UpToDate®
Official reprint from UpToDate®
www.uptodate.com © 2024 UpToDate, Inc. and/or its affiliates. All Rights Reserved.

Wolters Kluwer

Telemedicine for adults

AUTHORS: Michael K Ong, MD, PhD, Michael Pfeffer, MD, Rashmi S Mullur, MD
SECTION EDITOR: Joann G Elmore, MD, MPH
DEPUTY EDITOR: Jane Givens, MD, MSCE

All topics are updated as new evidence becomes available and our peer review process is complete.

Literature review current through: **Jan 2024.**
This topic last updated: **Sep 11, 2023.**

INTRODUCTION

Starting in the mid-20th century, telemedicine programs began to emerge as a novel option to provide remote clinical examination and mental health support [1,2]. Since that time, the use of telemedicine, particularly video visits, has expanded to include telehealth and mobile health applications [3]. During the coronavirus disease 2019 (COVID-19) pandemic, the use of telemedicine dramatically increased, and it is anticipated that telemedicine will remain a frequently utilized modality for patient encounters in the future [4].

DEFINITIONS AND OVERVIEW

Telehealth is broadly defined as the use of electronic information and telecommunications technologies to support health care that may or may not involve remote clinical services, including health education and population health management [5]. While telehealth services can be used in a consultative model wherein clinicians communicate with each other using digital health tools, it is more commonly used to support communication between clinicians and patients, both via live video as well as remote monitoring devices and mobile technology.

Telemedicine, a subset of telehealth, is more narrowly defined as the use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status during a remote clinical service [6]. Increasingly, mobile wireless

technologies (known as mobile health, or "mHealth") are used to provide telemedicine and telehealth services.

Telemedicine requires both audio and visual components, which differentiates it from audio-only telephone encounters or other types of remote patient monitoring or data collection. Telemedicine can be provided either in real-time as live, two-way audiovisual interactions between patients and providers (“synchronous” telemedicine) or by storing and forwarding data and images for use at a different time (“asynchronous” telemedicine). Asynchronous telemedicine can augment both traditional face-to-face ("in-person") care as well as synchronous telemedicine approaches, such as screening for diabetic retinopathy [7], dermatologic evaluations [8], or via the use of remote patient monitoring devices for chronic disease management [9].

THE TELEMEDICINE VISIT

Before the visit — Before the telemedicine visit, preparation should be done to anticipate and manage patient expectations, ensure the technology required for a successful telemedicine visit is functioning and accessible, and arrange manageable provider workflows.

- **Preparing the patient** – Patients are often excited to participate in video visits due to the reduction in time and transportation costs compared with in-person visits. However, managing patient expectations is crucial, as patients may have different expectations regarding video encounters than in-person or even telephone encounters. In particular, in advance, it is essential to:
    - Confirm that the necessary technological requirements for the telemedicine visit can be met.
    - Ensure that reimbursement and copay responsibilities are understood.
    - Obtain consent for the visit and explain privacy expectations.
    - Clarify the scope of the visit (eg, time to be spent, what can be realistically accomplished during the visit). In addition, provide advice that the provider may run late, and establish a contingency plan if the appointment does not start at the scheduled time. In addition, using standard agenda-setting principles, all patients should be advised that a subsequent in-person visit may be necessary based on the telemedicine encounter.

In the United States, patient consent to the use of telemedicine, if mandated by state law, must be obtained prior to the initiation of the encounter by the clinic staff scheduling the appointment. Consent can be oral or written, although state requirements are frequently changing [10]. When the appointment is scheduled, the patient's demographics, including health insurance, billing information, and emergency contact information, are collected as during any other health care encounter.

The virtual encounter will be affected by the quality of the patient's internet service (Wi-Fi connection, bandwidth of the patient's internet service provider [ISP], or mobile/cellular connection). As such, conducting a video visit over a cellular connection may have resolution and/or audio issues and would typically be better completed using a wireless (Wi-Fi) or wired (ie, Ethernet) connection. Similarly, not all video platforms work equally well between different types of devices or operating systems. We advise that patients update their device to latest version of the software or mobile application ("app") and complete a test connection (between clinic staff or information technology [IT] support staff) prior to the actual telemedicine visit. In addition, clinic staff should get a telephone number where the patient can be reached in case difficulties arise such as initiation of the video visit or if the video connection is interrupted.

- **Provider/clinic preparation** – Providers and clinics should consider the differences between their in-person and virtual workflows to minimize problems during the virtual encounter. Finding a time outside of the scheduled virtual encounter to test the audio and video connection reduces the need to troubleshoot connections during the encounter; this can be done with a staff member prior to the scheduled encounter. In addition, scheduling video visits one after another can help ensure that equipment is set up in a way that allows easy transition from one video encounter to the next.

  Preparing your workspace for an effective video visit should be done in advance:

  - Your video camera should be positioned in a way that allows for good eye contact with the patient. Providers should also ensure that any distracting items are removed from the background (particularly if working from home) and that the lighting is optimally placed to highlight your face.

  - Providers should consider using a laptop or desktop computer rather than a smartphone if possible, as movement of a phone can be distracting. If a mobile device is used, it should be secured in a fixed position for the telemedicine encounter.

  - Many providers are simultaneously entering information into or checking information in the electronic health record; separate screens for interacting with the patient and for

viewing the electronic health record are ideal.

- Use of a headset that includes headphones and a microphone may minimize problems with audio transmission.
- If working in a shared space, ensure privacy during the virtual encounter.

During the visit — In general, a telemedicine encounter progresses just as any in-person encounter. However, privacy issues should be addressed before discussing protected health information, vital signs "obtained" are typically self-reported, and the physical examination component will be limited and more focused.

The provider should speak slowly and pause frequently to allow for delays in transmission.

Providers should confirm the patient's physical location and telephone number and establish a contingency plan should a medical or other household emergency arise during the visit. We advise patients that difficulties with video transmission may arise due to limited bandwidth or other technical issues; in such a situation, conversion to an audio-only encounter (through the same platform or telephone call) may be necessary.

Before beginning a discussion containing any personal medical information, providers should inquire about any other participants (intentional or unintentional) who are not visible on video; patients should be reminded to ensure that they able to speak privately prior to the start of the encounter. The provider should also confirm privacy on their side. If the telemedicine visit is being conducted with the provider in clinic, the conversation should be conducted with the office door closed and no additional staff present. However, if any interruption from medical staff is anticipated during the visit, the patient should be informed in advance to let them know that the conversation will be paused during the interruption.

Depending upon office workflow, an office staff member may have previously contacted the patient prior to the visit to ensure appropriate technological setup. At that time, or at the time of the visit, patient reported vital sign data can be obtained and recorded into the medical record (eg, heart rate and blood pressure from a home blood pressure cuff, temperature from a home thermometer, weight from a scale). Additionally, electronic messaging can be used as a means of pre-charting vital signs prior to the encounter.

As with traditional in-person visits, we proceed with an interview to evaluate the patient's chief complaint and review the pertinent medical history. A contemporaneous review of the patient's medical record is typically warranted to confirm past medical history, prior testing, current

medication list, and allergies. In addition, a medication review can be performed by having the patient hold up medications to the camera [11].

After the appropriate medical history is obtained, one can transition to the physical examination if appropriate.

Physical examination — The physical examination includes a global visual assessment of the patient which occurs throughout the entire telemedicine encounter. We observe and note the patient's general appearance as well as specifics including respiratory rate and pattern, speech pattern, grooming, and, if possible, details such as cyanosis.

The telemedicine physical examination is typically more focused and limited than that obtained during an in-person visit. In addition, specific physical examination components typically take more time than during an in-person visit due to the need to reposition the patient's camera (eg, for a close view of a dermatologic condition), or requests for the patient to demonstrate specific activities such as range of motion.

The following resources provide examples of general approaches to the telemedicine examination, as well as focused telemedicine physical examinations for common chief complaints:

- A Guide for a Patient Assisted Virtual Physical Examination [12]
- How to Administer a Virtual Physical Exam (for evaluation of upper respiratory infection, low back pain, and shoulder pain)
- The Telemedicine Musculoskeletal Examination [13]
- The Virtual Foot and Ankle Physical Examination [14]
- A Reliable, Remote, Polyneuropathy Exam [15]
- Virtual dysphagia examination [16]

Providers can also instruct patients how to best photograph skin lesions of concern, in case they are difficult to visualize through the video platform (table 1).

In addition, a telemedicine encounter can provide a unique opportunity to learn about the patient's living situation (particularly relevant in geriatric patients). For example, the provider can ask the patient to provide a visual tour of their home, during which the provider can assess for any safety issues.

BENEFITS AND APPLICATIONS OF TELEMEDICINE

The early use of telemedicine focused primarily on urgent care issues, particularly acute respiratory or urinary tract infections [17,18]. In addition, many early consumers of telemedicine were individuals without a usual source of primary care [18]. However, in the evolution of telemedicine, it is being more broadly used for a variety of applications, including specialty care to chronic disease management.

Increased access to care in rural areas — There is a widening rural-urban disparity in life expectancy that can be attributed in part to a lack of access to care [19]. Patients in rural areas can benefit from expanding telemedicine services in both primary care and specialty consultative care. Although the delivery of telemedicine services may be hindered by limited broadband service in some rural areas, access to the internet has become increasingly available.

Primary care — In primary care, telemedicine encounters can be utilized for a variety of visits. The video component may provide important clinical information beyond what can be ascertained via a telephone call or through electronic messaging.

In addition to urgent care encounters for upper respiratory infections or urinary tract infections, evaluation of dermatologic conditions, and medication management of chronic anxiety and depression are also well-suited for telemedicine encounters. Management of chronic conditions, such as diabetes, mental health issues, heart failure, nutrition, chronic obstructive pulmonary disease (COPD), and obesity, are also increasingly being conducted via telemedicine [20-24].

Telemedicine visits may also be used for medicine reconciliation appointments, substance use disorder treatment (individual and group treatment), and form completion (eg, return to work or school paperwork).

In addition, information from remote patient monitoring equipment (eg, glucometers, blood pressure monitors, scales, oximeters, noninvasive ventilation equipment for sleep apnea) can be uploaded and transmitted to the provider or, in some cases, communicate with the patient's electronic medical record automatically. The provider can use this information to monitor and adjust therapy, including medication changes and behavioral modification advice. However, if utilizing such systems, patients should **always** be made aware that providers may not have immediate access to or be able to rapidly review uploaded information, and that any data (eg, blood sugar readings, blood pressure measurements) of concern should be communicated directly to the provider’s office via telephone, email, patient portal, or other methods.

Medical specialty care — Just as telemedicine can be used in primary care, specialty care management can also be performed using telemedicine. While some elements of specialty care

may require physical examination components that cannot be performed readily through telemedicine encounters, these can be deferred to an in-person visit while other monitoring, physical examination, and medical decision-making components can be conducted remotely. Telemedicine is being used in many specialties such as cardiology, endocrinology, hepatology, nephrology, neurology, ophthalmology, dermatology, and surgical perioperative care management. For example, telemedicine may be used for some ophthalmology evaluations; self-administered at-home tests of visual acuity have been found to be accurate when compared with in-office Snellen chart measurement [25], and telemedicine has been found to be beneficial and cost-effective in screening for diabetic retinopathy [7,23].

Traditionally, the principal of telemedicine in specialty care has centered around patient self-empowerment to improve health and prevent disease exacerbations. As examples, the use of digital health remote monitoring technology and protocol-driven care has been shown to improve health outcomes in both diabetes care and chronic heart failure management. Additionally, the use of algorithm-based care using artificial technology is being developed [26].

- **Diabetes mellitus** – The use of telemedicine in chronic diabetes mellitus management is well established. Several studies highlight the benefits of telemedicine interventions for diabetes care, although many incorporate several care modalities ranging from teleconsultation to remote-patient monitoring. In a 2016 meta-analysis including 55 randomized trials and over 9000 patients, the greatest A1C improvement was seen in patients with type 2 diabetes mellitus, among those over 40 years old, and in those receiving teleconsultation [27]. Moreover, a 2017 systematic review including 111 randomized controlled trials and almost 24,000 patients, telemedicine interventions modestly reduced A1C at all time intervals measured (ranging from -0.20 to -0.74 percent) compared with usual care [28]. In meta-regression analysis, the highest effect was seen in patients with higher baseline A1C as well as in trials that utilized text messaging or web portals for communication and applications that facilitated medication adjustment. While the use of remote patient monitoring using continuous glucose monitors is growing and increasingly covered by insurance companies, combining the use of these technologies with virtual care has not yet been systematically evaluated [29,30].

- **Heart failure** – In patients with chronic heart failure, telemonitoring is used to predict and prevent acute decompensation episodes by tracking symptoms that require optimization of therapy. Although in systematic reviews and meta-analyses, the use of telemedicine showed benefit for patients with heart failure [31,32], in randomized trials telemedicine monitoring alone of patients with heart failure has not consistently shown benefits for reduction in hospitalization and mortality [33,34]. However, when used in the context of a

broader disease management program, the addition of telemedicine is likely to be of benefit. This is reviewed in detail elsewhere. (See "Systems-based strategies to reduce hospitalizations in patients with heart failure", section on 'Telemonitoring'.)

In heart failure patients with implantable cardioverter-defibrillators (ICDs), telemonitoring combined with scheduled in-person visits can reduce health care utilization as well as acute care visits. In the Evolution of Management Strategies of Heart Failure Patients with Implantable Defibrillators (EVOLVO) study, remote monitoring of intrathoracic impedance (as a marker of fluid status), atrial arrhythmias, and ICD shocks reduced emergency and unscheduled physician visits compared with usual care [35].

Mental health — Provision of telemental health services has been a rapidly growing area [36], particularly in areas with shortages of in-person mental health care. Individuals with mental health disorders are generally able to participate effectively in telemedicine encounters, and telemedicine visits may be used for capacity evaluations and management of mood disorders and psychosis [37]. A discussion of telemental health based on the setting of the COVID-19 pandemic, is provided elsewhere. (See "COVID-19: Psychiatric illness", section on 'General approach'.)

Telemedicine expansion during COVID-19 pandemic — During the COVID-19 pandemic, when in-person visits needed to be minimized, telemedicine encounters were substituted for a range of in-person encounters, increasing the range of applications of virtual care [38-42]. For example, telemedicine was used to evaluate patients with known or suspected COVID-19. Remote management of these patients prevented unnecessary in-person medical visits. Telemedicine was used for chronic disease management, allowing continuity of care for high-risk populations while allowing for social distancing and reducing the risk for exposure to infection [43].

Inpatient care — Telemedicine has applications for managing certain hospitalized patients in whom in-person hospital room visits should be limited or avoided to minimize the risk to health care staff and to preserve PPE. This can be helpful with the management of some infectious diseases to minimize the risk of infection transmission (eg, COVID-19 and Ebola) and other potential high-risk exposures (eg, following I-131 ablation). An on-site assistant can act as a telepresenter to assist with managing the video device or with physical examination maneuvers [38,44]. Telemedicine interviews can be conducted with inpatients as part of scheduled rounds or on an as-needed basis.

Serious illness and hospice — Communication regarding diagnosis, prognosis, and medical decision-making in the setting of serious illness can be especially difficult when not conducted

in person [45]. Strategies for holding such conversations via telemedicine are available in the table (examples are in the setting of COVID-19 but applicable to other illnesses) (table 2).

A discussion of regulatory changes regarding telehealth hospice care during the COVID-19 pandemic is provided elsewhere. (See "Hospice: Philosophy of care and appropriate utilization in the United States", section on 'Telehealth service utilization'.)

LIMITATIONS OF TELEMEDICINE

Telemedicine visits are not a complete substitute for in-person visits, nor are telemedicine visits feasible for all patients or clinical situations [46].

Some limitations of telemedicine include:

- Many traditional "doctoring" elements, such as touch, physical presence, and emotional connection, can be encumbered by digital technologies [47].
- A significant limitation is the inability to conduct an in-person physical examination. Although inspection lends itself well to telemedicine, other examination techniques, such as palpation and auscultation, are either much more difficult or not possible with telemedicine. While the use of telemedicine peripheral devices, such as digital stethoscopes, can overcome some of these barriers, these are generally not widely available. Additionally, a telepresenter (an individual assisting with the examination) can be especially useful for provocative maneuvers [15]; however, the availability of such ancillary services may be limited. Patients may also be able to assist with self-palpation (eg, abdominal examination), which can help improve health literacy and patient engagement.
- Patient and provider perceptions and experiences may differ from those experienced during an in-person visit; it is essential to be aware of these potential differences [45]. As an example, during the telemedicine visit, the provider's face will likely be more of a focus than during a typical in-person encounter, and therefore facial expressions may be perceived as exaggerated. In addition, it is more difficult for both the clinician and the patient to observe and thus interpret body language cues.
- The “digital divide” can create potential disparities in access to participation to telemedicine, including for those living in rural areas with limited internet access, older adults, and those with diverse cultural and socioeconomic backgrounds [48-51]. However, even among individuals with adequate internet access, it is important to clarify their

comfort level with conducting a telemedicine visit; their internet access may be limited to a public location or may incur significant monetary costs due to data charges. Surveys from 2019 suggest that for individuals whose annual household income is <$30,000 USD, over 80 percent use the internet [52] and over 70 percent have access to a smartphone [53].

Older adults may have difficulty accessing telemedicine services due to inexperience with technology or physical disabilities [54,55]. Further, in a cross-sectional study of Medicare beneficiaries using 2018 data, 26 percent of participants lacked digital access in their home, and this proportion was greater among those with lower socioeconomic status, among those with age over 85 years, and in communities of color [56]. Enlisting family and/or caregivers can potentially mitigate these issues.

Data from Europe suggest that home internet use and web access among older individuals varies widely among nations [57], with older individuals being more inclined to use computers rather than mobile phones for telehealth access; mobile phones were preferred among younger individuals and were more accessible to lower-income populations [58]. A similar study from China also showed that internet access was limited to higher socioeconomic groups, and mobile phones were more widely available for mobile health programs [59].

- Technology does not always work smoothly, and technical difficulties may interfere with delivery of care. In a 2015 study of over 1600 patients in a large health system scheduled for primary care video visits, 82 percent completed their visit [60]. Among the 18 percent who did not complete their visit, 62 percent communicated with their provider in some other way (primarily by telephone), 26 percent had technical problems, and the remainder either changed their mind regarding the visit or the problem had resolved. Of note, among patients who completed a video visit, 33 percent reported that a video visit decreased the need for an in-person visit for the same problem.

- Some patients may prefer in-person interactions over telemedicine visits, although patients are generally equally satisfied with in-person and telemedicine encounters [61]. In this 2015 study of primary care video visits, although 90 percent had prior experience with video visits and 97 percent had access to video-enabled technology, 41 percent preferred in-person visits over video visits [60]. Similar preferences for in-person interactions have been noted in specialty care services [36].

- Inaccurate dosing of weight-based drugs (eg, chemotherapy treatments, pediatric medications) may occur due to the inability to weigh patients [62].

- Telemedicine visits may not be appropriate or feasible for all patients or all clinical situations; the clinician must use telemedicine services appropriately for care to be delivered effectively and accurately. (See 'Appropriateness of a telemedicine visit' below.)

Despite these limitations, many patients continue to favor telemedicine modalities for their ease of use, cost-savings, and decrease in travel time [63,64]. (See 'Benefits and applications of telemedicine' above.)

APPROPRIATENESS OF A TELEMEDICINE VISIT

Not all patients or clinical situations are appropriate for telemedicine evaluation [65-67]. Examples include situations where patients are unable to have a private conversation, patients lack decision-making capacity, or an in-person physical examination is anticipated to yield information essential for clinical decision-making (eg, chest pain or dyspnea).

The provider must consider whether a patient lacks decision-making capacity (eg, children, older adults with dementia, or individuals with severe cognitive or mental health disorders), as consent for the telemedicine visit is required. As with any other visit for such patients, having the person with decision-making authority available to conduct a telemedicine encounter and for treatment decisions is required.

In addition, some patients, particularly some older adults, may have less experience with the technology required for a video visit, and telemedicine visits may be difficult to arrange for such patients. If the patient gives consent, we may ask a family member or caregiver to assist the patient in setting up the necessary technology for the visit [68]. Older patients may have hearing or visual impairment which make telemedicine visits challenging.

Some individuals with disabilities may require adaptive equipment to allow a successful telemedicine encounter. An example might be the inclusion of a sign-language interpreter to assist individuals who are hard of hearing.

As with in-person visits, interpreter services should be provided for patients in whom there is a language incongruence with the provider. Increasingly, video software platforms can accommodate multiple participants, which can enable participation of an interpreter to assist with the encounter.

CLINICAL OUTCOMES, HEALTH CARE UTILIZATION, AND PRACTICE PATTERNS

Health care delivery through telemedicine may affect clinical outcomes, health care utilization, and costs as well as health care delivery and practice patterns.

- **Clinical outcomes** – Telemedicine may improve clinical outcomes, although high-quality data are limited [66]. As an example, telemedicine for diabetes care has been shown to improve glycated hemoglobin [69]; specific characteristics of successful telemedicine interventions included a high frequency of provider feedback via telemedicine, age <55, and higher initial hemoglobin A1c. Similarly, in some studies, telemedicine interventions including structured telemonitoring support have also been shown to improve some outcomes in heart failure [33,70]. (See 'Medical specialty care' above.)

- **Health care utilization and costs** – Telemedicine encounters can be less costly than traditional in-person visits.

  In an earlier study of telephone-based remote encounters for acute respiratory infections, per-episode costs were lower with a remote encounter compared with an in-person outpatient visit and an emergency medicine visit (USD $79, $146, and $1734, respectively) [71]. However, the same study found that many individuals using remote encounter technology would not have come in for an in-person outpatient visit, the remote visit thus incurring greater health care utilization and related costs.

- **Health care delivery and practice patterns** – In addition, provider practice patterns may be affected by the use of telemedicine. Some of the experiences with telemedicine and acute respiratory infections have found that prescription patterns may differ between video visits and in-person visits, with more antibiotic prescription occurring with video visits [72,73].

REGULATORY ISSUES

Regulatory issues surrounding the delivery of telemedicine services can vary regionally and by country and are rapidly evolving. Providers should ensure that their delivery platform(s), coding, billing, licensure, and prescribing practices are compliant with regulatory requirements.

Graduate medical education — In March, 2020, the Accreditation Council for Graduate Medical Education (ACGME) accelerated the use of the Common Program Requirements for supervision of telemedicine visits, which permits trainees to participate in the use of telemedicine. The policy stipulates that as long as the resident and their supervising faculty follow reasonable supervision requirements as if the care was provided in person, the trainee may participate in telemedicine care. Supervision may occur synchronously (by telephone or

video) or asynchronously with a supervising physician at a later time, with the intent to mimic in-person workflows [74]. Some technologies allow for three-way telemedicine visits, which allow trainees to conduct the telemedicine visit with the patient and to have the supervising faculty join the visit for the key portions of service without having to be co-located. Due to the ongoing pandemic, the ACGME board extended the approval for implementation of telemedicine and telesupervision through the 2020 to 2021 academic year; subsequent approval will be determined by individual specialty review committees.

Additionally, CMS determined that teaching physicians may use synchronous audio or video supervision with trainees delivering care for Medicare patients, provided that they are ”present” during the key portions of the service through the end of 2023 [75].

Software and data security — The video component of telemedicine encounters can be accomplished through multiple software platforms using a variety of hardware devices (eg, desktop, tablet, smartphone). In the United States, the Health Insurance Portability and Accountability Act (HIPAA) requires the secure transmission of all protected health information, including electronic data such as those from virtual encounters. Usually, this requires the use of specific software that provides secure end-to-end encryption. Public-facing video software platforms (eg, Facebook Live, Twitch, TikTok) should not be used.

Insurance coverage — In the United States, health insurance coverage for telemedicine visits varies by state and health insurer; where telemedicine payment parity exists, payment for in-person and telemedicine visits can be essentially equal [76]. Providers and office staff should familiarize themselves with general coverage for telemedicine in their region, and some useful questions for patients or providers to ask of their insurer may include:

- What services are covered when performed via telemedicine?
- What conditions need to be met for a patient to qualify for telemedicine services (eg, live a minimum distance from provider, lack of transportation, established relationship, informed consent in writing)?
- Which providers can bill for telemedicine visits?
- Is there a limit to the number of telemedicine visits patients can have in a given year? With their primary care clinician? Specialists?

Current Procedural Terminology (CPT) coding for telemedicine encounters are accomplished through the use of modifiers:

- A GT modifier signifies a synchronous ("live") encounter

- A GQ modifier signifies an asynchronous encounter

During the COVID-19 pandemic, many insurers temporarily expanded their coverage of telemedicine visits. For example, Medicare's original telemedicine coverage prior to 2019 required that the patient be in a clinical environment (eg, not home) within a health professional shortage area (HPSA), which limited the use of Medicare telemedicine visits primarily to patients in rural areas. The Consolidated Appropriations Act of 2023 continues the temporary expansion of Medicare telemedicine visit coverage through 2024 [77].

In 2019, Medicare regulations were expanded to accommodate "virtual check-ins" and "e-visits." Virtual check-ins are defined as brief telemedicine encounters (5 to 10 minutes) with existing patients not originating from an in-person visit within the prior seven days and not leading to a visit within the next 24 hours or soonest available in-person appointment. Virtual check-in regulations allow for audio-only encounters (eg, telephone). Online digital interaction "e-visit" encounters (eg, patient portal encounters) are defined as existing patient-generated electronic inquiry and communications that can occur over a seven-day period. Verbal consent must be obtained prior to use of "e-visit" encounters [75,78].

Licensure — In the United States, all states allow the practice of telemedicine within their state with a full medical license; Although video transmission is technically not limited by state and country boundaries, the practice of cross-border telemedicine is restricted by licensure issues. In the United States, if a patient is physically in another state, a provider generally needs a license to practice in that state before provisioning care. There are several options to apply for a provider license in another state. This can be done directly with the other state's licensure board, although some states have border reciprocity that allow for care delivery without a state provider license, or on a limited basis (eg, brief follow-up for existing problems but not for ongoing care). Some states, such as Georgia, offer a limited medical license that allows for just the practice of telemedicine, providing the clinician carries a full license in another state [79].

Many states participate in the Interstate Medical Licensure Compact [80], which addresses the cross-border license issue. As of May 2020, the Compact includes 29 states, the District of Columbia, and the Territory of Guam. This compact facilitates the application for state licensure in participating states, although applications can only come from providers who practice primarily within a state participating in the Compact.

In the United States, providers with the Veteran Affairs health system can provide telemedicine services across state lines regardless of patient or provider location, preempting state laws. Additionally, telemedicine providers may need to consider additional institutional credentialing issues if providing telemedicine care as part of a health care system.

Prescribing — A primary difference between face-to-face and virtual encounters involves the prescribing of controlled substances. The Ryan Haight Online Pharmacy Consumer Protection Act, enacted on October 15, 2008, prohibits the delivery, distribution, or dispensing of a controlled substance by means of the internet without a "valid prescription" [81]. A "valid prescription" for a controlled substance must be predicated on an in-person evaluation by the prescribing practitioner with few exceptions. If the treating clinician is unavailable, a covering clinician may refill or renew a prescription if an in-person evaluation was conducted over the previous 24 months. An exception was granted to the in-person requirement that will extend to November 11, 2024, for existing patient-provider relationships established by November 11, 2023 [82].

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Telehealth and telemedicine".)

SUMMARY AND RECOMMENDATIONS

- **Definition of telemedicine** – Telemedicine, a subset of telehealth, is defined as the use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status during a remote clinical service. It requires audio and visual components and can be provided either in real-time as live, two-way audiovisual interactions between patients and providers ("synchronous" telemedicine) or by storing and forwarding data and images for use at a different time ("asynchronous" telemedicine). (See 'Definitions and overview' above.)

- **Preparing for the telemedicine visit** – Before the telemedicine visit, preparation should be done to anticipate and manage patient expectations as well as ensure the technology required for a successful telemedicine visit is functioning and accessible. Key points are to confirm technological requirements, obtain consent, discuss reimbursement and copay responsibilities, and discuss privacy expectations. (See 'Before the visit' above.)

  Providers should prepare the workspace for an effective video visit in advance and test audio and video connections. The use of a laptop or desk computer is preferred to minimize camera movement.

- **Physical examination** – The physical examination is typically more focused and limited but includes a global visual assessment of the patient throughout the telemedicine encounter. Resources to provide instruction on conducting virtual physical examinations are available. (See 'During the visit' above.)

- **Limitations of telemedicine** – Telemedicine is popular with many patients due to ease of use, cost savings, and decrease in travel time. However, it also has several limitations, including the inability to conduct an in-person physical examination and the diminution of many traditional "doctoring" elements, such as touch, physical presence, and emotional connection. Telemedicine visits may not be available to all patients due to limited internet access or difficulties with accessing and utilizing technology. (See 'Limitations of telemedicine' above.)

  Not all patients or clinical situations are appropriate for telemedicine evaluation. Examples include situations where patients are unable to have a private conversation, patients lack decision-making capacity, or an in-person physical examination is anticipated to yield information essential for clinical decision-making. (See 'Appropriateness of a telemedicine visit' above.)

- **Telemedicine in primary and specialty care** – In primary care, telemedicine encounters can be utilized for a variety of visits; in addition to urgent care visits, telemedicine can be used for chronic disease management, including diabetes, mental health, heart failure, chronic obstructive pulmonary disease (COPD), and obesity. Information from remote patient monitoring equipment (eg, glucometers, blood pressure monitors, scales, oximeters, noninvasive ventilation equipment for sleep apnea) can also be transmitted to the provider or, in some cases, uploaded to the patient's electronic medical record automatically. Telemedicine is also being used in cardiology, endocrinology, hepatology, nephrology, neurology, mental health, ophthalmology, dermatology, and surgical perioperative care management. (See 'Primary care' above and 'Medical specialty care' above and 'Mental health' above.)

- **Evolving telemedicine regulatory issues** – Regulatory issues surrounding the delivery of telemedicine services vary regionally and by country and are rapidly evolving. Providers should ensure that their delivery platform(s), coding, billing, licensure, and prescribing practices are compliant with regulatory requirements and provide adequate security. Regulations regarding prescriptions may also vary. (See 'Regulatory issues' above.)

Use of UpToDate is subject to the Terms of Use.

REFERENCES

1. Dwyer TF. Telepsychiatry: psychiatric consultation by interactive television. Am J Psychiatry 1973; 130:865.
2. Mermelstein H, Guzman E, Rabinowitz T, et al. The application of technology to health: The evolution of telephone to telemedicine and telepsychiatry: A historical review and look at human factors. J Technol Behav Sci 2017; 2:5.
3. Weinstein RS, Lopez AM, Joseph BA, et al. Telemedicine, telehealth, and mobile health applications that work: opportunities and barriers. Am J Med 2014; 127:183.
4. Humphreys J, Schoenherr L, Elia G, et al. Rapid Implementation of Inpatient Telepalliative Medicine Consultations During COVID-19 Pandemic. J Pain Symptom Manage 2020; 60:e54.
5. Office of the National Coordinator for Health Information Technology. What is telehealth? How is telehealth different from telemedicine? Available at: https://www.healthit.gov/faq/what-telehealth-how-telehealth-different-telemedicine (Accessed on May 26, 2020).
6. Kvedar J, Coye MJ, Everett W. Connected health: a review of technologies and strategies to improve patient care with telemedicine and telehealth. Health Aff (Millwood) 2014; 33:194.
7. Daskivich LP, Vasquez C, Martinez C Jr, et al. Implementation and Evaluation of a Large-Scale Teleretinal Diabetic Retinopathy Screening Program in the Los Angeles County Department of Health Services. JAMA Intern Med 2017; 177:642.
8. Zakaria A, Maurer T, Su G, Amerson E. Impact of teledermatology on the accessibility and efficiency of dermatology care in an urban safety-net hospital: A pre-post analysis. J Am Acad Dermatol 2019; 81:1446.
9. Vegesna A, Tran M, Angelaccio M, Arcona S. Remote Patient Monitoring via Non-Invasive Digital Technologies: A Systematic Review. Telemed J E Health 2017; 23:3.
10. Center for Connected Health Policy. State telehealth laws and reimbursement policies report, fall 2022. Available: https://www.cchpca.org/resources/state-telehealth-laws-and-reimbursement-policies-report-fall-2022/ (Accessed on February 08, 2023).
11. Calton B, Abedini N, Fratkin M. Telemedicine in the Time of Coronavirus. J Pain Symptom Manage 2020; 60:e12.
12. Benziger CP, Huffman MD, Sweis RN, Stone NJ. The Telehealth Ten: A Guide for a Patient-Assisted Virtual Physical Examination. Am J Med 2021; 134:48.
13. Laskowski ER, Johnson SE, Shelerud RA, et al. The Telemedicine Musculoskeletal Examination. Mayo Clin Proc 2020; 95:1715.
14. Eble SK, Hansen OB, Ellis SJ, Drakos MC. The Virtual Foot and Ankle Physical Examination. Foot Ankle Int 2020; 41:1017.

15. Wilson AM, Ong MK, Saliba D, Jamal NI. The Veterans Affairs Neuropathy Scale: A Reliable, Remote Polyneuropathy Exam. Front Neurol 2019; 10:1050.
16. Soldatova L, Williams C, Postma GN, et al. Virtual Dysphagia Evaluation: Practical Guidelines for Dysphagia Management in the Context of the COVID-19 Pandemic. Otolaryngol Head Neck Surg 2020; 163:455.
17. Uscher-Pines L, Mehrotra A. Analysis of Teladoc use seems to indicate expanded access to care for patients without prior connection to a provider. Health Aff (Millwood) 2014; 33:258.
18. Liaw WR, Jetty A, Coffman M, et al. Disconnected: a survey of users and nonusers of telehealth and their use of primary care. J Am Med Inform Assoc 2019; 26:420.
19. Singh GK, Siahpush M. Widening rural-urban disparities in life expectancy, U.S., 1969-2009. Am J Prev Med 2014; 46:e19.
20. Esteban C, Moraza J, Iriberri M, et al. Outcomes of a telemonitoring-based program (telEPOC) in frequently hospitalized COPD patients. Int J Chron Obstruct Pulmon Dis 2016; 11:2919.
21. Bashshur RL, Shannon GW, Smith BR, et al. The empirical foundations of telemedicine interventions for chronic disease management. Telemed J E Health 2014; 20:769.
22. Davis AM, Sampilo M, Gallagher KS, et al. Treating rural paediatric obesity through telemedicine vs. telephone: Outcomes from a cluster randomized controlled trial. J Telemed Telecare 2016; 22:86.
23. Lee JY, Lee SWH. Telemedicine Cost-Effectiveness for Diabetes Management: A Systematic Review. Diabetes Technol Ther 2018; 20:492.
24. McDonnell ME. Telemedicine in Complex Diabetes Management. Curr Diab Rep 2018; 18:42.
25. Bellsmith KN, Gale MJ, Yang S, et al. Validation of Home Visual Acuity Tests for Telehealth in the COVID-19 Era. JAMA Ophthalmol 2022; 140:465.
26. Kuziemsky C, Maeder AJ, John O, et al. Role of Artificial Intelligence within the Telehealth Domain. Yearb Med Inform 2019; 28:35.
27. Su D, Zhou J, Kelley MS, et al. Does telemedicine improve treatment outcomes for diabetes? A meta-analysis of results from 55 randomized controlled trials. Diabetes Res Clin Pract 2016; 116:136.
28. Faruque LI, Wiebe N, Ehteshami-Afshar A, et al. Effect of telemedicine on glycated hemoglobin in diabetes: a systematic review and meta-analysis of randomized trials. CMAJ 2017; 189:E341.

29. Carlson AL, Martens TW, Johnson L, Criego AB. Continuous Glucose Monitoring Integration for Remote Diabetes Management: Virtual Diabetes Care with Case Studies. Diabetes Technol Ther 2021; 23:S56.
30. Bergenstal RM, Layne JE, Zisser H, et al. Remote Application and Use of Real-Time Continuous Glucose Monitoring by Adults with Type 2 Diabetes in a Virtual Diabetes Clinic. Diabetes Technol Ther 2021; 23:128.
31. Polisena J, Tran K, Cimon K, et al. Home telemonitoring for congestive heart failure: a systematic review and meta-analysis. J Telemed Telecare 2010; 16:68.
32. Inglis SC, Clark RA, McAlister FA, et al. Structured telephone support or telemonitoring programmes for patients with chronic heart failure. Cochrane Database Syst Rev 2010; :CD007228.
33. Ong MK, Romano PS, Edgington S, et al. Effectiveness of Remote Patient Monitoring After Discharge of Hospitalized Patients With Heart Failure: The Better Effectiveness After Transition -- Heart Failure (BEAT-HF) Randomized Clinical Trial. JAMA Intern Med 2016; 176:310.
34. Chaudhry SI, Mattera JA, Curtis JP, et al. Telemonitoring in patients with heart failure. N Engl J Med 2010; 363:2301.
35. Landolina M, Perego GB, Lunati M, et al. Remote monitoring reduces healthcare use and improves quality of care in heart failure patients with implantable defibrillators: the evolution of management strategies of heart failure patients with implantable defibrillators (EVOLVO) study. Circulation 2012; 125:2985.
36. Barnett ML, Ray KN, Souza J, Mehrotra A. Trends in Telemedicine Use in a Large Commercially Insured Population, 2005-2017. JAMA 2018; 320:2147.
37. Arevian AC, Jeffrey J, Young AS, Ong MK. Opportunities for Flexible, On-Demand Care Delivery Through Telemedicine. Psychiatr Serv 2018; 69:5.
38. Ong MK, Brotman DJ. The Virtual Hospitalist: The Future is Now. J Hosp Med 2018; 13:798.
39. Wosik J, Fudim M, Cameron B, et al. Telehealth transformation: COVID-19 and the rise of virtual care. J Am Med Inform Assoc 2020; 27:957.
40. Kakani P, Sorensen A, Quinton JK, et al. Patient Characteristics Associated with Telemedicine Use at a Large Academic Health System Before and After COVID-19. J Gen Intern Med 2021; 36:1166.
41. Eberly LA, Kallan MJ, Julien HM, et al. Patient Characteristics Associated With Telemedicine Access for Primary and Specialty Ambulatory Care During the COVID-19 Pandemic. JAMA Netw Open 2020; 3:e2031640.

42. Centers for Disease Control and Prevention. Telehealth and telemedicine during COVID-19 in low resource non-US settings. Available: https://www.cdc.gov/coronavirus/2019-ncov/global-covid-19/telehealth-covid19-nonus.html (Accessed on February 08, 2023).
43. Lakkireddy DR, Chung MK, Gopinathannair R, et al. Guidance for Cardiac Electrophysiology During the COVID-19 Pandemic from the Heart Rhythm Society COVID-19 Task Force; Electrophysiology Section of the American College of Cardiology; and the Electrocardiography and Arrhythmias Committee of the Council on Clinical Cardiology, American Heart Association. Circulation 2020; 141:e823.
44. Kuperman EF, Linson EL, Klefstad K, et al. The Virtual Hospitalist: A Single-Site Implementation Bringing Hospitalist Coverage to Critical Access Hospitals. J Hosp Med 2018; 13:759.
45. Flint L, Kotwal A. The New Normal: Key Considerations for Effective Serious Illness Communication Over Video or Telephone During the Coronavirus Disease 2019 (COVID-19) Pandemic. Ann Intern Med 2020; 173:486.
46. Dorsey ER, Topol EJ. State of Telehealth. N Engl J Med 2016; 375:154.
47. Verghese A. Culture shock--patient as icon, icon as patient. N Engl J Med 2008; 359:2748.
48. Fischer SH, Ray KN, Mehrotra A, et al. Prevalence and Characteristics of Telehealth Utilization in the United States. JAMA Netw Open 2020; 3:e2022302.
49. Ramirez AV, Ojeaga M, Espinoza V, et al. Telemedicine in Minority and Socioeconomically Disadvantaged Communities Amidst COVID-19 Pandemic. Otolaryngol Head Neck Surg 2021; 164:91.
50. Reed ME, Huang J, Graetz I, et al. Patient Characteristics Associated With Choosing a Telemedicine Visit vs Office Visit With the Same Primary Care Clinicians. JAMA Netw Open 2020; 3:e205873.
51. Frydman JL, Li W, Gelfman LP, Liu B. Telemedicine Uptake Among Older Adults During the COVID-19 Pandemic. Ann Intern Med 2022; 175:145.
52. Pew Research Center. Internet/broadband fact sheet. Available at: https://www.pewresearch.org/internet/fact-sheet/internet-broadband/ (Accessed on February 08, 2023).
53. Pew Research Center. Digital divide persists even as lower-income Americans make gains in tech adoption. Available at: https://pewresearch-org-preprod.go-vip.co/fact-tank/2021/06/22/digital-divide-persists-even-as-americans-with-lower-incomes-make-gains-in-tech-adoption/ (Accessed on February 08, 2023).
54. Lam K, Lu AD, Shi Y, Covinsky KE. Assessing Telemedicine Unreadiness Among Older Adults in the United States During the COVID-19 Pandemic. JAMA Intern Med 2020; 180:1389.

55. Nieman CL, Oh ES. Connecting With Older Adults via Telemedicine. Ann Intern Med 2020; 173:831.

56. Roberts ET, Mehrotra A. Assessment of Disparities in Digital Access Among Medicare Beneficiaries and Implications for Telemedicine. JAMA Intern Med 2020; 180:1386.

57. Romano MF, Sardella MV, Alboni F, et al. Is the digital divide an obstacle to e-health? An analysis of the situation in Europe and in Italy. Telemed J E Health 2015; 21:24.

58. Reiners F, Sturm J, Bouw LJW, Wouters EJM. Sociodemographic Factors Influencing the Use of eHealth in People with Chronic Diseases. Int J Environ Res Public Health 2019; 16.

59. Hong YA, Zhou Z, Fang Y, Shi L. The Digital Divide and Health Disparities in China: Evidence From a National Survey and Policy Implications. J Med Internet Res 2017; 19:e317.

60. Reed ME, Huang J, Parikh R, et al. Patient-Provider Video Telemedicine Integrated With Clinical Care: Patient Experiences. Ann Intern Med 2019; 171:222.

61. Schumm MA, Pyo HQ, Ohev-Shalom R, et al. Patient experience with electronic health record-integrated postoperative telemedicine visits in an academic endocrine surgery program. Surgery 2021; 169:1139.

62. Institute for Safe Medication Practices. Special edition medication safety alert: COVID-19-related medication errors. Available at: https://ismp.org/acute-care/special-edition-medication-safety-alert-may-14-2020/covid-19 (Accessed on February 08, 2023).

63. Kruse CS, Krowski N, Rodriguez B, et al. Telehealth and patient satisfaction: a systematic review and narrative analysis. BMJ Open 2017; 7:e016242.

64. Orlando JF, Beard M, Kumar S. Systematic review of patient and caregivers' satisfaction with telehealth videoconferencing as a mode of service delivery in managing patients' health. PLoS One 2019; 14:e0221848.

65. Shah VV, Villaflores CW, Chuong LH, et al. Association Between In-Person vs Telehealth Follow-up and Rates of Repeated Hospital Visits Among Patients Seen in the Emergency Department. JAMA Netw Open 2022; 5:e2237783.

66. Evidence Brief: Video Telehealth for Primary Care and Mental Health Services, Veazie S, Bourne D, Peterson K, Anderson J. (Eds), Department of Veterans Affairs (US), Washington (DC) 2019.

67. Croymans D, Hurst I, Han M. Telehealth: The right care, at the right time, via the right medium. NEJM Catal Innov Care Deliv 2020.

68. Mechanic OJ, Lee EM, Sheehan HM, et al. Evaluation of Telehealth Visit Attendance After Implementation of a Patient Navigator Program. JAMA Netw Open 2022; 5:e2245615.

69. Timpel P, Oswald S, Schwarz PEH, Harst L. Mapping the Evidence on the Effectiveness of Telemedicine Interventions in Diabetes, Dyslipidemia, and Hypertension: An Umbrella Review of Systematic Reviews and Meta-Analyses. J Med Internet Res 2020; 22:e16791.
70. Inglis SC, Clark RA, Dierckx R, et al. Structured telephone support or non-invasive telemonitoring for patients with heart failure. Cochrane Database Syst Rev 2015; 2015:CD007228.
71. Ashwood JS, Mehrotra A, Cowling D, Uscher-Pines L. Direct-To-Consumer Telehealth May Increase Access To Care But Does Not Decrease Spending. Health Aff (Millwood) 2017; 36:485.
72. Martinez KA, Rood M, Jhangiani N, et al. Association Between Antibiotic Prescribing for Respiratory Tract Infections and Patient Satisfaction in Direct-to-Consumer Telemedicine. JAMA Intern Med 2018; 178:1558.
73. Ray KN, Shi Z, Gidengil CA, et al. Antibiotic Prescribing During Pediatric Direct-to-Consumer Telemedicine Visits. Pediatrics 2019; 143.
74. Accreditation Council for Graduate Medical Education. Specialty-specific program requirements: Direct supervision using telecommunication technology. Available at: https://www.acgme.org/globalassets/PDFs/Specialty-specific-Requirement-Topics/DIO-Direct_Supervision_Telecommunication.pdf (Accessed on February 08, 2023).
75. Physicians and other clinicians: CMS flexibilities to fight COVID-19. Centers for Medicare & Medicaid Services. https://www.cms.gov/files/document/physicians-and-other-clinicians-cms-flexibilities-fight-covid-19.pdf (Accessed on August 18, 2023).
76. Zheng F, Park KW, Thi WJ, et al. Financial implications of telemedicine visits in an academic endocrine surgery program. Surgery 2019; 165:617.
77. Telehealth policy changes after the COVID-19 public health emergency. US Department of Health and Human Services. https://telehealth.hhs.gov/providers/telehealth-policy/policy-changes-after-the-covid-19-public-health-emergency (Accessed on August 18, 2023).
78. Centers for Medicare and Medicaid Services. Medicare telemedicine snapshot - December 2021 FAQs. https://www.cms.gov/files/document/medicare-telemedicine-snapshot-faqs.pdf (Accessed on February 08, 2023).
79. Center for Connected Health Policy. Cross-state licensing. Available at: https://www.cchpca.org/topic/cross-state-licensing-professional-requirements/ (Accessed on February 08, 2023).
80. Interstate Medical Licensure Compact Commission. Available at: https://www.imlcc.org/ (Accessed on February 08, 2023).

81. US Congress. Ryan Haight Online Pharmacy Consumer Protection Act of 2008. Available at: https://www.congress.gov/110/plaws/publ425/PLAW-110publ425.pdf (Accessed on February 08, 2023).
82. Prescribing controlled substances via telehealth. US Department of Health and Human Services. https://telehealth.hhs.gov/providers/telehealth-policy/prescribing-controlled-substances-via-telehealth (Accessed on August 18, 2023).

Topic 128313 Version 15.0

GRAPHICS

Photography tips for patients seeking telemedicine evaluation of skin disorder

- Use a well-lit area.
- Avoid flash photography, if possible.
- A solid, uniform background is preferred.
- Have someone else besides the patient take the photograph.
- If using a cellular phone, use the main (rear-facing) lens, not the "selfie" lens.
- Make sure the area of involvement is well focused; don't get too close if this makes the image out of focus.
- For individual lesions, make sure the whole lesion is in the picture.
- Use a ruler in the image (or, if a ruler is not available, a common object such as a coin) to demonstrate the size of the lesion.
- For rashes, get a distance view that shows the pattern of the rash and a close-up view that shows the character of the rash.

Graphic 128974 Version 2.0

Selected considerations for approaching serious discussions remotely, with example phrases

SPIKES protocol	Telehealth considerations	Examples
Setup		
Before meeting	▪ At the time of ordering a diagnostic test, request permission to discuss the results with a patient, regardless of the test result.	▪ "We expect to have the results of you biopsy in 2 weeks. Is it okay if we call you by telephone/videoconference to discuss the results at that time?"
At the meeting	▪ Similar to silencing pagers and cell phones, mute/defer notifications on your computer and arrange so that you are not intruded upon during the appointment. ▪ During the introduction, describe your setting and members present. If on video, describe what you see and inquire about who may be present or listening to the discussion.	▪ "Hello, I am Dr X. I am calling from my office to discuss the results of your biopsy. I see that you are in you living room and sitting down. Can you see/hear me clearly? Do you have time to discuss your test results now? Who is there with you? Is there anybody else present and able to hear our discussion?"
	▪ Privacy is important to patients. Explicitly state that information shared is confidential. Inquire regarding whether the discussion is being recorded.	▪ "I am sitting down, my office door is closed, and I have the volume set so that our conversation will not be overheard. We are using a secure connection that is not being recorded on our end. Please let me know if you are recording anything."
Perception, invitation, knowledge	▪ Disciplined use of communication skills, such as signposting or teach-back, can help to overcome the shortcomings of remote conversations. ▪ Anticipate delayed audio transmission by using short sentences and allowing longer-than-usual pauses after statements to give time for patients to ask questions. ▪ If videoconferencing, have the camera at eye level or slightly above. Have a simple backdrop behind you to minimize distractions.	▪ "I am going to tell you the results of your biopsy/the treatment options for your cancer. I will be asking you questions often to ensure that you can hear me clearly and understand what I am saying. Please let me know if you have any questions at any time."

Empathy	▪ With telemedicine, displaying empathy can be difficult, but not impossible. Sometimes a prolonged silence can take the place of offering a tissue or an understanding touch that would be used in real life.	▪ "I understand that this is difficult news to hear, especially over the phone/by video." ▪ "I can hear that you are upset. Please share your thoughts with me."
Summary	▪ Plan for follow-up by addressing the setting where the next meeting would be. Deliver handouts through mail or electronic transfer.	▪ "Do you have any further questions? will schedule a follow-up telephone/videoconference/in-perso meeting in 2 weeks. I would like to share some handouts with you. Do you have any objections with us sending this to your e-mail address?"

SPIKES: Setting, Perception, Invitation, Knowledge, Empathy/Emotion, and Strategy/Summarize.

From: Holstead RG, Robinson AG. Discussing Serious News Remotely: Navigating Difficult Conversations During a Pandemic. JCO Oncol Pract 2020; 16:363. DOI: 10.1200/OP.20.00269. *Copyright © 2020 American Society of Clinical Oncology. Reproduced with permission from Wolters Kluwer Health. Unauthorized reproduction of this material is prohibited.*

Graphic 129045 Version 6.0

Contributor Disclosures

Michael K Ong, MD, PhD No relevant financial relationship(s) with ineligible companies to disclose. **Michael Pfeffer, MD** No relevant financial relationship(s) with ineligible companies to disclose. **Rashmi S Mullur, MD** No relevant financial relationship(s) with ineligible companies to disclose. **Joann G Elmore, MD, MPH** Other Financial Interest: Elsevier [Author royalties]. All of the relevant financial relationships listed have been mitigated. **Jane Givens, MD, MSCE** No relevant financial relationship(s) with ineligible companies to disclose.

Contributor disclosures are reviewed for conflicts of interest by the editorial group. When found, these are addressed by vetting through a multi-level review process, and through requirements for references to be provided to support the content. Appropriately referenced content is required of all authors and must conform to UpToDate standards of evidence.

Conflict of interest policy

