Implementing Telehealth in Practice

ABSTRACT: The term "telemedicine" often is used to refer to traditional clinical diagnosis and monitoring that are delivered by technology. The term "telehealth" refers to the technology-enhanced health care framework that includes services such as virtual visits, remote patient monitoring, and mobile health care. Evidence suggests that telehealth provides comparable health outcomes when compared with traditional methods of health care delivery without compromising the patient–physician relationship, and it also has been shown to enhance patient satisfaction and improve patient engagement. Obstetrician–gynecologists and other physicians who practice telehealth should make certain that they have the necessary hardware, software, and a reliable, secure internet connection to ensure quality care and patient safety. To implement a telehealth program effectively, participating sites must undergo resource assessments to evaluate equipment readiness. Credentialing and privileging in telemedicine depend on the requirements of the facilities where the physician practices and the source of service payment or reimbursement. Obstetrician–gynecologists and other physicians who provide telehealth must meet many safeguards before delivering telehealth services, including federal, state, and local regulatory laws and licensure requirements. Insurance carriers should provide clear guidelines to physicians who provide telehealth to ensure appropriate health insurance coverage for telehealth encounters. Telehealth has quickly become integrated into nearly every aspect of obstetrics and gynecology, and current trends in patient-generated data and big data analytics portend increased use. These technology-enhanced health care delivery opportunities enhance, not replace, the current standard of care.

Recommendations and Conclusions
The American College of Obstetricians and Gynecologists makes the following recommendations and conclusions regarding telehealth:

- Telehealth is increasingly used in nearly every aspect of obstetrics and gynecology. Obstetrician–gynecologists and other physicians should consider becoming familiar with and adept in this new technology.
- In most states, physicians, nurses, and other health care providers must be licensed in the state where the patient is located and also may need to be credentialed at the facility where the patient is located.
- Insurance carriers should provide clear guidelines to physicians who provide telehealth to ensure appropriate health insurance coverage for telehealth encounters.
- It is important that the patient–physician relationship is upheld and valued in the treatment plan, and physicians who provide telehealth should examine their state laws and medical board definitions closely to ensure that their practices are compliant.
- Before choosing a liability insurer, physicians who provide telehealth should request proof in writing that the liability insurance policies cover telemedicine malpractice and that the coverage extends to other states in which they are practicing, if applicable.
- Obstetrician–gynecologists and other physicians who provide telehealth should make certain that they have the necessary hardware, software, and a reliable, secure internet connection to ensure quality care and patient safety.
To implement a telehealth program effectively, participating sites should undergo resource assessments to evaluate equipment readiness.

Physicians who provide telehealth must comply with the Health Insurance Portability and Accountability Act (HIPAA) privacy and security rules and also should be aware of the unique security risks posed by virtual health care technology, which can be vulnerable to outside threats.

**Introduction**

The National Consortium of Telehealth Resource Centers, a large national consortium of telehealth networks, defines telehealth as “a collection of means or methods for enhancing the health care, public health, and health education delivery and support using telecommunications technologies” (1). The term “telemedicine” often is used to refer to traditional clinical diagnosis and monitoring that are delivered by technology. “Connected health” and “digital health” also are terms that broadly describe similar technology applications in health care. The term “telehealth” is now more commonly used to describe a wide range of topics, such as diagnosis and management, education, and other related fields of health care. For this document, the term “telehealth” refers to the technology-enhanced health care framework that includes services such as virtual visits, remote patient monitoring, and mobile health care (see Box 1). Other important telehealth considerations such as “real-time” synchronous versus “store-and-forward” asynchronous services are defined in Box 1.

Evidence suggests that telehealth provides comparable health outcomes when compared with traditional methods of health care delivery without compromising the patient–physician relationship, and it also has been shown to enhance patient satisfaction and improve patient engagement. For example, investigators compared perinatal outcomes in 117 women opting for a regimen of nine in-person prenatal visits and five virtual prenatal visits to 941 women receiving up to 12 in-person prenatal visits. There were no significant differences in rates of cesarean birth, preterm birth, neonatal intensive care unit admissions, or birth weight despite a higher rate of preeclampsia in the virtual visit cohort. Patient satisfaction was significantly higher among women having virtual visits, although the absolute differences between in-person and virtual visits were so small as to be of questionable clinical significance (2, 3).

A recent systematic review screened 3,926 published articles, and the final review included 47 articles. The scope of the review included low-risk and high-risk obstetrics, family planning, and general gynecology (4). The review suggests some benefit with telehealth interventions, particularly text messaging and remote monitoring. One outcome in which text messaging and remote monitoring show promise includes a decrease in the number of unscheduled visits. Remote blood pressure monitoring with text-based surveillance could improve the rate of adherence to the American College of Obstetricians and Gynecologists’ recommendations for blood pressure monitoring in the first 10 days after birth. Text communication combined with web-based platforms showed significant improvement in exclusive breastfeeding and breastfeeding continuation rates, and text messaging and calling in improved notification of sexually transmitted infection results (4). Telehealth provision of medication-induced abortion services had similar clinical outcomes compared with in-person care and increased access to early abortion. The systematic review found telehealth interventions were associated with improvements in obstetric outcomes, perinatal smoking cessation, breastfeeding, and schedule optimization for high-risk obstetrics. Further research is needed to help clinicians determine how to integrate telemedicine into practice in ways that improve patient care.

Telehealth is increasingly used in nearly every aspect of obstetrics and gynecology. Obstetrician–gynecologists and other physicians who provide telehealth should consider becoming familiar with and adept in this new technology. Examples of telehealth include virtual patient

---

**Box 1. Telehealth Modalities**

- Live, two-way (or real-time) synchronous audio and video allows specialists, local physicians, and patients to see and hear each other in real-time to discuss conditions.
- Store-and-forward, also referred to as “asynchronous telemedicine,” sends medical imaging such as X-rays, photos, ultrasound recordings, or other static and video medical imaging to remote specialists for analysis and future consultation.
- Remote patient monitoring collects personal health and medical data from an individual in one location and electronically transmits the data to a physician in a different location for use in care and related support. Remote patient monitoring may use medically designated handheld or wearable devices to collect health data remotely or may use smartphones with applications that leverage wireless or Bluetooth technologies to track patients while they are away from the clinical setting.
- mHealth is a general term for self-managed patient care using mobile phones or other wireless technology and does not necessarily involve monitoring by a physician. It is most commonly used to deliver or reinforce patient education about preventive care and provide medication reminders, appointment reminders, and other essential self-care steps that patients should undertake to maintain their optimal obstetric health.
consultation with specialty services, remote observation of ultrasound recordings by maternal–fetal medicine and reproductive endocrinology experts, bladder diary tracking with smartphone apps, postpartum blood pressuring monitoring with Wi-Fi-connected devices, remote provision of medication-induced abortion, and fertility tracking with patient-generated data. Fertility tracking and pregnancy apps rank among the most popular health apps. There are nearly 2,000 medical apps available for the Apple mobile operating system (5). The purpose of this Committee Opinion is to provide structured guidance on how to implement telehealth in practice with attention to licensure, credentialing, billing, and technology requirements.

Legal and Regulatory Issues

Obstetrician–gynecologists and other physicians who provide telehealth must meet many safeguards before delivering telehealth services, including federal, state, and local regulatory laws and licensure requirements. Credentialing and licensure present a challenge for physicians who provide telehealth, yet they are essential before delivering clinical services through telemedicine. Licensing is state specific for all physicians who provide telehealth. Most states require that a physician hold a license in the state where the patient is located, making it difficult for some physicians to provide telehealth across state lines. There are two specific compacts, one for nurses and one for physicians, that provide an expedited mechanism for obtaining licensure in additional states. According to the Center for Connected Health Policy, "the Nurse Licensure Compact allows nurses to have one license viable in other compact member states, allowing for a nurse to practice in both their home state and other states which have signed on to the compact." Similarly, the Interstate Medical Licensure Compact is an agreement among participating states that allows physicians who are licensed in a state that has joined the compact, and who meet the qualifications defined in the compact, to be eligible for licensure in any other state that has joined the compact.

Credentialing and privileging in telemedicine depend on the requirements of the facilities where the physician who provides telehealth practices and the source of service payment or reimbursement. Additionally, The Joint Commission has requirements for physician credentialing in accredited facilities, and the Centers for Medicaid and Medicare Services (CMS) has credentialing requirements that determine whether such services are Medicare eligible. Credentialing is determined on a site-by-site basis to ensure physicians who provide telehealth are cognizant of different organizations' rules and regulations. In most cases, physicians and nurses providing telehealth must be licensed in the state where the patient is located and also may need to be credentialed at the facility where the patient is located. The Joint Commission has standards that allow hospitals to "privilege by proxy," meaning that hospitals receiving telemedicine services can accept the distant site hospital's credentialing and privileging decisions. This process is optional and specific requirements must be met to use it. For more information on credentialing and privileging see the Center of Connected Health Policy’s website at www.cchpca.org/telehealth-policy/credentialing-and-privileging.

Telemedicine parity refers to the equivalent health insurance reimbursement for similar in-person and telehealth services. Because not all states have parity laws, obstetrician–gynecologists considering offering telehealth services should be aware of relevant state policies. As of 2018, 49 states and Washington, DC, provided reimbursement for some form of live video in Medicaid fee-for-service, and 35 states had enacted telemedicine parity laws (6). In states where parity laws do not exist, collaborative efforts between physician groups and insurance companies may help ensure adequate reimbursement for necessary health services. In Arkansas, for example, the state's Medicaid program funded a high-risk obstetric telemedicine program long before telemedicine parity laws were in place in the state. Decisions to deny coverage could be influenced by territorial restrictions, appropriateness of telemedicine for the service, whether medical resources are adequate at the patient’s location, and whether continuity of care is available. Insurance carriers should provide clear guidelines to physicians who provide telehealth to ensure appropriate health insurance coverage for telehealth encounters.

Some state telemedicine parity laws may define and address patient–physician relationships specifically to provide the basis for insurer reimbursement qualification. The patient–physician relationship has been an ongoing ethical concern in telemedicine, especially when the need for an actual face-to-face relationship is particularly important to the patient, such as between a pregnant woman and her obstetrician. There is still debate about whether that relationship is cultivated in telemedicine, in which there is no in-person encounter; however, evidence suggests that telehealth provides comparable health outcomes when compared with traditional methods of health care delivery without compromising the patient–physician relationship. Investigators evaluated a telehealth educational and support intervention for parents discharged within 24 hours of delivery (7). The intervention consisted of use of an app with asynchronous online chats with responses within 4 hours, a knowledge base with a search function offering articles, videos, and automated text messages with tips about subjects such as breastfeeding. Users reported that they felt confident using the app, that their informational needs were met, and that there were no barriers to contacting physicians. Nurses believed that the app provided families with easier access to timely information and support (7, 8).

Obstetrician–gynecologists and other telehealth physicians' ability to communicate information effectively and
Billing and Payment

Payment policies for telehealth services are constantly evolving. Each year, new coverage policies are developed and released by public and private payers. Variation in reimbursement payment methodologies among public and private participants constitutes a barrier to implementation of telehealth solutions. There are several drivers of inconsistent payment models. There is a lack of consistent terminology, which may contribute to state-by-state variation and insurer variation in regulation. Until recently, Medicare did not consider remote patient monitoring services a telehealth service eligible for payment; although in the 2019 final rule (11) CMS has finalized its proposal to define remote patient monitoring within the regulation for the Medicare home health benefit and to include the cost of remote patient monitoring as an allowable cost on the Home Health Agency cost report. As of 2018, Medicare will reimburse physicians who provide telehealth for remote patient monitoring services billed under the Current Procedural Terminology (CPT) code 99091 ("Collection and interpretation of physiologic data [eg, electrocardiogram, blood pressure, glucose monitoring] digitally stored and/or transmitted by the patient and/or caregiver to the physician or other qualified health care professional, qualified by education, training, licensure/regulation [when applicable] requiring a minimum of 30 minutes") in addition to paying for two new (for 2019) Healthcare Common Procedure Coding System (HCPCS) codes and three new (for 2019) CPT codes:

- HCPCS code G2010: Remote evaluation of recorded video and/or images submitted by an established patient (eg, store and forward), including interpretation and follow-up with the patient within 24 business hours, not originating from a related E/M service provided within the previous 7 days nor leading to an E/M service or procedure within the next 24 hours or soonest available appointment.
- HCPCS code G2012: Brief communication technology-based service, eg, virtual check in, by a physician or other qualified health care professional who can report evaluation and management services, provided to an established patient, not originating from a related E/M service provided within the previous 7 days nor leading to an E/M service or procedure within the next 24 hours or soonest available appointment; 5–10 minutes of medical discussion.
- CPT code 99453: Remote monitoring of physiologic parameter(s) (eg, weight, blood pressure, pulse oximetry, respiratory flow rate), initial; setup and patient education on use of equipment.
- CPT code 99454: Remote monitoring of physiologic parameter(s) (eg, weight, blood pressure, pulse oximetry, respiratory flow rate), initial; device(s) supply with daily recording(s) or programmed alert(s) transmission, each 30 days.
- CPT code 99457: Remote physiologic monitoring treatment management services, 20 minutes or more of clinical staff/physician/other qualified health care professional time in a calendar month requiring interactive communication with the patient/caregiver during the month.

The CMS website (cms.gov) lists the core requirements to bill Medicare for remote patient monitoring services.

Current fee-for-service procedural codes typically have been developed based on face-to-face encounters. Parity payment laws may not be an adequate solution because the required elements of a given service code may be unable to be satisfied in a virtual setting. In 2017, CPT published a subset of procedural codes for services that can be performed reasonably using a live, synchronous platform with commonly available technology. Finally, the specialized technology for some procedures, such as remote skin visualization and simple office endoscopy, may be cost prohibitive or clinically insufficient for diagnosis, compared with the same service in person.
Requirements for Providing Telehealth Services

Equipment Requirements

Network, connectivity, and equipment requirements should be considered when providing telehealth within any clinical discipline. For example, a computer used for virtual visits must have an adequate camera, speakers, and microphone, and sufficient processor speed to run the required software. Obstetrician–gynecologists and other physicians who provide telehealth should make certain that they have the necessary hardware, software, and a reliable, secure internet connection to ensure quality care and patient safety. Physicians who provide telehealth should be aware of federal and state-specific telehealth network, connectivity, and equipment rules and standards because these requirements will help guarantee that telehealth programs are effective, safe, and eligible for reimbursement.

State Medical Board Requirements

State medical boards have many rules related to telehealth. For example, most state medical boards require the physicians who provide telehealth to hold a license in the state where the patient is located. As noted previously, the Interstate Medical Licensure Compact was developed through which participating states “allow physicians to obtain a license to practice medicine in any Compact state through a simplified application process,” thus saving time and supporting the expansion of telehealth (12).

Additionally, hospital-based patient sites often require the physicians who provide telehealth to hold privileges, which may be telehealth-specific, at the hospital. Privileging by proxy may allow the hospital receiving services to accept the distant site (where the physician who provides telehealth is located) hospital’s credentialing and privileging decisions (13).

Site Resource Assessment

Technology should be considered a bridge to connect with a patient, and site assessments are crucial to ensuring that such technology is adequate. Failure to ensure that sites have appropriate technology may lead to suboptimal patient care. To implement a telehealth program effectively, participating sites should undergo a resource assessment to evaluate equipment readiness. Trained and knowledgeable information technology and network staff should be involved in conducting assessments to ensure equipment and network readiness and address security concerns. Conducting a mock visit to assess equipment readiness can help prepare telemedicine sites for the delivery and installation of new telemedicine equipment. For patients, telehealth generally relies on a strong internet connection. Adequate broadband access is needed for the transmission of high-quality audio, text, and imaging. If the patient (or physician providing telehealth) is experiencing a lack of connectivity, the care needed may not be provided. This lack of connectivity can be a concern for patients living in areas with poor access to quality broadband internet. In addition, patients may face difficulties setting up and effectively using telehealth tools, depending on the technology.

Integration of Electronic Medical Records

Electronic medical records (EMRs) can be customized based on individual site needs, including for telehealth. Phones and mobile apps can be paired with EMRs to input and retrieve patient information (14). Most important, if more than one type of EMR software is used between entities, and interfacing software is not possible, other means of secure standardized data exchange that meet security requirements for both entities should be used to ensure continuity of patient care. Primary care physicians, specialists, and clinical staff members also should communicate by secure methods, such as fax or secure email, if EMR integration is not possible.

Health Insurance Portability and Accountability Act Requirements

The Health Insurance Portability and Accountability Act, including its implementing regulations, is an important aspect of all health care, including telehealth. Physicians who provide telehealth must comply with the HIPAA privacy and security rules, and also should be aware of the unique security risks posed by virtual health care technology, which can be vulnerable to outside threats. Thus, it is thus important for telehealth equipment to encrypt user data; however, it should be noted that there is still a small possibility that even encrypted data could be accessed by unauthorized persons. Patients should be counseled about the limitations of HIPAA, especially when they use a platform on a smartphone, which uses applications that seldom have the same level of encryption as telehealth site equipment that is used over telehealth networks. Health information that patients store in a personal health record that is not offered through a physician or health plan is not covered by HIPAA.

The HIPAA Security Rule provides technical and nontechnical safeguards that covered entities must follow to protect the security of individually identifiable health information that is stored or transmitted in electronic form (15). The technical safeguards require covered entities to establish 1) access controls (technical policies and procedures that allow only authorized persons to access electronic protected health information, including specifications for encryption); 2) audit controls (hardware, software, and procedural mechanisms to record and examine access and other activity in information systems that contain or use electronic protected health information); 3) integrity controls (policies and procedures to ensure that electronic protected health information is not improperly altered or destroyed); and 4) transmission security (technical security measures that guard
against unauthorized access to electronic protected health information that is being transmitted over an electronic network) (15).

Additionally, HIPAA outlines physical and administrative safeguards that help protect telehealth. Administrative safeguards include risk analysis, which requires conducting a review to evaluate the likelihood and effect of potential risks on electronic protected health information, as well as implementation of security measures to address risks identified during the analysis (15). Physical safeguards include limiting physical access to electronic information systems.

**Conclusions**

Telehealth has quickly become integrated into nearly every aspect of obstetrics and gynecology, and current trends in patient-generated data and big data analytics portend only increased use. Box 2 summarizes general considerations for physicians implementing telehealth in their practices. Physicians who provide telehealth maintain the same professional practices that guide current management of clinical scenarios as they intersect with new devices and technology. These technology-enhanced health care delivery opportunities enhance, not replace, the current standard of care.

**For More Information**

The American College of Obstetricians and Gynecologists has identified additional resources on topics related to this document that may be helpful for ob-gyns, other health care providers, and patients. You may view these resources at: www.acog/WomensHealth/Telehealth.

These resources are for information only and are not meant to be comprehensive. Referral to these resources does not imply the American College of Obstetricians and Gynecologists’ endorsement of the organization, the organization’s website, or the content of the resource. The resources may change without notice.

**References**

10. Toh N, Pawlovich J, Grzybowski S. Telehealth and patient-doctor relationships in rural and remote

This information is designed as an educational resource to aid clinicians in providing obstetric and gynecologic care, and use of this information is voluntary. This information should not be considered as inclusive of all proper treatments or methods of care or as a statement of the standard of care. It is not intended to substitute for the independent professional judgment of the treating clinician. Variations in practice may be warranted when, in the reasonable judgment of the treating clinician, such course of action is indicated by the condition of the patient, limitations of available resources, or advances in knowledge or technology. The American College of Obstetricians and Gynecologists reviews its publications regularly; however, its publications may not reflect the most recent evidence. Any updates to this document can be found on acog.org or by calling the ACOG Resource Center.

While ACOG makes every effort to present accurate and reliable information, this publication is provided "as is" without any warranty of accuracy, reliability, or otherwise, either express or implied. ACOG does not guarantee, warrant, or endorse the products or services of any firm, organization, or person. Neither ACOG nor its officers, directors, members, employees, or agents will be liable for any loss, damage, or claim with respect to any liabilities, including direct, special, indirect, or consequential damages, incurred in connection with this publication or reliance on the information presented.

All ACOG committee members and authors have submitted a conflict of interest disclosure statement related to this published product. Any potential conflicts have been considered and managed in accordance with ACOG’s Conflict of Interest Disclosure Policy. The ACOG policies can be found on acog.org. For products jointly developed with other organizations, conflict of interest disclosures by representatives of the other organizations are addressed by those organizations. The American College of Obstetricians and Gynecologists has neither solicited nor accepted any commercial involvement in the development of the content of this published product.