

## For Your Insight: Research and Practice From the Field

July 8, 2020

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This special edition of the monthly FYI update highlights relevant research on telehealth, telemedicine, telerehabilitation, and virtual service delivery for RETAIN states and summarizes key takeaways that may benefit program implementation. Each summary includes a link to an article, resource, or formal abstract.

Tags: Telemedicine, access to care, quality of care

### Designing the Consumer-Centered Telehealth & eVisit Experience: Considerations for the Future of Consumer Healthcare

In this white paper prepared for the U.S. Department of Health and Human Services, Bobinet and Petito (n.d.), describe the key components for designing consumer-centered telehealth. The authors developed these components during a telehealth topic session with health information technology (IT) stakeholders including consumers, providers, payers, health IT organizations, and other federal agencies. Findings from this session include: (1) *there cannot be friction for the user*, meaning that telehealth interactions must have seamless and efficient interactions similar to face-to-face interactions; (2) *team-based care must include smart triggers*, which includes having team members use positive reinforcement such as telling the patient what they have done well to motivate self-efficacy; (3) *real world and online world must converge*, meaning that the telehealth technology seamlessly and conveniently helps patients connect with their healthcare providers; (4) *be sensitive to data overload*, including the need to avoid overwhelming patients with clinical data that comes from connected technologies and designing ways to reduce data fatigue; (5) *consumers are the hubs of their own healthcare data*, meaning that it is important for patients to manage and share their medical data with practitioners, which may require designing ways for the patient to securely provide their medical data to care team members such as through apps; (6) *converge data for interactions to be safe and meaningful*, which refers to finding ways to reduce data fragmentation that may result from differences between the systems used for telehealth, electronic health records, and the broader healthcare system and using telehealth solutions to ensure that patient medical records are up to date; (7) *expand role for care team based on new data triggers*, which refers to the increasing ability to combine psychological, emotional, and other data elements with clinical data about the patient through mobile technology; (8) *integrate technology and human interaction in the physical world*, which calls for integrating technology and human resources to drive workflow and technology-based interactions in healthcare; and (9) *increase focus on patient data security*—as telehealth grows and evolves with new technologies, it is imperative that patient data remains secure.

White paper available: [Bobinet, K., & Petito, J. \(n.d.\). Designing the consumer-centered telehealth & eVisit experience. Felton, CA: engagedIN.](#)

Tags: Telehealth, consumer-centered, design elements

## Telehealth Use Among Rural Individuals With Disabilities

In this study, Christensen and Bezyak (2020) explored how individuals with disabilities use telehealth in rural communities. The authors begin by providing descriptions of the different kinds of telehealth services available to patients: (1) direct-to-consumer services, which includes two-way phone or video calls between a clinician and a patient in different locations; (2) provider-to-provider services, in which a clinician on site at a clinic with a patient will call another provider, such as a specialist, at another location; (3) remote patient monitoring, in which a patient at home is monitored by a clinician at another location; (4) store and forward, where medical information or data is sent to another site for review by a doctor; and (5) mobile health applications, or mHealth, where mobile or wireless technology is used to help a patient reach their health goals, for example a mobile exercise application. Through their review of available published literature and anecdotal information found via search engine web searches, the authors found limited data available related to how individuals with disabilities are using telehealth. However, the authors found that individuals with disabilities who are using telehealth are doing so to manage their care for chronic conditions and to access mental health services. Similarly, the authors found that their review “indicates that most individuals with disabilities receiving care using telehealth had a positive opinion regarding the experience, [and] some experienced functional improvement in motor performance, language ability, self-care skills, mental status, and quality of life. In addition, telehealth made it possible for them to access desired interventions and saved them time and money.” However, the authors did not find evidence that telehealth services improved health outcomes for individuals with disabilities. The authors noted that there are several barriers for individuals with disabilities when using telehealth in rural communities, such as lack of broadband infrastructure in some rural areas and regulatory barriers such as insurance coverage for telehealth. In addition, the authors found that although clinicians understand the potential benefits for telehealth within this population, their limited knowledge and experience with telehealth is a barrier to its widespread implementation. The authors conclude that there is “great potential for mHealth and other telehealth services to have an increasingly positive impact on the quality of rural individuals with disabilities’ lives.”

Scoping study available: [Christensen, K. M., & Bezyak, J. \(2020\). \*Telehealth use among rural individuals with disabilities\*. Retrieved from https://www.rockymountainada.org/sites/default/files/2020-02/Rural%20Telehealth%20Rapid%20Response%20Report.pdf](https://www.rockymountainada.org/sites/default/files/2020-02/Rural%20Telehealth%20Rapid%20Response%20Report.pdf)

Tags: Telehealth, rural communities

## Ethical Practice in Telehealth and Telemedicine

Chaet, Clearfield, Sabin, and Skimming (2017) summarize the American Medical Association’s (AMA’s) report and recommendations for key issues related to ethical practices in telehealth and telemedicine as discussed by the AMA Council on Ethical and Judicial Affairs. The authors define telehealth as “electronic and telecommunications technologies to support and promote long-distance clinical health care, patient and professional health-related education, and public health and administration.” They also use the Centers for Medicare & Medicaid Services definition of telemedicine, which is “activities involving two-way, real time interactive communication between the patient and the physician or practitioner at [a] distant site” and the differences in physician accountability between the two.” The article describes the need to match the mode of care to each individual patient’s situation; for instance, telemedicine is appropriate only for patients who have access to the needed technology and when it will not impede clinical standards of care, such as the need for an in-person physical examination. The authors explain that physicians have a responsibility “to put patient interests first,” and physicians need to take steps to mitigate bias, and the importance of disclosing “...financial or other interests that may influence them in their roles with commercial health websites and services and take active steps to manage or eliminate conflicts of interest.” Similarly, the authors state that physicians must use the same standards for ensuring accurate health content and information in online content that they create as they would for peer publications. Physicians using telehealth and telemedicine must have proficient knowledge of the technologies being used and need to “be aware of the limitations of the telemedicine technologies they use and recognition of limitations in caring for an individual patient.” The authors also explore the effects that telehealth and telemedicine may have on continuity of care depending on how patients and physicians interact. For example, physicians who author informational health content have no interaction with the patients accessing that information, whereas some physicians will be providing care directly to patients or discussing care with other providers. For physicians providing care to patients using telemedicine, the physician needs to understand how to communicate effectively with patients and any other physicians involved in the patient’s care. The authors also give guidance on issues related to risks to

privacy and confidentiality. The authors conclude that “achieving the promise” of telehealth and telemedicine will require a “coordinated effort across the profession, active engagement of specialty and professional organizations not only in medicine but also information technologies, and appropriate education and support for practicing clinicians.”

Full text available: [Chaet, D., Clearfield, R., Sabin, J. E., & Skimming, K. \(2017\). Ethical practice in Telehealth and Telemedicine. \*Journal of General Internal Medicine\*, 32\(10\), 1136–1140.](#)

Tags: Telemedicine, ethics

## The Current State of Telehealth Evidence: A Rapid Review

Shigekawa and colleagues (2018) conducted a rapid review of research publications from January 2004 to May 2018 to examine the efficacy of telehealth by clinical area and the impact of telehealth on utilization. The authors sought to answer the following research questions: (1) “Does the evidence indicate whether services delivered via telehealth are equivalence to in-person services?” and (2) “Does the evidence indicate whether the use of telehealth services affects the use of other services?” The authors included 20 studies that looked at telehealth utilization with interactions between a patient and provider, which could include “live videoconferencing, asynchronous store and forward of data, telephone, email, text, and chat.” Eight studies focused on telemental health, five on telerehabilitation, two on teledermatology, two on teleconsultation, and one each focused on oral blood clot prevention management, nutrition management, and diabetic foot ulcer treatment. Based on their review, the authors found that for telemental health, telerehabilitation, oral blood clot prevention management, nutrition management, and diabetic foot ulcer treatment “...telehealth appeared to be equivalent to in-person care.” The authors were unable to ascertain whether telemedicine affected the use of other services because “the majority of included systematic reviews did not consistently examine impacts on [their] use”; therefore, they were unable to answer whether “...the use of telehealth services reduces the use of other services, duplicates services, or improves access to beneficial services.” The authors concluded “...that current evidence supports the effectiveness of telehealth interventions for certain conditions, but [that] there is insufficient evidence about the impact of telehealth on utilization.”

Abstract available: [Shigekawa, E., Fix, M., Corbett, G., Roby, D. H., & Coffman, J. \(2018\). The current state of telehealth evidence: a rapid review. \*Health Affairs\*, 37\(12\), 1975–1982.](#)

## COVID-19 Transforms Health Care Through Telemedicine: Evidence From the Field

The use of telemedicine has increased dramatically since the start of the COVID-19 pandemic. Mann and colleagues (2020) collected data from NYU Langone Health (NYULH), a large healthcare system in New York City, to assess the impact of telemedicine and its increased use has had on urgent and non-urgent medical care. NYULH has a video telehealth system that has high patient satisfaction. The authors found that the use of telemedicine played a critical role in expanding emergency room capabilities during the pandemic and has been critical in slowing the overcrowding of patients in more acute settings. For example, patients may receive more timely care via the video telehealth system, which may reduce the need for in-person visits. In non-urgent care settings, telemedicine has been shown to be an asset in promoting social distancing and has allowed infected but asymptomatic practitioners to provide care remotely. The authors note that COVID-19 has helped clinicians develop skills on virtual platforms quickly, such as communicating empathy, facilitating exams, and ensuring quality. Patients in the NYULH healthcare system have already become accustomed to sharing medical data via patient portals and answer screeners through mobile apps. These experiences have likely created care conveniences that are unlikely to abate after the COVID-19 pandemic. The authors conclude that telemedicine has proven to be an invaluable tool in providing care to patients during the pandemic and will likely continue to impact the U.S. health system.

Full text available: [Mann, D. M., Chen, J., Chunara, R., Testa, P. A., & Nov, O. \(2020\). COVID-19 transforms health care through telemedicine: Evidence from the field. \*Journal of the American Medical Informatics Association\*.](#)

Tags: telemedicine, healthcare

## A Blueprint for Telerehabilitation Guidelines

This guide is a resource for telerehabilitation practitioners to “inform and assist” in “providing effective and safe [telerehabilitation] services that are based on client needs, current empirical evidence, and available technologies.” Professional providers of telerehabilitation services may include, “physical therapists, speech-language pathologists, occupational therapists, audiologists, rehabilitation physicians and nurses, rehabilitation engineers, assistive technologists, teachers, psychologists, and dieticians.” This guide defines telerehabilitation as, “the delivery of rehabilitation services via information and communication technologies.” Telerehabilitation services can include, “assessment, monitoring, prevention, intervention, supervision, education, consultation, and counseling.” The guide explains four principles of telerehabilitation: (1) administrative principles, which refers to meeting licensing, billing, privacy, and confidentiality rules; (2) clinical principles, which refers to following existing treatment guidelines and training with the equipment to ensure that clinicians can provide quality care; (3) technical principles, which refers to using equipment that supports diagnostic, assessment, and treatment needs and training staff in delivery, troubleshooting, and maintenance of the equipment; and (4) ethical principles, which refers to maintaining professional ethical principles. The authors note that providers of telerehabilitation services should use these principles and considerations as a template and starting point for any “developing discipline-specific standards, guidelines, and practice requirement.”

Full text available: [Brennan, D., Tindall, L., Theodoros, D., Brown, J., Campbell, M., Christiana, D., ... & Lee, A. \(2010\). A blueprint for telerehabilitation guidelines. \*International Journal of Telerehabilitation\*, 2\(2\), 31.](#)

Tags: Telerehabilitation, guidelines, occupational health

## Real-Time Telerehabilitation for the Treatment of Musculoskeletal Conditions Is Effective and Comparable to Standard Practice: A Systematic Review and Meta-Analysis

Cottrell and colleagues (2017) reviewed the literature to understand how effective telerehabilitation is for treating musculoskeletal conditions. The authors found that telerehabilitation may significantly improve the physical function of individuals' musculoskeletal conditions. In addition, telerehabilitation combined with face-to-face care was found to be more effective than face-to-face care alone. In terms of managing pain and physical function, the authors found that telerehabilitation was comparable to face-to-face care. The authors note that self-efficacy is critical to managing musculoskeletal conditions, but there was only one study that looked at self-efficacy as a telerehabilitation outcome, finding that telehealth strategies for arthritis management did not significantly improve self-efficacy for individuals with arthritis. The authors recommend further research into telerehabilitation's role in promoting self-efficacy. For individuals with musculoskeletal conditions living in rural communities, telerehabilitation may provide quality care that would otherwise be difficult to access. A telerehabilitation model also may be more cost effective for rural patients because they may not need to travel as far to receive care. The authors conclude that there is strong evidence that telerehabilitation may be an effective way to treat and improve the physical function of individuals with musculoskeletal conditions.

Abstract available: [Cottrell, M. A., Galea, O. A., O'Leary, S. P., Hill, A. J., & Russell, T. G. \(2016\). Real-time telerehabilitation for the treatment of musculoskeletal conditions is effective and comparable to standard practice: A systematic review and meta-analysis. \*Clinical Rehabilitation\*, 31\(5\), 625–638.](#)

Tags: musculoskeletal conditions, telerehabilitation, physical function

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