PRIMARY CARE INVESTMENT: EVIDENCE SNAPSHOT
Telehealth

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Background

Telehealth is broadly defined as "the use of electronic information and telecommunication technologies to support long-distance clinical health care, patient and professional health-related education, public health, and health administration."[1] Telehealth includes three types of telecommunications technologies to conduct remote evaluation and treatment of patients: (1) remote patient monitoring with messaging services; (2) video-teleconferencing to connect a patient and provider in real time; and (3) store and forward where clinical data is transferred electronically to clinicians to support evaluation, diagnosis, and treatment (e.g., enabling a primary care physician to conduct a remote consult with a specialist asynchronously).[1-3]

During the Covid-19 pandemic, we have seen tremendous growth in telehealth as a result of new flexibilities and increased reimbursement by the Centers for Medicare and Medicaid Services (CMS), state governments, and private insurers.[2,4] Until recently, telehealth was predominantly used to increase access for hard to reach rural populations by reducing travel time and costs, allowing convenient management of chronic conditions, and expanding access to care in provider shortage areas for narrowly defined populations.[5,6] For example, Medicare only allowed reimbursement of certain types of visits via synchronous communications for home-bound patients, located at a specific type of facility, or in rural Health Professional Shortage Areas (HPSAs); while commercial insurers only covered certain types of visits.[2,5] In addition, there was widespread lack of parity in reimbursement rates for telehealth relative to in-person visits, with variation from state to state for both Medicaid and commercial insurers.[5]

A 2017 study of family medicine practices nationwide found that fewer than 10 percent offered e-visits, yet practices categorized as an HMO were significantly more likely to offer e-visits, pointing to flexibility of capitated payment models.[7] Between 2015 and 2017, telehealth utilization among commercially insured patients in Massachusetts nearly doubled, with variation in rates across payers, and the most common telehealth visit type was behavioral health.[8] While this growth rate mirrors national trends, the rate of telehealth use in Massachusetts in 2017 was 39 percent lower than the national average.[8]

Despite widespread recognition that use of telehealth increases access to care,[9] there are debates as to whether telehealth visits can fully substitute for in-person visits in terms of quality.[5] Moreover, given evidence that telehealth costs less than in-person visits, some suggest telehealth visits should not be reimbursed at the same rate as in-person visits.[5] Integrated health systems, that predominantly reimburse providers via capitated payment models, report greater use of telehealth.[7,10,11]

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Quality Implications

Telehealth increases access to hard to reach populations, provides similar satisfaction levels for patients and providers compared to in-person care, and offers opportunities for improving chronic condition management and behavioral health consultations in primary care.

- Several studies note similar levels of patient satisfaction for video visits relative to in-person visits, with a subset of patients preferring telehealth to in-person.[12-15]
- An analysis of 58 systematic reviews found high quality evidence of effectiveness for telehealth for the use of remote monitoring, communication, and counseling for people with chronic conditions as well as for psychotherapy in behavioral health.[16]
- A meta-analysis of 35 randomized controlled trials (RCT) found a small but significant improvement in HbA1c levels for a range of telehealth interventions (e.g., telephone, internet, and internet-transmitted) aimed at improving diabetes control through health education and self-management.[17]
- A qualitative study of adult patients (n=19) receiving video visits in primary care found most participants valued the convenience and ease of access, were open to future video visits as either the primary model or as a supplement to in-person visits, and valued being in the comfort of their own support network when receiving difficult news.[18]
- Concerns about implementation of telehealth differ among patients and providers. Patients worry about privacy (e.g., whether their work colleagues can hear their conversations) and have concerns about quality of care without a physical examination.[9,18] In addition, some patients, such as frail elders or patients with cognitive impairments, may find the technology difficult to use.[3] Providers face implementation challenges such as how to delineate roles to minimize redundancy, whether telehealth technologies interface with other electronic health information systems, lack of reimbursement, and implications for malpractice liability and patient overuse.[3,5,9] For both patients and providers, there are concerns about the quality of internet connectivity, especially in rural areas or places with extreme weather conditions.[3,9]

Cost Implications

Evidence of cost savings associated with telehealth is mixed and depends on whether telehealth is used to increase access to new patient populations, or as a substitute for current levels of in-person care, as well as the context for care delivery.

- A systematic review of 36 economic analyses of telehealth compared societal costs of telehealth to in-person care. Among the 18 included RCTs, results were evenly split with 9 studies showing telehealth to be more costly, and 9 studies showing telehealth to be less costly. Among the 18 non-RCTs, telehealth appeared be less costly overall with 12 studies reporting lower costs in telehealth, 3 studies showing higher costs, and 3 studies with mixed results.[19]
- Cost savings associated with the provision of telehealth in rural areas include: reduced transportation costs for patients; fewer lost wages due to time off work to travel; and

savings for rural hospitals generated by sharing specialists with facilities located elsewhere, while also maintaining revenue from patients using local ancillary services.[20]

- An implementation study of telehealth follow-up visits in the VA found the cost per unit of a clinical video telehealth (CVT) unit equipped with instrumentation to conduct a physical exam was $50,000. In this model, a physician extender (NP or RN) was present with the patient at a site close to the patient's home while the treating physician joined via video. Cost savings was attributed to reduced costs for transportation for the veteran.[15] These tangible cost savings may not be generalizable to other contexts since non-VA medical systems do not typically reimburse patient travel costs.[15]
- An observational study of more than 15,000 patients in Texas found the use of pre-hospital telehealth consults with emergency department physicians reduced ambulance transports for care that could be treated in primary care, offering cost savings of $103 per consult by rediverting emergency medical services back into the field. Patients were referred to a federally-qualified health center for follow-up.[21]
- An analysis of 30 studies of video visits with veterans for primary care or mental health found lower or comparable implementation costs relative to in-person visits for care related to post-traumatic stress disorder (PTSD), major depressive disorder (MDD), and mental health visits overall; however, the implementation of video visits may result in an increase in initial costs as technology is established and new patients are reached.[12]
- A retrospective study at Intermountain Healthcare comparing 1531 e-visits with similar urgent, primary, and emergency care in-person visits, found lower costs associated with the visit, lower total costs over 21 days, and lower rates of lab and imaging services, with no difference in follow-up rates or antibiotic use. The authors note potential cost savings of telehealth, particularly in a capitated environment.[22]

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