

Insight on the Issues

Using Telehealth to Improve Home-Based Care for Older Adults and Family Caregivers

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Older adults with complex care needs want to live as independently as they can for as long as they can, and limit stress on family caregivers. Telehealth strategies offer the potential to improve access to care and the quality of care, while reducing strain on family caregivers. For health care systems, home telehealth may help address the challenge of rising costs. Though limited today, home telehealth is likely to be implemented more widely as policy makers reduce regulatory barriers and providers focus on improving telehealth strategies to meet the needs of families.

The care of older adults with frailty, chronic disease, or significant disabilities who live in the community is a major challenge for both health systems and families. This care can be sometimes rewarding yet simultaneously difficult for family caregivers to manage because of the lack of coordinated care and because of caregivers' competing obligations. As the nation ages, the number of frail older adults with functional and cognitive impairments who require assistance from others will increase. Consequently, planning for the care of people with complex chronic conditions has taken on greater urgency.

Providing higher-quality and more cost-effective care for older adults with complex conditions will require models of care that, among other things, better integrate health care and social services

and improve supports for family caregivers.

To help achieve these goals, telehealth services are increasingly included as a component of community-based care for chronic conditions, mental health, and even palliative care.^{1,2} Through telehealth, providers can deliver a wide range of diagnostic, therapeutic, and care management services, as well as services to support family caregivers, such as communication tools with clinicians³—services that otherwise would be delivered in a health care setting or through in-person home visits. Telehealth has the potential to be an effective tool for improving access and continuity, improving outcomes, and lowering costs.

This *Insight on the Issues* discusses the promise of home telehealth services to improve care for



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EXHIBIT 1 EXAMPLES OF HOME TELEHEALTH STRATEGIES

Transitional care for heart failure

A number of high-quality clinical trials have examined the effectiveness of remote patient monitoring in improving transitional care after hospitalization for people with heart failure and other serious chronic illnesses. People with heart failure must follow a multicomponent treatment regimen that includes daily weigh-ins, symptom recognition and reporting, improved diet and physical activity, medication adherence, and stress management.^a Telehealth interventions in heart failure include strategies such as a telephone-based interactive voice-response system that collects daily information about symptoms and weights and is reviewed by the patient's clinician. Clinical trials also have used wireless electronic devices to transmit daily data, including patient blood pressure, heart rate, and weight, to a nurse triage center, triggering a nurse response if clinical attention is required.

Palliative care

Telehealth has been used to provide services to people receiving palliative care at home, including video-based conferences between providers, the patient, and the family caregiver; virtual case conferences with the patient, caregiver, palliative care providers, and the patient's primary care clinician; self-report assessment tools for the patient and family caregiver; and remote activity monitoring. Patient self-reporting via telehealth has been used to expand the information available to clinicians for palliative care, identifying symptom escalation and functional decline in real time and facilitating timely proactive management.^b

Chronic disease management

Telehealth services have been deployed to improve the management of chronic disease. For example, in the Diabetes Telehealth Network in Mississippi, participants use tablets to share information on their physical, emotional, and psychological health through daily health sessions with their clinicians. In addition, the tablets upload their health data, such as weight, blood pressure, and glucose levels, and transmit these data daily to clinicians. This daily information provided by patients gives clinicians a much more complete view of a patient's health status, permitting earlier, proactive care. Using this technology, clinicians can better engage and educate patients, easily adjust medical care plans, schedule phone calls, or video chat with patients.^c

Mental health and behavioral health

There is significant experience with the delivery of mental health services via telehealth.^d Virtual visits provided by clinicians over the Internet improve access and outcomes by enhancing patient convenience. Compelling examples include geriatric patients who have mobility challenges. The ability to hold a session by video conference can reduce cancellations and "no shows" and give clinicians a better window into behavior in the actual home context.^e

Home-based primary care for frail older adults

Telehealth has been used in home-based primary care models to reduce the need for health care providers to make home visits and to help meet the increasingly complex needs of older adults living at home.^f Telehealth brings specialists together with primary and community care providers and their patients through eVisits (real-time video visits that use videoconferencing technology). Patients are visited in their home by a telemedicine nurse, who connects them to a specialist and their primary care provider through a videoconference.^g

continued

Remote monitoring and effect on family caregivers

Activity monitoring includes passive technologies—cameras, sensors, or other devices embedded in a home—that allow an individual to be monitored without requiring that individual or another person to operate them.^h Smart home, wearable, and combination systems can be used to remotely monitor the mobility of elderly individuals.ⁱ Home monitoring kits can include home-leaving sensors, smoke and water leak sensors, bed sensors, and automatic lights that monitor the individual's behavior, for example. Alerts are sent to the caregiver if anything unusual occurs.^j In principle, these technologies can substitute for some caregiving time. The decreased time is expected to reduce caregiver stress and improve quality of life for family caregivers and older adults.

Supports for family caregivers

Several telehealth programs have targeted supports to family caregivers of older adults with dementia. For example, the Veterans Health Administration's Telehealth Education Program aimed to enhance the knowledge, skills, and feelings of support for the spouse caregivers of veterans with moderate to severe dementia through hourlong teleconference sessions held each week for 10 weeks. The objective was to give family caregivers the skills necessary to provide the highest quality of care possible for their spouse to prevent unnecessary health care utilization and premature institutionalization.^k

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- a In these patients, behavioral factors—such as noncompliance with medications and diet, and delay in seeking preventive care—may contribute to hospital readmissions and premature mortality. Lorraine Evangelista, et al., “Examining Older Adults’ Perceptions of Usability and Acceptability of Remote Monitoring Systems to Manage Chronic Heart Failure,” *Gerontology & Geriatric Medicine*, January–December 2015, 1-6, p. 4.
- b Morgan, Deidre D. et al. “Telemonitoring via Self-Report and Video Review in Community Palliative Care: A Case Report.” Ed. Ronald S. Weinstein and Elizabeth A. Krupinski. *Healthcare* 5.3 (2017): 51, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5618179/#B6-healthcare-05-00051>.
- c Erick Wickham, “Mississippi Scales Up Its Telehealth Network,” *mHealthIntelligence*, February 3, 2016, <https://mhealthintelligence.com/news/mississippi-scales-up-its-telehealth-network>
- d Ateev Mehotra, et al., “Rapid Growth Mental Health Telemedicine Use among Rural Medicare Beneficiaries, Wide Variation across States,” *Health Affairs*, May 2017, 36(5): 909-917, <https://www.healthaffairs.org/doi/abs/10.1377/hlthaff.2016.1461>
- e James Knickman et al., “Improving Access to Effective Care for People Who Have Mental Health and Substance Use Disorders: A Vital Direction for Health and Health Care,” Discussion Paper, (Washington, D.C.: National Academy of Medicine, September 19, 2016). <https://nam.edu/improving-access-to-effective-care-for-people-who-have-mental-health-and-substance-use-disorders-a-vital-direction-for-health-and-health-care/>
- f Husebø, Anne Marie Lunde, and Marianne Storm. “Virtual Visits in Home Health Care for Older Adults.” *The Scientific World Journal* 2014 (2014): 689873, doi: [10.1155/2014/689873](https://doi.org/10.1155/2014/689873).
- g “Telemedicine Enabled Health Links: An Innovative Solution to Coordinated Care,” Ontario Telemedicine Network, accessed March 29, 2018, <https://support.otn.ca/sites/default/files/otn-telemedicine-case-study-health-links.pdf>
- h Institute of Medicine and National Research Council. *The Future of Home Health Care: Workshop Summary*. (Washington, DC: The National Academies Press, 2015), <https://doi.org/10.17226/21662>.
- i Clíodhna Ni Scanaill et al., “A Review of Approaches to Mobility Telemonitoring of the Elderly in Their Living Environment,” *Annals of Biomedical Engineering* 34, no. 4 (April 2006): 547–63. doi: [10.1007/s10439-005-9068-2](https://doi.org/10.1007/s10439-005-9068-2).
- j Agneta Malmgren Fänge, et al. “The TECH@HOME Study, a Technological Intervention to Reduce Caregiver Burden for Informal Caregivers of People with Dementia: Study Protocol for a Randomized Controlled Trial.” *Trials* 18 (2017): 63. <https://www.ncbi.nlm.nih.gov/pubmed/28183323>.
- k Laura O. Wray, et al., “The Effect of Telephone Support Groups on Costs of Care for Veterans with Dementia,” *The Gerontologist* 50, no. 5 (October 2010): 623–31, <https://doi.org/10.1093/geront/gnq040>.

older adults and identifies some of the challenges to and concerns about its widespread adoption. It provides recommendations for providers and policy makers to consider as they develop programs and reimbursement strategies for telehealth.

ROLE OF TELEHEALTH IN HOME-BASED CARE FOR OLDER ADULTS

Telehealth began more than four decades ago with a small number of hospitals providing services to people living in remote areas.⁴ More recently, telehealth applications have expanded to improve access to care, communication, and continuity in home-based care, especially for remote, vulnerable, or marginalized populations—such as the roughly 7 million older adults who are homebound or have difficulty leaving home without help.⁵

Telehealth includes a variety of technologies and services, including virtual visits conducted over live video, remote patient monitoring (RPM), e-mail and other messaging tools, and activity

monitoring—technologies that may be put together in different ways depending on individual needs. RPM, for example, can aid in the detection of health problems so that they can be addressed before they become critical. Remote patient monitoring includes technologies used to monitor and transmit health data (e.g., weight, blood pressure, heart rate), report symptoms, receive alerts and reminders, and obtain feedback from a health care provider.

Virtual visits and remote monitoring can reduce the frequency of home-based visits by health care and social service providers and reduce the cost and burden of transportation to office-based care for people with mobility limitations. Telemessaging can help people with chronic conditions learn self-management skills that allow them to take control of their diagnosis and monitor their condition at home.

Telehealth has been used to provide a wide range of services to varied populations, including transitional care for people with heart failure and other serious chronic illnesses, palliative care, home-based primary care, behavioral and mental health services, and long-term services and supports. Telehealth is also used to provide services to family caregivers, providing education and other supports, such as remote monitoring, to reduce and manage their competing obligations of raising children and working (exhibit 1).

By improving the continuity of care, home telehealth can reduce crises that may lead to hospitalization and lower the health care spending associated with unmet needs for care.⁶ In so doing, telehealth can improve the experience of care for older adults and their family caregivers, and improve quality and outcomes of care. Overall, this helps improve quality of life for older adults and their family caregivers (exhibit 2).

COVERAGE OF HOME TELEHEALTH IN FEDERAL AND STATE HEALTH PROGRAMS

In the United States, there is limited but growing experience with home telehealth for diverse populations in public programs, including the Veterans Health Administration (VHA), Medicaid, and Medicare.

EXHIBIT 2

POTENTIAL BENEFITS OF TELEHEALTH SERVICES FOR OLDER ADULTS WITH CHRONIC CONDITIONS AND THEIR FAMILY CAREGIVERS

- Reduce the burden and cost of travel
- Reduce the frequency of in-person office visits
- Improve access to care; reduce unmet needs for care
- Improve the experience of care and satisfaction with care
- Increase the ability to live at home or in the community
- Reduce unnecessary hospitalizations and nursing home care
- Lower out-of-pocket costs owing to fewer hospitalizations and less nursing home care
- Provide ongoing support, information, and education for older adults and family caregivers
- Reduce stress and increase well-being for family caregivers

Veterans Health Administration

The largest and most successful home telehealth program is the VHA's Care Coordination/Home Telehealth program (CCHT), which served more than 116,000 veterans in 2012.⁷ CCHT was developed by the VHA to respond to the rising number of elderly veterans with chronic care needs and reduce their use of institutional care and its associated high costs. The program provides routine non-institutional care and targeted care management and case management services to veterans with diabetes, congestive heart failure, hypertension, posttraumatic stress disorder, and other conditions. Monitoring devices are used to capture and transmit health status and biometric data, which are monitored remotely by care coordinators. Promoting patient activation and self-management is fundamental in the CCHT model to prevent unnecessary hospital admissions or emergency department visits. Electronic messaging helps improve patients' understanding, helps them identify and report symptoms, and helps improve their health-related behaviors.⁸

Medicaid

Home telehealth also is covered by almost half of state Medicaid programs. According to The Center for Connected Health Policy, 26 states provide some Medicaid reimbursement for home telehealth.⁹ Of these, 22 states provide some reimbursement for RPM and 6 states reimburse for home video visits. Three states—Colorado, Maine, and Minnesota—reimburse for both RPM and home video visits.

Most commonly, states have authorized home telehealth services for certain people who receive home health benefits under Medicaid, with limits. Medicaid pays home health agencies for certain restricted clinical conditions, for the information collected on individuals and their conditions, and for the type of technology that the home health agency supports. These technologies include live video telehealth, store-and-forward video telehealth, and RPM. Some states also authorize telemonitoring for selected individuals who receive home- and community-based services (HCBS) who need assistance with activities of daily living and supervision due to a physical or cognitive disability.¹⁰

In the states that cover RPM as part of a home health care benefit, eligibility typically is restricted to people with selected serious chronic conditions—heart failure, diabetes, or stroke, for example—who are at high risk of future adverse events. Colorado requires the patient to receive services for at least one serious chronic condition, including congestive heart failure, chronic obstructive pulmonary disease, asthma, or diabetes.¹¹

In some states, adults who receive HCBS may be eligible for telemonitoring services that can include remote patient monitoring as well as activity monitoring, in which sensors or cameras placed in the home allow an individual to be monitored without requiring that individual or another person to operate them (exhibit 3).¹² Smart home, wearable, and combination systems can be used for activity monitoring.¹³ Activity monitoring may be effective in supporting the family caregivers of older adults who live alone, by reducing caregiver worry and concern. In addition, because mobility is a good indicator of health status, telemonitoring may be used over the long term to detect gradual deterioration in the health status of older adults, which may threaten their ability to live independently.

Medicare

Medicare covers a wide range of services delivered via telehealth, many of which could be beneficial for frail older adults and other people with disabilities or complex needs. Reimbursement is available for office visits and other services that the Centers for Medicare & Medicaid Services (CMS) has determined are appropriate for delivery via telehealth, including, for example, family psychotherapy, obesity and nutrition counseling, diabetes management, patient-focused and caregiver-focused health risk assessment, and chronic care management.¹⁴

However, in traditional, fee-for-service Medicare, coverage for telehealth services is limited to real-time video visits for beneficiaries who are at an approved "originating site" in a rural part of the country—a physician's office, hospital, or community mental health center, for example. Importantly, the beneficiary's home is not an approved originating site for telehealth services.

These geographic and site-of-care restrictions substantially limit the reach of telehealth in Medicare, which accounts for a tiny fraction of program expenditures.¹⁵

Telehealth services also are outside the scope of the Medicare home health benefit.¹⁶ And although Medicare pays for remote cardiac monitoring, it does not reimburse for remote monitoring of people with chronic conditions. Recently, however, CMS has “unbundled” a payment code to allow reimbursement for time spent collecting and interpreting health data that are generated by a patient remotely, digitally stored, and transmitted to the provider. CMS has stated that this is a first step toward recognizing remote patient monitoring services.¹⁷

Medicare’s coverage of telehealth is somewhat more flexible in other parts of the program, such as in Medicare Advantage and Center for Medicare and Medicaid Innovation programs like Accountable Care Organizations (ACOs) and Independence at Home demonstration programs.¹⁸ The Next Generation ACO Demonstration, for example, incorporates a waiver of Medicare’s geographic and originating site limitations. The waiver allows beneficiaries aligned with these ACOs (in both rural and urban areas) to receive telehealth services in their homes. Medicare Advantage plans are permitted to offer telehealth coverage (beyond what is offered in traditional Medicare) as supplemental benefits.

EXHIBIT 3

TELEMONITORING IN MEDICAID HCBS

- Maine Medicaid covers “Assistive Technology-Remote Monitoring” or “real-time remote monitoring of the participant with electronic devices to assist them to remain safely in their home.”^a Remote monitoring services can include a range of technologies, including in-home computers, sensors, and video cameras that enable continuous monitoring and contact with health care providers. Eligibility is limited to at-risk older adults, including those who have had several hospitalizations or emergency room visits, who have a history of falls resulting in injury, who live alone or remain at home alone frequently, who have difficulty getting to an office visit, or who have a history of behavior that indicates a risk of wandering.
- The Kansas Frail Elderly waiver program covers home telehealth services to provide “daily monitoring of the customer’s vital sign measurements from the customer’s home setting to prevent a crisis episode.”^b A beneficiary must need disease management consultation and education and must have had two or more hospitalizations, including emergency room visits, within the previous year related to one or more diseases or be using the Money Follows the Person program to move from a nursing facility back into the community. The provider must train the beneficiary and caregiver to use the equipment. The provider also must ensure ongoing beneficiary education—such as learning to report symptoms, counseling, and nursing supervision.
- Louisiana’s Community Choices waiver reimburses providers for installing and maintaining “telecare” technology in the home, including activity and sensory monitoring, health status check-ins, and medication dispensing and tracking. Health status monitoring under the waiver includes the transmission of health-related data to providers to help monitor a patient’s health condition and provide education and consultation.

a Center for Connected Health Policy, *State Telehealth Laws and Reimbursement Policies*.

b Kansas Department of Health and Environment, “Kansas Medical Assistance Program: Fee-for-Service Provider Manual, HCBS Frail Elderly,” June 2016, https://www.kmap-state-ks.us/Documents/Content/Provider%20Manuals/HCBS_FE_06232016_16085.pdf.

DOES HOME TELEHEALTH DELIVER BETTER OUTCOMES?

The research is mixed when it comes to answering this question. Many research studies report that telehealth interventions produce positive outcomes such as reduced mortality, improved quality of life, and reduced hospital admissions. Studies often report that providers, patients, and families are satisfied with the quality of video visits and that patients and caregivers can manage the technology and provide data that otherwise would not have been available to the health care providers.¹⁹ In the Veterans Health Administration, CCHT is credited with achieving substantial reductions in hospitalizations across a wide range of chronic conditions, as well as fewer bed days of care and high rates of patient satisfaction.²⁰ CCHT also is credited with reducing rates of long-term nursing home care. In 2012, of the 116,729 people who received services through the program, 41,483 who otherwise would have needed long-term institutional care were supported to live independently in their own homes.²¹

Similarly, promising findings have been reported in a number of pilot programs. One Medicaid home health pilot program in Colorado reported a 62 percent reduction in 30-day rehospitalizations related to congestive heart failure, chronic obstructive pulmonary failure, and diabetes. Over a 60-day episode of care, emergency department use fell sharply, as did nurse home visits, and costs of care were reduced.²²

But studies vary widely in terms of patient populations, interventions, quality of the research design, and reported outcomes. Some of the highest-quality research studies—those that use random assignment and enroll a large number of participants across multiple sites—have not demonstrated the effectiveness of telemonitoring. For example, the Mayo Clinic’s Tele-Elder Risk Assessment trial examined the effects of telemonitoring for older adults with multiple chronic conditions at risk of hospitalization. Despite an expectation of improved outcomes, there was no difference in rates of hospitalization, emergency department visits, and hospital length of stay for older adults who received telemonitoring services and those who

did not. In fact, mortality was higher in the group that used telemonitoring (14.7 percent, as opposed to 3.9 percent), and home telemonitoring did not significantly improve older adults’ self-perception of mental well-being and physical health.²³

Telehealth for people with serious illnesses faces a number of challenges related to acceptance and adherence. For example, in large-scale clinical trials of telehealth in heart failure, adherence to monitoring has been a problem. This is notable because many patients who might be expected to have the greatest difficulty using technology—those with cognitive challenges—are often excluded from these research studies because of their comprehension and communication limits. Acceptance and adherence also may vary by race, ethnicity, and culture. According to one recent systematic review, telehealth technologies have shown effectiveness on improving self-care skills, improving self-monitoring behaviors, and improving clinical outcomes among older adults with chronic conditions in different settings. However, “racial diversity and culture-related health behavior differences” must be considered when using telehealth technologies.²⁴

The research literature consists of hundreds of systematic reviews and thousands of studies of use across various clinical conditions and health care functions. The US Department of Health and Human Services has concluded that “telehealth is effective for specific uses with some types of patients, including: remote patient monitoring for patients with chronic conditions, communication and counseling for patients with chronic conditions such as cardiovascular and respiratory disease, and psychotherapy as part of behavioral health.”²⁵ For these telehealth applications, the research focus should shift to how to promote broader implementation and address barriers.²⁶ Overall, there are mixed findings about the value and effectiveness of telehealth for people with chronic conditions.

EXPANDING HOME TELEHEALTH: BARRIERS, CONCERNS, AND OPPORTUNITIES

Widespread implementation of home telehealth faces obstacles that include mixed evidence of its benefits, consumer interest and usability, logistical

challenges, and reimbursement and other regulatory barriers.²⁷ State and federal policy makers have taken a number of steps to reduce the policy barriers and encourage the adoption of home telehealth to better meet the needs of older adults with serious illnesses.

Barriers

Mixed evidence and consumer perceptions of benefits and burdens

Because evidence of the benefits of home telehealth is not consistently demonstrated across studies, greater experience is needed to help providers identify strategies that will deliver better outcomes of care and lower cost. Getting better outcomes may require making additional efforts to reduce the burdens of interacting with the technology, as well as addressing other factors, such as concerns about privacy and continued access to in-person care that may influence consumers' acceptance of telehealth services.

In major trials of telemonitoring in heart failure, for example, patient adherence to telemonitoring and telephone calls was a problem: the challenge of interfacing with the technologies used may have outweighed the value patients perceived. In one trial, by the final week of the study period, only 55 percent of patients were still using the system at least three times per week—disappointing for a clinical trial in which “considerable resources were directed toward optimizing patients' engagement with the system.”²⁸

Logistical challenges

At the provider level, the shift from a successful pilot to large-scale implementation faces a number of practical challenges.²⁹ The VHA, like other health care organizations, faced many challenges in building the infrastructure needed to make telehealth a routine part of care delivery. Core elements included developing algorithms for selecting patients and matching them to the right technology (e.g., videophones, messaging devices, biometric devices, digital cameras, and telemonitoring devices); establishing a national training center to ensure a competent workforce; awarding national contracts for technology; and

integrating telehealth technologies with the VHA's electronic medical record.³⁰

Reimbursement and other regulatory obstacles

Limited reimbursement in fee-for-service Medicare and Medicaid is a significant barrier to the adoption of home telehealth. At the state level, there is no consistent, comprehensive policy for reimbursement. Further, because state medical boards are each responsible for setting the standards for the practice of medicine through telehealth, there is wide variation in how telehealth is defined across states. This leads to “uncertainty on such key questions as whether a treatment relationship between a health care provider and patient may be established online; what the standard of care for online encounters should be; the conditions for ensuring safe online prescribing through telehealth; and ensuring privacy and the security of patient records.”³¹

Concerns

The advances of telehealth do not come without concerns. The Medicare Payment Advisory Commission (MedPAC) assumes that under a traditional fee-for-service payment structure, additional costs for telehealth services would be borne by the Medicare program, unless such services were substitutes for traditional face-to-face clinical services.³² Therefore, Medicare's capitated and shared risk payment accountable care organization models cover telehealth in all geographic areas and permit private homes to be the originating site, but they do not pay for such telehealth use in their fee-for-service program.³³

MedPAC also examined the potential impact on quality of care. Like the research review described earlier in the paper, its findings were mixed. Telehealth interventions for specific populations, such as Medicare beneficiaries with chronic conditions, demonstrate improved quality and lower mortality rates.³⁴ However, some evidence suggests negligible or negative impacts on outcomes for people with heart failure,³⁵ so MedPAC remains concerned about the overall impact to quality of care.

Opportunities

Policy makers have taken a number of steps to address regulatory barriers at the state level, addressing coverage, reimbursement, and other regulatory barriers to the spread of telehealth services.³⁶ At the federal level, several bills have been proposed in Congress to incentivize broader adoption of telehealth services in Medicare, including coverage for home telehealth. The Creating High-Quality Results and Outcomes Necessary to Improve Chronic Care Act of 2017 (CHRONIC Care Act) would expand telehealth under ACOs, allow higher reimbursement for telehealth services in Medicare Advantage, expand telestroke services that would allow more people with strokes to be remotely monitored, and expand telehealth for Medicare beneficiaries on dialysis.³⁷

Limited expansion of reimbursement for telehealth services in fee-for-service Medicare is partly a reflection of concern about whether expanding Medicare coverage for telemedicine services would increase federal spending.³⁸ Consequently, more attention has been focused on opportunities to expand telehealth under capitated and value-based payment models. Because these payment models are capitated, they cover some services used by a provider, such as telehealth, that would be more expensive in a fee-for-service context.

The Medicare Access and CHIP Reauthorization Act (MACRA) furthers the shift from fee-for-service payment in Medicare to value-based payment. MACRA established two payment structures to incentivize better quality of care—the Merit-Based Incentive Payment System and the Alternative Payment Model. For both new structures, CMS recognizes clinicians for telehealth-provided acute care, care coordination, and remote patient monitoring services.³⁹ Under the Merit-Based Incentive Payment System, providers must report performance measures, which include the provision of various practice-level activities such as telehealth services and the provision of 24/7 access.

RECOMMENDATIONS

As new technologies make video communication and remote data collection easier, more affordable, and more secure, home telehealth has the potential

to improve care and outcomes and lower health spending for older adults with complex conditions. There is still a long way to go, however, before home telehealth is widely available. It would be valuable to focus on expanding the evidence on reaching high-need populations, improving the experience of care for older adults and family caregivers, and improving equity in health care to help ensure that telehealth delivers on its potential.

Prioritize solutions for high-need populations

Telehealth programs in the VHA and Medicaid have targeted high-risk populations, including people with serious chronic conditions and homebound older adults. Telehealth can provide convenient access to health care for people with relatively minor acute illnesses, but Medicaid programs should continue to prioritize the high-risk populations that account for a high share of program spending. States should encourage telehealth-enabled home-based primary care models to explore their potential to improve care and support for vulnerable older adults and family caregivers and lower health care spending.

Improve the experience of care for older adults and family caregivers

In both health care and long-term services and supports, older adults and family caregivers need to be at the center of redesigning care models. This allows the designers to focus on the goals and preferences of older adults—to enhance their dignity and maintain their independence. Being “in the center” of redesigning care models also means including older adults and family caregivers in the design of the telehealth technology—to help ensure valid, helpful, and appropriate tools. Program development should focus on disseminating approaches that improve the experience of care for older adults and family caregivers and integrate health and social supports.

Ensure that telehealth narrows disparities

A primary goal of telehealth should be to improve equity in access and outcomes for vulnerable groups. Health care systems need to ensure that telehealth reaches the most vulnerable and narrows—rather than widens—health care disparities. A digital divide may be a barrier to

achieving this objective. Telehealth strategies need to be designed to be acceptable and usable by those with the greatest need, and to be effectively targeted to them. Reaching people with cognitive challenges and other disabilities may require the involvement of family caregivers to optimize strategies that deliver benefits that outweigh any additional burdens in engaging with telehealth technologies.

CONCLUSION

As technology progresses and more care is delivered via telephone, video, e-mail, and other telehealth methods, more research will be needed to identify the models of care that provide the highest quality

with the most access to consumers. Research has shown that there are types of telehealth that help some older adults with specific chronic needs, although they don't help all. As more care is provided via telehealth services, there will be more evidence to further demonstrate telehealth's usefulness and its cost-effectiveness—or lack thereof.

As payers and providers seek to improve long-term, comprehensive care for adults with complex needs in the community, the needs and preferences of older adults and family caregivers should guide the development and integration of home telehealth strategies.

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- 1 Andrew Broderick, *The Veterans Health Administration: Taking Home Telehealth Services to Scale Nationally*, (New York: The Commonwealth Fund, January 2013), http://www.commonwealthfund.org/~media/Files/Publications/Case%20Study/2013/Jan/1657_Broderick_telehealth_adoption_VHA_case_study.pdf.
 - 2 Jeffrey Cohn et al., *Community Based Models of Care Delivery for People with Serious Illness, Discussion Paper*, (National Academy of Medicine, Washington, D.C., April 13, 2017), <https://nam.edu/community-based-models-of-care-delivery-for-people-with-serious-illness/>.
 - 3 Leslie A. Grant, Todd Rockwood, and Leif Stennes, “Client Satisfaction with Telehealth in Assisted Living and Homecare,” *Telemedicine and e-Health* 21, no. 12 (2015): 987-92.
 - 4 Deanna Okrent, *Telemedicine: The Promise and Challenges*, (Washington, D.C.: Alliance for Health Reform, June 2015), http://www.allhealthpolicy.org/wp-content/uploads/2017/01/AHR-Telemedicine-Toolkit_June-2015_164.pdf.
 - 5 Sarah Klein, Martha Hostetter, and Douglas McCarthy, *An Overview of Home-Based Primary Care: Learning from the Field* (New York: Commonwealth Fund, June 2017), <http://www.commonwealthfund.org/publications/issue-briefs/2017/jun/overview-home-based-primary-care>.
 - 6 Scanail et al., “Approaches to Mobility Telemonitoring.”
 - 7 Broderick, *Veterans Health Administration*.
 - 8 Broderick, *Veterans Health Administration*.
 - 9 Center for Connected Health Policy, *State Telehealth Laws and Reimbursement Policies*, (Washington, D.C.: Center for Connected Health Policy, Fall 2017), <http://www.cchpca.org/state-telehealth-laws-and-reimbursement-policies-report>. A
 - 10 Center for Connected Health Policy, *State Telehealth Laws and Reimbursement Policies*.
 - 11 Colorado Department of Health Care Finance, “Colorado Home Health Billing Manual,” 12, https://www.colorado.gov/pacific/sites/default/files/UB-04_Home_Health%20v1_5.pdf.
 - 12 IOM, *The Future of Home Health Care*, p. 92.
 - 13 Scanail et al., “Approaches to Mobility Telemonitoring.”
 - 14 “List of Medicare Telehealth Services, CY 2018, PFS Final Rule 2018,” <https://www.gpo.gov/fdsys/pkg/FR-2017-11-15/pdf/2017-23953.pdf>.
 - 15 In 2016, Medicare paid \$30 million for telehealth services, a tiny fraction of the program's \$672 billion total spending. <https://www.politico.com/tipsheets/morning-ehealth/2017/08/10/telemedicine-money-jumping-221812>.

- 16 Section 1895(e) of the Social Security Act. The law does not permit the substitution or use of a telecommunications system to provide any covered home health service paid under the home health prospective payment system (PPS), or any covered home health service paid outside the home health PPS. As stated in 42 C.F.R. 409.48(c), a visit is an episode of personal contact with the beneficiary by staff of the home health agency (HHA) or others under arrangements with the HHA for the purposes of providing a covered service. Although there is no coverage or payment for Medicare home health services provided via a telecommunications system, nothing precludes an HHA from adopting telemedicine or other technologies that it believes promote efficiencies, but that those technologies will not be specifically recognized or reimbursed by Medicare under the home health benefit.
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