

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, continued)

Dwolo, 2023 ²¹	US (Single neurosurgery clinic in North Carolina)	Retrospective cohort study	June 2018- July 2021	Virtual visit completion																
Palzes, 2022 ²²	US (Single health system in California), alcohol use disorder	Before-after cohort study	March 2019- Dec 2020	Telehealth treatment utilization																
Park, 2023 ²³	US (Medicaid beneficiaries in Louisiana)	Interrupted time series analysis	Jan 2018- Dec 2020	Telehealth visits																
Phan, 2023 ²⁴	US (Single large pediatric health system in Mid-Atlantic region)	Cross-sectional time series design	March 2019- Feb 2021	Telehealth visits																
Pritchett, 2023 ²⁵	US (Single multiregional cancer practice)	Cross-sectional retrospective	July 2019- Aug 2021	Telehealth visits																
Sadauskas, 2023 ²⁶	US (Single academic health system in Mid-Atlantic)	Retrospective cross-sectional design	Jan 2020- Dec 2021	Video vs. audio-only telehealth																
Savira, 2023 ²⁷	Australia (Medicare beneficiaries)	Retrospective cohort study	July 2019- June 2021	Telehealth visits																
Sepsey, 2023 ²⁸	US (Pediatric multicenter chronic pain registry)	Retrospective cohort study	Sept 2018- Aug 2021	Access to telehealth chronic pain																
Shaikh, 2023 ²⁹	US (Medicare beneficiaries with hepatopancreatic)	Interrupted time series	2013-2020	Telehealth use																
Shao, 2023 ³⁰	US (Medicaid beneficiaries in Louisiana)	Interrupted time series	Jan 2018- Aug 2021	Telehealth utilization																
Tewari, 2023 ³¹	US (Single fertility clinic in Ohio)	Retrospective cohort study	Jan 2019- June 2021	Telehealth utilization																
Tisdale, 2022 ³²	US (VHA, national), cardiology visits	Retrospective cohort study	Jan 2019- Mar 2021	Telehealth utilization																
Wagner, 2023 ³³	UK (Single tertiary ophthalmology practice)	Retrospective cohort study	Jan 2019- Oct 2021	Attendance at telehealth appointment																
Weber, 2023 ³⁴	US (Single federally qualified health center in)	Before-after cohort study	Jan 2020- June 2021	Video and audio-only telehealth																
Wiefels, 2023 ³⁵	US (Single health system in Southeast)	Retrospective cohort study	Jan 2019- May 2021	Telehealth utilization																
Zacher, 2023 ³⁶	US (Single health system in Colorado)	Retrospective cohort study	Jan 2020- May 2020	Telehealth visits																
Zawada, 2023 ³⁷	US (Optum Labs Data Warehouse)	Before-after cohort study	March 2019- Dec 2020	Telehealth utilization																
Decreased telehealth outcome in sub-group				No differences observed in sub-group																
Increased telehealth outcome in sub-group				Sub-group analysis not performed																

Discussion

This updated systematic review revealed similar findings to our initial systematic review, although more studies were identified in this updated search (48 references in initial search, with an additional 32 references in this search). Telehealth utilization, in aggregate, increased more slowly among disadvantaged groups, such as older, more rural, Black, and economically disadvantaged populations than in less disadvantaged populations over the course of the PHE. This finding was most pronounced in single-center or single health system studies, but we observed isolated examples of specific programs dedicated to reducing disparities through targeted telehealth interventions that were effective.

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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