Abstract
The rate of telehealth use, in which patients receive a virtual health care visit, in the home or other nonclinical setting has outpaced the release of research about this model of care. As a result, state agencies are developing new policies for home-based telehealth services with little evidence to guide them. This brief identifies key findings for state officials considering such policies, as follows:

- Payers with established telehealth programs employ approaches that are consistent with their organizational goals and resources.
- State Medicaid programs cover home-based telehealth through a variety of approaches.
- State Medicaid programs require home-based telehealth services to meet the same standard of care as in-person visits, including patient privacy and provider scope of practice.
• State Medicaid programs usually reimburse telehealth-delivered services and in-person clinical and primary care–delivered services equally.

• Medicare generally does not cover telehealth in the home, but is incrementally covering telehealth services in certain circumstances.

• Commercial coverage varies based on state laws and how they use third-party vendors.

The brief reviews state Medicaid, Medicare, and private payer policies on home-based telehealth and draws on interviews with policymakers from two Medicaid agencies, two individuals from health care organizations that implemented telehealth programs for patients at home, and a medical officer from a managed care organization (MCO) that offers virtual visits to all of its members. This brief is based on a report developed for the Medicaid Evidence-based Decisions Project (MED), a research collaboration of 21 state Medicaid programs based at the Center for Evidence-based Policy at Oregon Health and Science University.

**Background**

Concerns about health care access and costs have increased state officials’ interest in programs to support telehealth services in the home, workplace, or other nonclinical settings. More than 100 state and federal bills related to telehealth implementation have been introduced annually in the last several years.¹

The Health Resources and Services Administration defines telehealth as “the use of telecommunications and information technologies to share information, and provide clinical care, education, public health, and administrative services at a distance.”² While there are four types of telehealth (see Table 1), this issue brief focuses on the rapidly growing technology of telehealth delivered via synchronous audio-video connection in which patients receive health care at an originating site from health care providers located at a distant site.

Historically, for providers to receive reimbursement for the services, public payers such as Medicaid and Medicare have required patients to be physically located in an approved clinical setting, known as the originating site, while telehealth services are being delivered.¹ Under these requirements, patients could not be located in their homes or workplaces.¹ However, the Centers for Medicare and Medicaid Services (CMS), using new leverage provided in the Bipartisan Budget Act of 2018, is finalizing changes that would allow beneficiaries participating in Medicare Advantage plans and the Medicare Shared Savings Program to access additional telehealth benefits, such as receiving telehealth services in their homes, starting in 2020.³,⁴ Recent legislation in some states has focused on
expanded telehealth coverage to patients at any originating site. Some state Medicaid programs have also started to allow patients’ homes, or other locations such as workplaces, to serve as originating sites.

Table 1. Telehealth Modes of Delivery

<table>
<thead>
<tr>
<th>Mode</th>
<th>How Does It Work?</th>
<th>Examples</th>
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<tbody>
<tr>
<td>Live (synchronous) audio-video connection</td>
<td>Patients receive health care at an originating (also called spoke or patient) site from health care providers located at a distant (or hub) site.</td>
<td>Patients are able to receive care from their regular providers or, in the case of direct-to-consumer telehealth, be connected with the next available clinician in a patient-initiated telehealth visit via personal devices, such as mobile phones.</td>
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<tr>
<td>Store-and-forward</td>
<td>Health care provider or patient at an originating site forwards the patient’s records or images to a health care provider at the distant site who provides treatment recommendations.</td>
<td>These “electronic consultation” services involve a delay in treatment and are often used in dermatology, radiology, and other clinical specialties.</td>
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<tr>
<td>Remote patient monitoring</td>
<td>Patients’ health data regularly transmitted from their homes to health care providers.</td>
<td>Providers monitor patients’ health data and alter treatment as needed. This type of telehealth is often used for patients with chronic conditions such as asthma and diabetes to reduce unnecessary hospital or emergency department visits.</td>
</tr>
<tr>
<td>Mobile health (mHealth)</td>
<td>Technology such as tablets and cell phones are used to convey information.</td>
<td>Patients or other public audiences with public health information and education.</td>
</tr>
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</table>

Sources: Uscher-Pines et al., 2018 and Center for Connected Health Policy. Store-and-forward, remote patient monitoring, and mobile health are not covered in this brief.

Another reason the home is increasingly being considered a telehealth originating site is the popularity of direct-to-consumer telehealth applications through which patients gain access to a provider online. Direct-to-consumer telehealth typically involves a virtual health care visit initiated by the patient that can be conducted anywhere and at any time of day. Payers in the commercial insurance market have started to offer telehealth services through large direct-to-consumer companies with their own network of providers. This means that patients typically receive virtual care from a different clinician than their primary care and/or other regular provider.
What We Know About Home-Based Telehealth

The evidence about telehealth in the home reflects the substantial heterogeneity in technology, infrastructure, and implementation of synchronous telehealth in this setting. Direct-to-consumer telehealth, for example, allows for considerable flexibility and ease of use as patients can use their own personal devices such as mobile phones to receive immediate access to remotely located clinicians.\textsuperscript{5,10,11} Evidence indicates that this mode of telehealth is most commonly used to evaluate minor acute conditions such as acute respiratory infections, urinary tract infections, and skin problems.\textsuperscript{5,10,11} By contrast, evidence suggests that in-home telehealth visits from a patient’s own health provider are largely conducted for more serious acute or chronic conditions, or to carry out rehabilitation programs after orthopedic surgery.\textsuperscript{12-22} In-home telehealth services of this type typically require more extensive technology and infrastructure, including the use of peripheral equipment such as blood pressure cuffs, pulse oximeters, and glucose meters.\textsuperscript{12-14,16-19,21,22}

The costs of setting up and facilitating in-home telehealth vary depending on the complexity of the technology used, the number and specialty of personnel involved, and the use of telehealth vendors.\textsuperscript{11,12,14,15,19,20,23} But evidence suggests telehealth may help patients avoid more costly care. Direct-to-consumer telehealth visits are generally less costly than emergency department or physician office visits for similar conditions.\textsuperscript{10} And both in-home telehealth and direct-to-consumer telehealth visits generally result in fewer in-person follow-up visits and less health care utilization than in-person health care visits.\textsuperscript{5,11,14,16,18,22} However, limited evidence suggests that when telehealth use constitutes new health care utilization (as opposed to substitution of in-person visits), this can drive increases in overall health care visit utilization and health care costs.\textsuperscript{10}

It’s important to realize, however, that evidence pertaining to telehealth in the home is generally old (published more than 10 years ago), of poor-methodological-quality, and lacking generalizability to diverse patient populations. The current state of the evidence should not hinder telehealth policy development. Rather, policymakers should recognize that they may need to develop and implement policies in the face of poor methodological quality evidence in response to interest and feedback from advocacy groups, the federal government, and payers.

A Review of Payer Policies and State Experiences

Given that evidence on telehealth in the home is weak, we sought to gather information about payers’ policies to give policymakers a sense of the landscape. We interviewed policymakers from two state Medicaid programs and three health care organizations that provide telehealth services to their beneficiaries and reviewed telehealth coverage policies from four national commercial payers, Medicare, and 10 state Medicaid agencies—Alabama, Colorado, Maryland, Minnesota, Oklahoma, Oregon, South Carolina, Texas, and Washington. We offer key findings for policymakers and other payers.
Payers with successful telehealth programs employ approaches that are consistent with their organizational goals and resources

Implementers use four basic approaches to provide telehealth services at home or in other nonclinical settings (Table 2). These implementation models range from complete outsourcing of both providers and equipment to reimbursement for any equipment or software provided by the health system, clinician, and patient. Implementers should choose a model that best matches organizational priorities, goals, resources, and statutory requirements.

Table 2. Primary Models for Telehealth Services and Example Payers, Vendors, and Providers

<table>
<thead>
<tr>
<th>Models Description</th>
<th>Organizational Example</th>
<th>Vendors and Providers</th>
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<tbody>
<tr>
<td>Outsource all telehealth resources</td>
<td>Aetna, Anthem Blue Cross and Blue Shield, Cigna, UnitedHealthcare</td>
<td>Teladoc, LiveHealth Online, American Well, MDLive, Doctor on Demand Providers assigned by vendors</td>
</tr>
<tr>
<td>Contract with external vendor to provide all infrastructure, e.g., providers, equipment (hardware and software)</td>
<td>Molina Healthcare of Washington (managed care organization)</td>
<td>Teladoc Providers assigned by vendor</td>
</tr>
<tr>
<td>Outsource telehealth technology only</td>
<td>York Hospital (Maine)</td>
<td>SnapMD for software Providers from York Hospital’s walk-in urgent care clinic</td>
</tr>
<tr>
<td>Contract with vendor to provide software only; health plans or provider groups use their own network of providers</td>
<td>Renown Health (not-for-profit health care network serving Nevada and northeast California)</td>
<td>Internal telehealth program Patients connect with their regular providers or next available provider</td>
</tr>
<tr>
<td>Internally build telehealth infrastructure</td>
<td>Medicaid and Medicare</td>
<td>No limit for telehealth services to specific vendors Infrastructure and equipment are often the responsibility of providers (must meet minimum security and confidentiality requirements)</td>
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State Medicaid programs cover home-based telehealth through a variety of approaches

Telehealth coverage is optional for state Medicaid agencies. Each state Medicaid agency that has elected to cover it has approached home-based telehealth differently, such
as through a statute, regulation, or other policy mechanisms such as state plan amendments (Table 3). Of the programs reviewed, only Maryland Medicaid limits reimbursement of services delivered via home-based telehealth to a specific population: patients who are deaf or hearing-impaired. These services must be delivered by providers who are fluent in American Sign Language.

Table 3. Policy Approaches Employed by States Allowing the Home as an Originating Telehealth Site

<table>
<thead>
<tr>
<th>Policy Mechanisms</th>
<th>State</th>
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<tbody>
<tr>
<td>State legislation</td>
<td>Missouri</td>
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<tr>
<td></td>
<td>Texas</td>
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<td></td>
<td>Washington State</td>
</tr>
<tr>
<td>Administrative regulation or internal Medicaid agency policy</td>
<td>Colorado</td>
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<tr>
<td></td>
<td>Maryland</td>
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<tr>
<td></td>
<td>Minnesota</td>
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<td></td>
<td>Oklahoma</td>
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<td>Oregon</td>
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CMS allows state Medicaid programs flexibility in telehealth coverage as long as state agencies meet federal requirements for efficiency, economy, and quality of care. Medicaid agencies can determine coverage requirements and set limitations regarding telehealth modes, settings, locations, types of services and providers, and reimbursement models. Of the eight of 10 Medicaid programs we reviewed with telehealth programs, none has different coverage policies for telehealth services delivered at patient homes or other nonclinical settings than those for telehealth delivered in clinical settings.

**State Medicaid programs require home-based telehealth services to meet the same standard of care as in-person visits, including patient privacy and provider scope of practice**

Policies in the eight Medicaid agencies that allow the home as an originating site require telehealth services to meet the same standard of care as an in-person visit, even if the patient is located at home. Our review of state Medicaid policies found that if a service is listed as a covered telehealth service, and the home is an allowable originating site, then the patient can potentially be at home for any type of service. According to policymakers in...
Texas and Washington whom we interviewed, it is the provider’s responsibility to determine whether the telehealth service can appropriately be delivered to patients at home, and to determine whether care is within their scope of practice and is appropriate for the clinical situation.

Ensuring the privacy and confidentiality of patient information is a common concern for policymakers. The eight Medicaid programs that allow the home as an originating site use broad confidentiality language but do require telehealth technology and equipment to meet patient privacy and confidentiality requirements and/or be HIPAA compliant (Colorado, Maryland, Minnesota, Missouri, Oklahoma, Oregon, Texas, and Washington). Policy language does not generally refer to patient equipment requirements. Missouri Medicaid does not allow the use of videophones for telehealth visits; however, no other agency policy reviewed specifies hardware that is allowed or not allowed. Maryland Medicaid’s policy provides the most specific requirements for telehealth equipment, including camera, display monitor, and audio requirements, bandwidth speed and image resolution requirements, and security and HIPAA compliance requirements. Texas Medicaid has never prescribed equipment or technology standards for telehealth, aside from patient confidentiality requirements, because the equipment and models of delivering telehealth services are rapidly evolving. To stay current on the latest technology or equipment, a Medicaid agency would need to update its policy frequently, which could become confusing for providers.

Other commonly cited privacy concerns include thin walls in residences or work settings and health information communicated to patients in public settings, such as coffee shops. States will need to determine the level of detail to include in written policy regarding standards, privacy requirements, and scope of practice for providers.

State Medicaid programs usually reimburse the same amount for telehealth-delivered services as for in-person clinical and primary care–delivered services

Most Medicaid programs require telehealth visits to be reimbursed at the same rate as for services provided at an in-person visit. Of the eight Medicaid programs reviewed, none reimburses telehealth delivered at home versus a clinical originating site such as a primary care office differently. Several challenges were identified with home-based telehealth reimbursement. Most notably, Medicaid agencies do not track the patient location at the time of telehealth services on claims. This information is important when trying to track telehealth utilization, appropriate or inappropriate use of telehealth among providers, and tracking patients with particular conditions. Furthermore, tracking patient location allows for quality control and data analysis. These capabilities are crucial in guiding these programs in the absence of good methodological quality evidence. Additionally, Medicaid policies generally do not state that the agency will reimburse for the cost of telehealth equipment needed by the provider and/or the Medicaid recipient.

Policies vary as to whether obtaining or purchasing equipment is the responsibility of the provider, patient, or both. Another important consideration for reimbursement

* Personal communication: E. McManus, April 2, 2018; J. Kunkel, May 16, 2018
** Personal communication: E. McManus, April 2, 2018
and coverage is that not all patients have access to the internet through a computer or a phone with video capabilities.

Medicare generally does not cover telehealth in the home but is incrementally covering telehealth services in certain circumstances

Federal statute restricts telehealth services covered by Medicare to rural and health professional shortage areas and to the following list of Medicare-approved telehealth originating sites:

- The office of a physician or practitioner
- A critical access hospital
- A rural health clinic
- A federally qualified health center
- A hospital
- A hospital-based or critical access hospital-based renal dialysis center
- A skilled nursing facility
- A community mental health center

Medicare allows patients to receive telehealth services at home through limited demonstrations such as the Comprehensive Care for Joint Replacement model, Episode Payment models, and Next Generation Accountable Care Organizations, which have waivers that allow telehealth services to be delivered in a patient’s home. Because of the Bipartisan Budget Act of 2018, as of 2019, Medicare patients with end-stage renal disease are allowed to receive telehealth visits at their homes when certain conditions are met. The bill also permits accountable care organizations that take on financial risks to cover the patient’s home as an originating site for telehealth services.

Commercial coverage varies based on state laws and how private payers use third-party vendors

Private payers are subject to state laws regarding whether they must reimburse for telehealth services delivered to patients at home, although a private payer can voluntarily offer telehealth services to all members. Reimbursement rates for telehealth are negotiated between private payers and telehealth providers. As of 2018, 38 states and the District of Columbia have laws that address coverage of telehealth services among private payers, and new laws in two states, Iowa and Utah, will go into effect in 2019. According to a March 2018 report by MedPAC, half of the 48 commercial plans surveyed covered the home as an originating site for telehealth.

Aetna, Anthem Blue Cross and Blue Shield, Cigna, and UnitedHealthcare have partnered with national vendors to provide telehealth services to their members. Anthem’s reimburse-
ment policy states that telehealth is reimbursed only through the plan-approved telehealth program that is provided by a vendor or when coverage is mandated by state or federal law. A member’s home is listed as a covered setting in Anthem’s policy. Cigna covers telehealth only if it is through one of its contracted virtual care provider companies or for behavioral health services by providers directly contracted with Cigna. UnitedHealthcare’s telehealth policy uses the same list of originating sites as Medicare and states that a member’s home is a covered setting only for the provision of monthly related clinical assessments of end-stage renal disease.

In 2017, two states (Texas and Colorado) passed laws that do not allow health plans to limit telehealth coverage to a specific vendor or technology.

**Limitations**

The findings of this brief should be interpreted with caution because of rapid changes occurring in telehealth availability and services. These findings were based on available information at the time of research initiation, and payer policies might have changed after research was completed for this report. Although we made efforts to confirm or clarify Medicaid policies for our sample of 10 states and four commercial payers, the information might not reflect all internal policies related to telehealth at home. Policy and program literature and data specific to telehealth at home are extremely limited. Literature cited in this brief and information from key informants provide a narrow snapshot of how telehealth at home is being incorporated into Medicaid programs and other health care agencies.

**Implications**

Use of telehealth will likely continue to expand as technology evolves and the demand for greater accessibility and convenience in health care increases. Payers are increasingly covering telehealth services. Although Medicare currently does not allow patients to receive telehealth services in the home, recent federal changes will soon allow home as an originating site for some Medicare beneficiaries. The four private insurers reviewed for this brief pay for home telehealth services via external vendors, and eight of 10 Medicaid programs reviewed pay for home telehealth services. The use of telehealth as a solution to cost and access concerns is also likely to be fueled by direct-to-consumer marketing, technology companies, and enthusiasm and commitment from health care providers, advocates, and patients.

State policymakers should consider the information outlined in this brief and develop telehealth policies that are consistent with state goals and can be integrated into their efforts to transform both care delivery and payment. States play an important role as regulators (establishing commercial insurance requirements) and as payers (through Medicaid). State policy efforts can be informed by the lessons in this brief relating to issues surrounding state and federal laws and guidance, reimbursement, scope of practice and licensing, standards of care, privacy and security, and oversight and other mechanisms to evaluate effectiveness.
Policymakers should consider the following lessons when developing and implementing programs for telehealth in the home and other nonclinical settings:

- Patients and clinicians are generally responsible for obtaining telehealth equipment and technology, as well as for ensuring visit privacy and confidentiality. Program administrators need to determine the level of detail to include in written policy to help curtail potential issues related to patient safety, privacy, and access to telehealth services, especially as telehealth continues to evolve.

- Policymakers need to consider how telehealth in the home works as a model for health care delivery for low-income and vulnerable populations, who may not have sufficient connectivity in rural or underserved areas. Patients in these areas may face more challenges to obtaining hardware, ensuring privacy, and acquiring technology literacy, which could create greater barriers to appropriate telehealth use than other populations.

- Medicaid programs do not currently have methods to track and monitor the use of telehealth in the home. State officials may want to ensure their telehealth policies capture more information, such as patients’ home address, in order to track and monitor use and facilitate quality control and data analysis.

- While telehealth in the home has the potential to make health care more efficient, it also has the potential to increase fragmentation and impede coordination of care. To reduce the potential for care fragmentation, telehealth services should be coordinated with other health services. To this end, telehealth policies could require that information is shared with the patient’s care team.

- Rigorous program evaluations are needed to measure the success, feasibility, and sustainability of telehealth in the home and other nonclinical settings. Future research is also needed to determine the clinical conditions and types of patients that can be well served by telehealth in these settings.

If directed and utilized appropriately, telehealth in the home provides a potential opportunity to make health care more efficient. However, because the rate of telehealth adoption has historically outpaced the evidence supporting its use, policymakers will continue to develop telehealth services with little guidance from research. Nevertheless, the information in this brief can give policymakers a sense of the current state, federal, and private payer home telehealth policy landscape and considerations for future telehealth policy development.
Notes


43. Anthem Blue Cross and Blue Shield. Anthem Blue Cross and Blue Shield commercial professional reimbursement policy: telehealth services IN, KY, MO, WI policy 0007. 2017; https://www11.anthem.com/provider/noapplication/f0/s0/t0/pw_g319057.pdf?refer=ahpmedprovider&state=mo.


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