Patients seeking care for COVID-19 and for women's health (including pregnancy/prenatal/gynecological care) who received an initial telehealth visit had higher emergency department (ED) visit and hospitalization rates compared with those who received in-person care; however, differences, if any, for healthcare utilization rates between in-person and telehealth care were generally small and/or not clinically meaningful (i.e., would not result in changing the clinical practice or care plan for the patient) and varied across clinical conditions. For instance, patients with COVID-19 receiving telehealth care may have been more likely than those receiving in-person care to be hospitalized or visit the ED; whereas, of adult patients who received care for general medical conditions, those who received an initial telehealth visit had lower hospitalization rates compared with those who received in-person care.

For clinical outcomes, the difference between telehealth and in-person care varied by the type of outcome; differences in mortality rates and reported adverse events between telehealth and in-person care were small and/or not clinically meaningful. Patients who received an initial telehealth visit may have had better patient-reported outcomes and condition-specific clinical outcomes compared with those who received in-person care.

For process outcomes, the difference between telehealth and in-person care varied by the type of outcome. There was a mostly lower rate of missed visits, lower rate of change in therapy/medication, higher rate of therapy/medication adherence, but lower rate of up-to-date labs and paraclinical assessment among patients receiving an initial telehealth visit. Among patients who received general medical care or surgical care, those who received telehealth care may have had lower rates of care resolution in their initial visit, thus higher rates of followup visits. However, among patients who received care for specific conditions (excluding COVID-19 and pregnancy/prenatal/gynecological care) those who received an initial telehealth visit may have had higher rates of case resolution.

KQ3. What is considered a successful telehealth intervention during the COVID-19 era? (One hundred eighty-seven studies, plus 138 surveys, were included in the qualitative synthesis.) Our qualitative evidence synthesis found that telehealth is more convenient, provides greater access for many patients, provides patient and provider flexibility, is more efficient in terms of time and use of office space, allows for remote work, and supports greater inclusion of family caregivers. However, telehealth may not be suitable for all patient populations, such as those who are more difficult to reach and engage via telehealth, and may result in missed or delayed diagnoses owing to the lack of a physical exam. In addition, telehealth raises concerns about the maintenance of privacy and confidentiality in the digital environment, especially if patients access telehealth in public places or in multi-person homes. Insufficient communication and technical issues emerged as critical barriers to long-term implementation of telehealth. A combination of telehealth with traditional, in-person visits may help to ensure regular and appropriate followups, especially for specific patient populations (e.g., those who live far away from in-person care).

KQ4. What strategies have been used to implement telehealth interventions during the COVID-19 era? (Fifty-one studies were included in the synthesis.) We identified no studies that directly evaluated or compared implementation strategies, which was not surprising given the haste with which telehealth had to be implemented. Even during the update of the search, when we more than doubled the number of studies we identified that addressed implementation, we found none that directly evaluated or compared implementation strategies. There is a lack of evidence about telehealth implementation cost and sustainability of services, as well as about implementation outcomes at the health-system level. On the provider side, telehealth adoption and acceptability were affected by factors such as prior training in and experience with telehealth. The appropriateness of telehealth services in achieving planned outcomes was mixed on both patient and provider levels. Among providers, the feasibility of telehealth services was generally high but, for patients, feasibility was sometimes limited by the availability of telehealth technologies.



Limitations

Included studies lacked standard information on the type of telehealth and how it was implemented. Outcomes were defined widely and were measured using a variety of approaches. Most of the quantitative studies were at high risk of bias and the qualitative studies often lacked rigorous reporting or methods. Evidence was lacking regarding the burden and costs of telehealth for patients, providers, and health systems. The outcomes reported were often short-term; long-term sustainability and implementation issues were not evaluated.



Implications and Conclusions

Whereas telehealth use spiked after the beginning of the COVID-19 pandemic, the characteristics of patients using the telehealth services follow a similar pattern as for other healthcare and digital health services. Those who are young to middle-aged, female, White, with higher socioeconomic status, and living in urban settings comprised a higher proportion of telehealth users. Our findings suggest that, while telehealth may improve access to care, it may be doing so for those who already have access. We found that, compared with in-person care, the use of telehealth may achieve comparable clinical or process outcomes; in some specific contexts, telehealth outcomes were better than for in-person care. As we transition through the COVID-19 era, telehealth likely will continue to be one of the main modes of care delivery. Thus, models for integrating telehealth with traditional care process become increasingly important and ongoing evaluations of telehealth will be particularly valuable. Our findings suggest a direction for future work. There is a need for a clear definition of telehealth and other modes of virtual care delivery, the context in which the services are implemented, and the usual or alternative models of care used for comparison. Furthermore, research needs to be conducted as multisite studies and in different private and public health systems. Future research is needed on the effectiveness of telehealth for clinical applications with limited prior evidence but rapid expansion during a pandemic. More research is needed to perform an economic assessment of telehealth and the impact of telehealth care within alternative payment arrangements.



References

1. Telemedicine. Centers for Medicare & Medicaid Services; 2020. <https://www.medicare.gov/medicaid/benefits/telemedicine/index.html>. Accessed May 2021.

Full Report

Hatef E, Wilson RF, Hannum SM, Zhang A, Kharrazi H, Weiner JP, Davis SA, Robinson KA. Use of Telehealth During the COVID-19 Era. Systematic Review. (Prepared by the Johns Hopkins University Evidence-based Practice Center under Contract No. 75Q80120D00003.) AHRQ Publication No. 23-EHC005. Rockville, MD: Agency for Healthcare Research and Quality; January 2023. DOI: <https://doi.org/10.23970/AHRQEPSCRCOVIDTELEHEALTH>. Posted final reports are located on the Effective Health Care Program [search page](#).

