

Scope Review of Literature regarding Efficacy of Telehealth (2004-present)

Telehealth has been shown to be equally as effective as face-to-face care, including the care of vulnerable and marginalized populations, and has demonstrated cost-effectiveness. Additionally, the literature suggests high patient satisfaction with both videoconference and telehealth methodologies in studies where satisfaction was assessed.

Clinical area	Equivalence to in-person care
Telemental health	<ul style="list-style-type: none"> • Outcomes of telemental health were not significantly different from those of in-person care • Caveat: patients’ demographic characteristics and internet access might have impact on the use of telehealth-administered assessment (e.g., older adults)
Telerehabilitation	<ul style="list-style-type: none"> • Generally equivalent to or yields better outcomes than in-person care
Teledermatology	<ul style="list-style-type: none"> • Diagnosis and treatment concordance ranges from “acceptable”/ “good” to equivalent compared to in-person care
Teleconsultation	<ul style="list-style-type: none"> • Potential alternative to in-person care, but equivalence is unclear as teleconsultation encompasses widely varied conditions

Chronic Disease Management: Recent peer-reviewed literature indicates that telehealth has been found beneficial for diabetes care, chronic disease self-management, chronic obstructive pulmonary disorder (COPD), and cognitive behavioral therapy for HIV antiretroviral and depression treatment retention. Studies also support improved health literacy and self-management behaviors among an intervention group of adults aged 50 and older with at least one chronic condition.

Condition	Key Findings
Diabetes	<ul style="list-style-type: none"> • Telehealth for nutrition management in older adults living at home was likely to yield clinical improvements compared to usual care or no intervention • telehealth and telemedicine were impactful for diabetes, leading to clinically relevant reduction of hemoglobin A1C (HbA_{1c}; ≤-0.5%), and higher reduction rates for recently diagnosed patients and those with higher baseline HbA_{1c} (>8%) • Telehealth was effective for <i>diagnosing</i> diabetic foot ulcers, but it was unclear whether it was effective for <i>treating</i> them
COPD	<ul style="list-style-type: none"> • Telehealth found to be an effective component of COPD management, including maintenance of physical activity and delivery of patient education • The effects of providing oral anticoagulation management via telehealth and in person were similar

Implications

Current evidence supports the effectiveness of telehealth interventions for certain conditions, but there is insufficient evidence about the impact of telehealth on *utilization*. Further research (*e.g., what factors affect the extent to which telehealth interventions substitute for or complement in-person visits and whether those effects change as telehealth is more widely adopted*) is needed to inform decision making. Nonetheless, telehealth has the potential to improve access to care for specific patient populations of particular concern, including people living in rural areas, those with transportation barriers, and those facing provider shortages.

References

- American Academy of Family Physicians. Survey, FP experts agree: Interest in telehealth on the rise. <https://www.aafp.org/news/practice-professional-issues/20190514telehealth.html>. Updated 2019. Accessed 7/24/2020.
- Andrzejak M. Creation of an evidence-based telehealth training module for primary care provider preceptors servicing vulnerable populations. 2019.
- Banbury A, Nancarrow S, Dart J, et al. Adding value to remote monitoring: Co-design of a health literacy intervention for older people with chronic disease delivered by telehealth-the telehealth literacy project. *Patient Educ Couns*. 2020;103(3):597-606.
- Coffman M, Moore M, Jetty A, Klink K, Bazemore A. Who is using telehealth in primary care? safety net clinics and health maintenance organizations (HMOs). *The Journal of the American Board of Family Medicine*. 2016;29(4):432-433.
- Gaveikaite V, Grundstrom C, Winter S, Chouvarda I, Maglaveras N, Priori R. A systematic map and in-depth review of european telehealth interventions efficacy for chronic obstructive pulmonary disease. *Respir Med*. 2019;158:78-88.
- Fraser S, MacKean TJ, Grant J, Hunter K, Towers K, Ivers RQ. Use of telehealth for health care of indigenous peoples with chronic conditions: A systematic review. 2017.
- Health Resources and Services Administration, (HRSA). Telehealth programs. <https://www.hrsa.gov/rural-health/telehealth>. Updated 2017. Accessed Jul 24, 2020.
- Junkins A, Psaros C, Ott C, et al. Feasibility, acceptability, and preliminary impact of telemedicine-administered cognitive behavioral therapy for adherence and depression among african american women living with HIV in the rural south. *Journal of Health Psychology*. 2020;1359105320926526.
- Lundell S, Holmner Å, Rehn B, Nyberg A, Wadell K. Telehealthcare in COPD: A systematic review and meta-analysis on physical outcomes and dyspnea. *Respir Med*. 2015;109(1):11-26.
- Rush KL, Hatt L, Janke R, Burton L, Ferrier M, Tetrault M. The efficacy of telehealth delivered educational approaches for patients with chronic diseases: A systematic review. *Patient Educ Couns*. 2018;101(8):1310-1321.
- Rutledge CM, Kott K, Schweickert PA, Poston R, Fowler C, Haney TS. Telehealth and eHealth in nurse practitioner training: Current perspectives. *Advances in medical education and practice*. 2017;8:399.
- Sanyal C, Stolee P, Juzwishin D, Husereau D. Economic evaluations of eHealth technologies: A systematic review. *PloS one*. 2018;13(6):e0198112.
- Schwamm LH, Chumbler N, Brown E, et al. Recommendations for the implementation of telehealth in cardiovascular and stroke care: A policy statement from the american heart association. *Circulation*. 2017;135(7):e24-e44.
- Shigekawa, E., Fix, M., Corbett, G., Roby, D. H., & Coffman, J. (2018). The current state of telehealth evidence: A rapid review. *Health Affairs*, 37(12), 1975-5,1A-5A.
- Standing C, Standing S, McDermott M, Gururajan R, Kiani Mavi R. The paradoxes of telehealth: A review of the literature 2000–2015. *Syst Res Behav Sci*. 2018;35(1):90-101.
- Timpel P, Oswald S, Schwarz PE, Harst L. Mapping the evidence on the effectiveness of telemedicine interventions in diabetes, dyslipidemia, and hypertension: An umbrella review of systematic reviews and meta-analyses. *Journal of medical Internet research*. 2020;22(3):e16791.
- Totten AM, Womack DM, Eden KB, et al. Telehealth: Mapping the evidence for patient outcomes from systematic reviews. . 2016.
- Walker RC, Tong A, Howard K, Palmer SC. Patient expectations and experiences of remote monitoring for chronic diseases: Systematic review and thematic synthesis of qualitative studies. *Int J Med Inf*. 2019;124:78-85.
- Yang F, Xiong Z, Yang C, et al. Continuity of care to prevent readmissions for patients with chronic obstructive pulmonary disease: A systematic review and meta-analysis. *COPD: Journal of Chronic Obstructive Pulmonary Disease*. 2017;14(2):251-261.