



## Topic Brief: Virtual Care

**Date:** 7/1/2020

**Nomination Number:** 0867

**Purpose:** This document summarizes the information addressing a nomination submitted on June 28, 2019 through the Effective Health Care Website. This information was used to inform the Evidence-based Practice Center (EPC) Program decisions about whether to produce an evidence report on the topic, and if so, what type of evidence report would be most suitable.

**Issue:** Health systems would like to know the effectiveness of telemedicine for patient-provider encounters for improving access to care, improving clinical outcomes, and reducing costs.

**Program Decision:** The EPC Program will develop an evidence review based on this nomination.

### Key Findings

- Follow-up discussions with the nominators in light of changes in the use and coverage of telehealth led to refinements in the scope to focus specifically on literature published since COVID19; and on implementation.
- We found multiple systematic reviews and protocols for reviews that partially address the scope of the nomination.
- We found sufficient primary studies for a new systematic review on the topic.

### Background

Rural areas are chronically underserved in regards to health care, with insufficient ratios of physicians to residents.<sup>1</sup> Telemedicine, or the provision of health care remotely via technology,<sup>2</sup> may improve access to health care for these and other underserved populations. Telemedicine is a growing industry and was valued at 45 billion in 2019.<sup>3</sup>

In telemedicine, information is exchanged between the patient and provider from a distance. This exchange can be conducted in real time through modes such as video, which allow for live or synchronous information exchange, or via asynchronous exchange, or “store-and-forward”, in which pre-existing information such as medical history, images, or reports are sent to a specialist to review.<sup>4</sup>

The Health Resources and Services Administration (HRSA) supports the use of telemedicine to increase access to health care for those in rural areas.<sup>5</sup> Popular applications of telemedical care include radiology, pathology, remote patient monitoring, dermatology,<sup>6</sup> and urgent-care services.<sup>7</sup> Tele-urgent care services may include providing low-acuity (non-urgent) acute services to rural populations, populations impacted by natural disasters,<sup>7</sup> or pediatric populations.<sup>8</sup> Further, as visits to the emergency room for low-acuity issues may contribute to overcrowding and longer wait times for those with urgent conditions,<sup>9</sup> tele-urgent care services for such conditions could ease this burden, thus increasing access to care.<sup>10</sup>

## Nomination Summary

- The nomination states that health systems would like to determine cost-effective technology interventions that allow for effective provider-patient interactions to improve access to care and reduce patient burden. The nominators requested a review of the effectiveness of telemedicine on health outcomes.
- Health systems would use a review to help allocate resources appropriately between in-person and telemedicine service modes.
- With increased use of telehealth since the initial nomination, and breadth of literature identified in the initial assessment, the scope was revised to focus on literature on telehealth for clinician-patient encounters during the COVID19 pandemic; provide description of telehealth efforts and their outcomes; and include implementation.

## Initial Scope

1. Key Question (KQ) 1
  - a. Among adults, what are the effects of telemedicine for various settings/conditions (e.g., tele-urgent care for low acuity conditions, orthopedic surgery follow-up, dermatology consultation, cancer genetic risk counseling, routine and acute primary care) on key clinical and health systems outcomes (i.e., patient satisfaction, health care access, health care utilization, case resolution, cost, patient safety)?
  - b. Does the impact of telemedicine differ by 1) provider characteristics (i.e., specialty, amount of telemedicine experience, training, whether the provider has an existing relationship with the patient) 3) mode of delivery (i.e., telephone, video, web, short message service [SMS]) 4) patient condition or 4) patient characteristics (e.g., residency in urban vs rural setting, socio-economic status, age, race)?
2. KQ2:
  - a. Among adults, what are the adverse effects (i.e., inappropriate treatment, misdiagnosis, or delayed diagnosis; provider burnout) of telemedicine?
  - b. Do the adverse effects of telemedicine differ by 1) provider characteristics (i.e., specialty, amount of telemedicine experience, training) or 2) mode of delivery (i.e., telephone, video, web, short message service [SMS])?

**Table 1.** Initial Scope Questions and PICO (population, intervention, comparator, outcome)

Questions	1. Effects of telemedicine	2. Adverse effects of telemedicine
<b>Population</b>	Adults (≥18 years of age) seeking acute (e.g., symptom management,); routine; chronic (e.g., chronic disease management); or post-hospital discharge (e.g., routine follow-up and care for non-acute issues) care.	Adults (≥18 years of age) seeking acute (e.g., symptom management); routine; chronic (e.g., chronic disease management); or post-hospital discharge (e.g., routine follow-up and care for non-acute issues) care. Telemedicine care providers (if included in harms).
<b>Interventions</b>	Remotely delivered (e.g., telephone, video conferencing) medical services between a patient with a healthcare provider	Remotely delivered (e.g., telephone, video conferencing) medical services between a patient with a healthcare provider

<b>Comparators</b>	Usual care/standard of care, waitlist control, other active comparator (e.g., in-person care)	No comparator required
<b>Outcomes</b>	Patient, provider, system outcomes (e.g., patient and provider satisfaction, health care access, health care utilization, case resolution, cost, and patient safety), clinical outcomes (any), practice efficiency	Key adverse effects associated with telemedicine (e.g., inappropriate treatment, misdiagnosis, delayed diagnosis/care, increase in resource costs; provider burnout), duplication of services (telemedicine appointment followed immediately by an in-person appointment), patient non-adherence

**Revised Scope**

Key Question: In published articles describing the experience of health systems, hospitals, practices or other providers who implemented virtual health during the COVID pandemic:

1. What are the details of the patient population, provider characteristics, health system characteristics, and virtual health intervention? What were the outcomes reported with virtual health?
2. How satisfied were patients and providers?
3. How often was the issue resolved in the telehealth visit and were in-person follow up visits necessary?
4. What issues of access and communication did patients encounter?
5. What were the issues with reimbursement, in federal policies such as Medicare, state policies such as Medicaid, and private insurance, for virtual health?
6. What were the patterns & types of patients that continue to use telehealth (and benefit from it) even after the initial lockdowns/shelter-in-place policies in the early months of Mar-May 2020?
7. Implementation:
  - What strategies were used to implement virtual health?
  - What were the barriers and enablers of implementation?
  - What was the cost of the implementation and return on investment to the provider?

Overall, which virtual health interventions work for which populations in which settings? Using a framework such as the CFIR, what are effective implementation strategies for virtual health in the COVID era?

**Assessment Methods**

See Appendix A.

**Summary of Literature Findings**

We identified the following existing or in-progress systematic reviews (SRs) that address portions of nomination:

- A 2019 Veterans Affairs (VA) evidence brief evaluating video telehealth for primary care and mental health services in U.S. Veterans.<sup>11</sup>
- A 2019 VA SR on effectiveness of remote triage.<sup>12</sup>
- A 2018 Cochrane review on diagnosing skin cancer remotely.<sup>13</sup>
- A 2020 Cochrane SR on telerehabilitation services for stroke survivors.<sup>14</sup>

- A 2020 Cochrane SR on telerehabilitation for people with low vision.<sup>15</sup>

We also identified protocols for in-process reviews that cover portions of the nomination. Since there are many protocols registered within the past three years, we prioritized here only those registered in 2020:

- A United States Department of Veteran’s Affairs (VA) Evidence-based Synthesis Program (ESP) protocol for a systematic review entitled “Tele-urgent Care for Low-acuity Conditions: A systematic review of a complex intervention”<sup>16</sup> that covers tele-urgent care for low acuity conditions and addresses a portion of KQ1 and 2.
- A 2020 protocol for a review of reviews on telerehabilitation for physical therapy patients.<sup>17</sup>

We also identified primary studies addressing Key Question 1. Specifically from our review of 200 abstracts, we identified 8 randomized control trials (RCT) examining the effectiveness of telemedicine interventions on various outcomes in the management of the following chronic conditions: chronic kidney disease (1), chronic obstructive pulmonary disease (1), cancer (2), renal transplant recipients (1), osteoarthritis (1), chronic heart failure (1), multiple sclerosis (1). We also identified 5 RCTs evaluating the effectiveness of behavioral/psychiatric telemedicine interventions. We found 3 studies on telerehabilitation in musculoskeletal pain (1), shoulder surgery (1), and spinal cord injury (1) patients. We found 1 RCT evaluating the effectiveness of follow-up appointments following plastic surgery, and 1 RCT on follow-up to head trauma.

In our updated assessment we identified five completed and ongoing reviews that covered portions of the revised scope or had search dates that ended more than 6 months ago and are likely out of date. From our targeted search and review of 200 abstracts, we identified nine primary studies across a range of provider types and outcomes. See Appendix C for details.

**Table 3.** Literature identified for each Question from the initial scope

Question	Systematic reviews (6/2017-6/2020)	Primary studies (7/2015-7/2020)
Question 1: Effects of telemedicine	Total: 6 <ul style="list-style-type: none"> <li>• 3 Cochrane SRs.<sup>13-15</sup></li> <li>• 2 VA ESP SRs<sup>11, 12</sup></li> <li>• 1 VA ESP protocol<sup>16</sup></li> </ul>	Total: 18 <ul style="list-style-type: none"> <li>• RCTs:               <ul style="list-style-type: none"> <li>8 chronic conditions<sup>18-25</sup> ;</li> <li>5 behavioral/psychiatric<sup>26-30</sup></li> <li>3 telerehabilitation<sup>31-33</sup>;</li> <li>2 follow-ups: 1 to plastic surgery<sup>34</sup>; 1 to head trauma<sup>35</sup></li> </ul> </li> </ul>
Question 2: Adverse effects of telemedicine	Total: 2 <ul style="list-style-type: none"> <li>• 1 VA ESP protocol<sup>16</sup></li> </ul>	Total: 0

**Abbreviations:** RCT=randomized controlled trial; SR=systematic review; VA ESP=Department of Veteran’s Affairs Evidence Synthesis Program.

See Appendix B for detailed assessments of all EPC selection criteria.

### Summary of Selection Criteria Assessment

Telemedicine is a growing industry, as remote services can improve access to health care for underserved populations, such as those in rural communities. Assessment of the updated scope, focusing on COVID-era telehealth interventions and implementation, found multiple reviews

that addressed portions of the topic, and sufficient primary studies for a new review. A broad range of studies may inform the updated questions.

Please see Appendix B for detailed assessments of individual EPC Program selection criteria.

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## Appendix A: Methods

We assessed nomination for priority for a systematic review or other AHRQ Effective Health Care report with a hierarchical process using established selection criteria. Assessment of each criteria determined the need to evaluate the next one. See Appendix B for detailed description of the criteria.

### Appropriateness and Importance

We assessed the nomination for appropriateness and importance.

### Desirability of New Review/Absence of Duplication

We searched for high-quality, completed or in-process evidence reviews published in the last three years 6/2017-6/2020 on the questions of the nomination from these sources:

- AHRQ: Evidence reports and technology assessments
  - AHRQ Evidence Reports <https://www.ahrq.gov/research/findings/evidence-based-reports/index.html>
  - EHC Program <https://effectivehealthcare.ahrq.gov/>
  - US Preventive Services Task Force <https://www.uspreventiveservicestaskforce.org/>
  - AHRQ Technology Assessment Program <https://www.ahrq.gov/research/findings/ta/index.html>
- US Department of Veterans Affairs Products publications
  - Evidence Synthesis Program <https://www.hsrd.research.va.gov/publications/esp/>
  - VA/Department of Defense Evidence-Based Clinical Practice Guideline Program <https://www.healthquality.va.gov/>
- Cochrane Systematic Reviews <https://www.cochranelibrary.com/>
- PROSPERO Database (international prospective register of systematic reviews and protocols) <http://www.crd.york.ac.uk/prospéro/>

For the revised scope we searched for completed or in-process evidence reviews published since January 2020.

- PROSPERO
- COVID19reviews.org
- Cochrane Systematic Reviews
- Joanna Briggs Institute

### Impact of a New Evidence Review

The impact of a new evidence review was qualitatively assessed by analyzing the current standard of care, the existence of potential knowledge gaps, and practice variation. We considered whether it was possible for this review to influence the current state of practice through various dissemination pathways (practice recommendation, clinical guidelines, etc.).

### Feasibility of New Evidence Review

We conducted a limited literature search in PubMed for the last five years 7/2015-7/2020. Because a large number of articles were identified, we reviewed a random sample of 200 titles and abstracts for each question for inclusion. We classified identified studies by question and study design, to assess the size and scope of a potential evidence review. We then calculated the projected total number of included studies based on the proportion of studies included from the random sample.

For the revised scope we conducted a targeted PubMed search since January 2020. We reviewed 200 titles and abstracts for relevance to the topic scope.

### **Search strategy**

Feasibility Search for Virtual Care PubMed Searched July 24, 2020	
Topic	Search Strategy
Telemedicine	telephone[Title/Abstract] OR online[Title/Abstract] OR virtual[Title/Abstract] OR video[Title/Abstract] OR phone[Title/Abstract] OR text[Title/Abstract] OR "remotely delivered"[Title/Abstract] OR "Telemedicine"[Mesh] OR "Telenursing"[Mesh]
	AND
Patient Care	"Patient Care"[Mesh]
	AND
Adult, Published last 5 years, English	"Adult"[Mesh] AND ("2015/07/23"[Date - Publication] : "3000"[Date - Publication]) AND English[Language]
	AND
<b>KQ1</b> Outcome and Process Assessment	"Outcome and Process Assessment, Health Care"[Mesh]
N=1505	
Systematic Reviews N=58 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846474/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846474/public/</a>	systematic[sb]
Other Reviews N=23 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846506/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846506/public/</a>	"Review"[publication type]
Clinical Trial N=460 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846526/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846526/public/</a>	controlled clinical trial[pt]
Clinical Trial (hedge) N=336 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846538/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846538/public/</a>	(((((groups[tiab]) OR (trial[tiab])) OR (randomly[tiab]) OR (drug therapy[sh])) OR (placebo[tiab]) OR (randomized[tiab])) OR (controlled clinical trial[pt])) OR (randomized controlled trial[pt])
Other publications N=628 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846566/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846566/public/</a>	
<b>KQ2</b> Adverse Effects N=1200	"Costs and Cost Analysis"[Mesh] OR "Medical Errors"[Mesh] OR "Attitude to Health"[Mesh] OR "Stress, Psychological"[Mesh] OR "Patient Safety"[Mesh] OR "Costs and Cost Analysis"[Mesh] NOT "Outcome and Process Assessment, Health Care"[Mesh]

Systematic Reviews N=28 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846613/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846613/public/</a>	systematic[sb]
Other Reviews N=17 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846616/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846616/public/</a>	"Review"[publication type]
Clinical Trial (pub type) N=205 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846623/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846623/public/</a>	controlled clinical trial[pt]
Clinical Trial (hedge) N=252 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846631/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846631/public/</a>	(((((groups[tiab]) OR (trial[tiab]) OR (randomly[tiab]) OR (drug therapy[sh]) OR (placebo[tiab]) OR (randomized[tiab]) OR (controlled clinical trial[pt]) OR (randomized controlled trial[pt]))
Observational (pub type) N=30 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846638/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846638/public/</a>	"Observational Study" [Publication Type]
Observational (hedge) N=180 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846645/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846645/public/</a>	((("Cohort Studies"[Mesh]) OR "Controlled Clinical Trial"[Publication Type] OR "Case-Control Studies"[Mesh]) OR ("Evaluation Studies"[Publication Type] OR "Comparative Study"[Publication Type])) OR ("Comparative Study"[Publication Type] OR "Follow-Up Studies"[Mesh])
Other publications N=488 <a href="https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846653/public/">https://www.ncbi.nlm.nih.gov/sites/myncbi/r.relevo.1/collections/59846653/public/</a>	

## Value

We assessed the nomination for value. We considered whether or not the clinical, consumer, or policymaking context had the potential to respond with evidence-based change; and if a partner organization would use this evidence review to influence practice.

## Appendix B. Selection Criteria Assessment

Selection Criteria	Assessment
<b>1. Appropriateness</b>	
1a. Does the nomination represent a health care drug, intervention, device, technology, or health care system/setting available (or soon to be available) in the U.S.?	Yes.
1b. Is the nomination a request for an evidence report?	Yes.
1c. Is the focus on effectiveness or comparative effectiveness?	Yes.
1d. Is the nomination focus supported by a logic model or biologic plausibility? Is it consistent or coherent with what is known about the topic?	Yes.
<b>2. Importance</b>	
2a. Represents a significant disease burden; large proportion of the population	In 2017, 76% of hospitals in the U.S. were using telemedicine, <sup>36</sup> and telemedicine use is rising. <sup>3</sup>
2b. Is of high public interest; affects health care decision making, outcomes, or costs for a large proportion of the U.S. population or for a vulnerable population	Yes. The demand for telemedicine is rising, particularly in response to the COVID-19 pandemic. <sup>3</sup>
2c. Incorporates issues around both clinical benefits and potential clinical harms	Yes.
2d. Represents high costs due to common use, high unit costs, or high associated costs to consumers, to patients, to health care systems, or to payers	Yes. The telemedicine market was valued at 45 billion in 2019. <sup>3</sup>
<b>3. Desirability of a New Evidence Review/Absence of Duplication</b>	
3. A recent high-quality systematic review or other evidence review is not available on this topic	<p>Yes. Two protocols and 5 SRs address part of the nomination. The scope was unrestricted by type of medical service provided.</p> <p>We identified 5 additional reviews (one scoping review, one in-process rapid review, one in-process SR, and two completed SR). These covered portions of the revised scope but not the entire scope.</p>
<b>4. Impact of a New Evidence Review</b>	
4a. Is the standard of care unclear (guidelines not available or guidelines inconsistent, indicating an information gap that may be addressed by a new evidence review)?	Yes. Guidelines do not exist for telemedicine.
4b. Is there practice variation (guideline inconsistent with current practice, indicating a potential implementation gap and not best addressed by a new evidence review)?	Nominators would like to know the effectiveness of telemedicine options. An evidence review could contribute to targeting where telemedicine could be used.
<b>5. Primary Research</b>	
5. Effectively utilizes existing research and knowledge by considering: - Adequacy (type and volume) of research for conducting a systematic review - Newly available evidence (particularly for updates or new technologies)	<p>RCTs:18 from a random sample of 200 abstracts</p> <ul style="list-style-type: none"> <li>RCTs: 8 chronic conditions<sup>18-25</sup> ; 5 behavioral/psychiatric<sup>26-30</sup> 3 telerehabilitation<sup>31-33</sup>;</li> </ul>

	<p>2 follow-ups: 1 to plastic surgery<sup>34</sup>; 1 to head trauma<sup>35</sup></p> <p>We identified nine studies from a sample of 200 abstracts for the revised scope. Considering the interest in this area this may not be representative of the volume of literature that will be published in the coming months and potentially included in a new evidence review.</p> <p>The estimated size of a new SR is Medium or large.</p>
6. Value	
6a. The proposed topic exists within a clinical, consumer, or policy-making context that is amenable to evidence-based change	Yes. It is feasible to adapt telemedicine practices and could be beneficial. Because of the COVID-19 pandemic there is high interest in using telehealth for a variety of patient-provider interactions. Organizations are exploring different ways to provide care using telehealth. Thus, there is high likelihood of uptake of findings from an AHRQ evidence report.
6b. Identified partner who will use the systematic review to influence practice (such as a guideline or recommendation)	Yes. This topic was nominated by a Learning Health Systems member.

**Abbreviations:** AHRQ=Agency for Healthcare Quality and Research; COVID-19=coronavirus disease 2019; RCT=randomized controlled trial; SR=systematic review; US=United States.

## Appendix C. Literature Identified for the Revised Scope

Evidence reviews (1/2020-11/2020)	Primary studies (1/2020-11/2020)
<p>Total: 5</p> <ul style="list-style-type: none"> <li>• Boychuck et al (rapid review). <a href="https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=212989">https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=212989</a></li> <li>• Rutkowski et al. Telehealth in the treatment process in COVID-19 survivors. <a href="https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=212787">https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=212787</a></li> <li>• Andrews E, Berghofer K, Long J, Prescott A, Caboral-Stevens M. Satisfaction with the use of telehealth during COVID-19: An integrative review. <i>Int J Nurs Stud Adv.</i> 2020 Nov;2:100008. doi: 10.1016/j.ijnsa.2020.100008. Epub 2020 Oct 16. PMID: 33083791; PMCID: PMC7564757.</li> <li>• Monaghesh, E., &amp; Hajizadeh, A. (2020). The role of telehealth during COVID-19 outbreak: a systematic review based on current evidence. <i>BMC public health</i>, 20(1), 1193. <a href="https://doi.org/10.1186/s12889-020-09301-4">https://doi.org/10.1186/s12889-020-09301-4</a></li> <li>• Doraiswamy S, Abraham A, Mamtani R, Cheema S. Use of Telehealth during the COVID-19 pandemic: A scoping review. <i>J Med Internet Res.</i> 2020 Oct 30. doi: 10.2196/24087. Epub ahead of print. PMID: 33147166.</li> </ul>	<p>Total:</p> <ul style="list-style-type: none"> <li>• Shafi K, Lovecchio F, Forston K, Wyss J, Casey E, Press J, Creighton A, Sandhu H, Iyer S. The Efficacy of Telehealth for the Treatment of Spinal Disorders: Patient-Reported Experiences During the COVID-19 Pandemic. <i>HSS J.</i> 2020 Nov 4:1-7. doi: 10.1007/s11420-020-09808-x. Epub ahead of print. PMID: 33169072; PMCID: PMC7640578.</li> <li>• Byrnes ME, Varlamos CJ, Rivard SJ, Duby AA, De Roo AC, Hibbard CE, Callow MJ, Dimick JB, Byrn JC. "You're Used To Being The One That Can Fix Things...": A Qualitative Snapshot of Colorectal Surgeons During COVID-19. <i>Dis Colon Rectum.</i> 2020 Dec;63(12):1575-1578. doi: 10.1097/DCR.0000000000001818. PMID: 33149017.</li> <li>• McKenna MC, Al-Hinai M, Bradley D, Doran E, Hunt I, Hutchinson S, Langan Y, O'Rourke D, Qasem R, Redmond J, Troy E, Doherty CP. Patients' Experiences of Remote Neurology Consultations during the COVID-19 Pandemic. <i>Eur Neurol.</i> 2020 Nov 4:1-4. doi: 10.1159/000511900. Epub ahead of print. PMID: 33147591.</li> <li>• Irarrázaval MJ, Inzunza M, Muñoz R, Quezada N, Brañes A, Gabrielli M, Soto P, Dib M, Urrejola G, Varas J, Valderrama S, Crovari F, Achurra P. Telemedicine for postoperative follow-up, virtual surgical clinics during COVID-19 pandemic. <i>Surg Endosc.</i> 2020 Nov 2:1-7. doi: 10.1007/s00464-020-08130-1. Epub ahead of print. PMID: 33140151; PMCID: PMC7605475.</li> <li>• Qureshi RO, Kokkiralala A, Wu WC. Review of Telehealth Solutions for Outpatient Heart Failure Care in a Veterans Health Affairs Hospital in the COVID-19 Era. <i>R I Med J (2013).</i> 2020 Nov 2;103(9):22-25. PMID: 33126782.</li> <li>• Esper GJ, Sweeney RL, Winchell E, Duffell JM, Kier SC, Lukens HW, Krupinski EA. Rapid Systemwide Implementation of Outpatient Telehealth in Response to the COVID-19 Pandemic. <i>J Healthc Manag.</i> 2020 Nov-Dec;65(6):443-452. doi: 10.1097/JHM-D-20-00131. PMID: 33074968.</li> <li>• Isautier JM, Copp T, Ayre J, Cvejic E, Meyerowitz-Katz G, Batcup C, Bonner C, Dodd R, Nickel B, Pickles K, Cornell S, Dakin T, McCaffery KJ. Lessons from the COVID-19 pandemic: People's experiences and satisfaction with telehealth during the COVID-19 pandemic in Australia. <i>J Med Internet Res.</i></li> </ul>

Evidence reviews (1/2020-11/2020)	Primary studies (1/2020-11/2020)
	<p>2020 Oct 31. doi: 10.2196/24531. Epub ahead of print. PMID: 33156806.</p> <ul style="list-style-type: none"> <li>• Ferguson JM, Jacobs J, Yefimova M, Greene L, Heyworth L, Zulman DM. Virtual Care Expansion in the Veterans Health Administration During the COVID-19 Pandemic: Clinical Services and Patient Characteristics Associated with Utilization. <i>J Am Med Inform Assoc.</i> 2020 Oct 30:ocaa284. doi: 10.1093/jamia/ocaa284. Epub ahead of print. PMID: 33125032; PMCID: PMC7665538</li> <li>• Murphy AA, Karyczak S, Dolce JN, Zechner M, Bates F, Gill KJ, Rothpletz-Puglia P. Challenges Experienced by Behavioral Health Organizations in New York Resulting from COVID-19: A Qualitative Analysis. <i>Community Ment Health J.</i> 2020 Oct 23:1–10. doi: 10.1007/s10597-020-00731-3. Epub ahead of print. PMID: 33095331; PMCID: PMC7582422.</li> </ul>