

Research & Policy Brief

Increasing Telehealth Use during the COVID-19 Public Health Emergency and Healthcare Disparities: An Updated Systematic Review

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Background

The COVID-19 public health emergency (PHE) led to a dramatic increase in telehealth use owing to relaxed policies to facilitate healthcare access, but early studies demonstrated variability in telehealth utilization patterns across demographic groups.¹ COVID-19 disproportionately affected communities of color and the socially disadvantaged, highlighting existing disparities in access and quality of care in the U.S. health system.² We previously conducted a systematic review to summarize available evidence from early in the COVID-19 pandemic, and we concluded that most available evidence showed that telehealth did not reduce disparities in access to health care during the PHE.³ The purpose of this *Research & Policy Brief* is to update our search and summarize contemporary data on this question.

Key Findings

- Our previously completed systematic review found little evidence that telehealth reduced disparities during the COVID-19 pandemic.
- Since the prior report, newer studies tested similar demographic strata for an association between telehealth utilization and access to health care.
- Most available evidence still showed that telehealth did not reduce health care disparities, but we found some examples of telehealth interventions targeted to reduce inequity.

Methods

We used the search strategy and methods previously reported for our prior systematic review (PROSPERO CRD42023392678),⁴ and all citations in this update were abstracted by a single reviewer. We conducted a search update in PubMed, Embase, Cochrane Central Register of Controlled Trials, CINAHL, Telehealth.HHS.gov, and the Rural Health Research Gateway on July 5, 2023, to find references published since the original search on December 9, 2022, using the concepts of telehealth, COVID-19, health equity, and health care access. Our search terms have been previously published on SearchRxiv.⁵

Findings

Of the 523 references in our updated search, 32 met final inclusion criteria for the study. Most studies were retrospective cohort studies using before-after methodology, and telehealth utilization was the most common study outcome. Compared to our initial search, more of the papers included in this search focused on total health care utilization (instead of telehealth-only utilization), but overall, conclusions were similar. **Table 1** summarizes the evidence collated in this review.

Table 1. Characteristics of telehealth utilization studies and findings from updated search (July 5, 2023)

Author, Year	Geographical and Clinical Setting	Study Design	Dates Included	Outcome	Demographic Groups													
					Age		Race/Ethn				Coverage		Socioeconomic Stat	Social Vulnerability				
					Rural	Young	Older	Black	Asian	Other Race	Hispanic	Non-English Language			Commercial	Public	No Insurance	
Adhikari, 2023 ⁶	US (VHA)	Interrupted time series	March 2018-March 2021	Telehealth visits														
Alishahi, 2022 ⁷	US (Medicaid recipients, single Colorado health system)	Retrospective cohort study	March 2018-March 2021	Telehealth appointment completion														
Callison, 2023 ⁸	US (Medicaid beneficiaries in Louisiana)	Interrupted time series	Jan 2018-De 2020	Telehealth visits														
D'Amico, 2023 ⁹	US (Single health system in Ohio)	Retrospective cohort study	April 2019-Dec 2020	Telehealth utilization														
Erickson, 2023 ¹⁰	US (National population survey)	Repeated cross-sectional survey	2017-2020	Telehealth utilization														
Gidwani, 2023 ¹¹	US (Employer-based and Medicaid-based insurance in California)	Before-after cohort study	Jan 2018-Dec 2020	Telehealth utilization														
Goldenthal, 2023 ¹²	US (Single health system in Ohio)	Retrospective cohort study	July 2019-Feb 2022	Telehealth utilization														
Jamison, 2023 ¹³	US (Single rural pediatric clinic)	Retrospective cohort study	Jan 2019-Dec 2021	Telehealth appointment completion														
Kalwani, 2023 ¹⁴	US (Academic and affiliated community cardiology practice in California)	Retrospective cohort study	March 2019-Feb 2021	Telehealth video or audio-only visit														
Lee, 2023 ¹⁵	US (Truven Health MarketScan Commercial Claims and Encounters)	Quasi-experimental	Jan 2019-June 2021	Telehealth vs. in-person outpatient visits														
Leung, 2023 ¹⁶	US (VHA, national)	Difference-in-difference cohort study	March 2019-Dec 2021	Telemedicine vs. in-person visits														
Lucas, 2023 ¹⁷	US (Single pediatric gender clinic in)	Quasi-experimental	Apr 2019-Feb 2021	Telemedicine utilization														
Macalino, 2023 ¹⁸	US (Single genetics clinic in New York)	Retrospective cohort study	Sept 2019-Oct 2020	Time to visit telehealth vs. pre-telehealth														
Morgan, 2022 ¹⁹	US (National primary care medical records)	Quasi-experimental	March 2019-Dec 2020	Telehealth conversion ratio														
O'Shea, 2023 ²⁰	US (VHA, national)	Difference-in-difference analysis	Oct 2015-Dec 2021	Mental health telehealth visit completion														
Decreased telehealth outcome in sub-group				No differences observed in sub-group														
Increased telehealth outcome in sub-group				Sub-group analysis not performed														

In our updated systematic review, we also identified that the range of outcomes was somewhat broader. Whereas early papers studied primarily telehealth use, papers in this updated search compared overall health care utilization. In several of these papers, inequality in telehealth access was partially tempered with increased in-person health care utilization—especially in later stages of the PHE. This finding is encouraging because it suggests that there is potential for initial disparities in access to novel care delivery methods to ameliorate over time, even though underlying disparities in access to in-person traditional care persist.⁴ This observation reinforces our previous conclusion that telehealth, in aggregate, did not act to reduce existing disparities in access to care.

In conclusion, social vulnerability remains a risk factor for delayed or avoided telehealth utilization. Future studies of telehealth dissemination should continue to focus on disparities and the role of telehealth system design and policies in reducing those disparities. The COVID-19 PHE represents a time of dramatic health system innovation, and the lessons learned from that experience will continue to inform telehealth policy and application in the years to come.

Notes

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