

Pediatric Telehealth Opportunities and Challenges



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KEYWORDS

• Telehealth • Telemedicine • Pediatrics • Access to care • mHealth

KEY POINTS

- Telehealth is a rapidly expanding field of medicine that uses telecommunication and information technology to connect patients and providers remotely.
- Telehealth has significant potential to improve population health by expanding access to care, improving communication, facilitating enhanced monitoring of patients, and expanding educational opportunities.
- To continue to capitalize on the benefits of telehealth, barriers including lack of infrastructure, licensing issues, security and privacy issues, and legal concerns must be addressed.

INTRODUCTION

Telehealth is a rapidly growing field of medicine that uses telecommunication and information technology to assist in the delivery of health care to patients at a distance from providers. These technologies can help connect patients with providers, and providers with other providers, such as subspecialists, to improve patient access to care and provider access to subspecialist expertise and knowledge sources. As telecommunications and computer technology have become increasingly reliable and inexpensive, the methods of communication have expanded beyond just telephone calls between patient and provider to include videoconferencing, the exchange of high-resolution image and video files, and the ability to remotely monitor patients via the Internet.

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In the last decade, governmental and public support for the use of telehealth technology has continued to increase. In 2010, the Patient Protection and Affordable Care Act (ACA) included provisions that promoted the use of telehealth by Accountable Care Organizations, and in the care of behavioral health issues and patients with chronic, complex conditions.¹ As of 2012, approximately 10 million patients were receiving telehealth services annually in the United States.² Although that is a small percentage of the total US population, the number is expected to only increase. For example, a recent 2015 survey showed that 64% of patients were willing to have a remote medical video visit.³ Another factor likely to stimulate interest in telehealth services is the acceptance of these offerings by large US employers: in 2014, only 48% offered telehealth services to employees, but by 2016 the percentage of participating companies is expected to rise to 74%.⁴

Pediatric medicine is expected to benefit from the use of telehealth technology by improving patient access to care in underserved rural areas, and extending the reach of pediatric subspecialists at academic and tertiary medical centers to patients and colleagues in more distant community hospitals and clinics. A recent American Academy of Pediatrics (AAP) policy statement on the expanding role of telehealth in pediatrics highlights the ability of this technology to improve aspects of pediatric care and help deal with workforce shortages.⁵ This article explores how telehealth can be used to improve pediatric health care quality and safety. It also examines the current challenges to the successful implementation of telehealth that must still be overcome to help the field reach its full potential.

DEFINING TELEHEALTH

To define telehealth, one must first begin with the term telemedicine, which has been in use since the 1960s. Although telecommunication systems, such as the telegraph, radio, and telephone, were coming in to use by medical providers well before then, the use of systems to transmit patient data, such as telemetry-based vital sign monitoring, really began to emerge during the manned-space flight program.⁶ As the novel uses of telecommunications and other types of information exchange continued to multiply in medicine, the Institute of Medicine came to define telemedicine as “the use of electronic information and communications technologies to provide and support health-care when distance separates the participants.”⁷ Although “distance” is traditionally viewed in terms of geography, such as between a remote rural area and an urban medical center, telemedicine may also be used across shorter distances, even within the same town or city, when time or convenience is an issue.

Although telemedicine usually refers to the delivery of direct patient care services, the term telehealth encompasses a wider range of services, including the clinical services of telemedicine in addition to nonclinical ones.⁸ Examples of such nonclinical uses include provider training and continuing education, and administrative purposes. Despite these distinctions, the terms telemedicine and telehealth are often viewed as synonymous and used interchangeably.⁹ As such, for the rest of this article, the term telehealth is used. Additional useful resources for information about telehealth organizations and information are provided in [Box 1](#).

CLASSIFYING TELEHEALTH SERVICES

Telehealth services come in many different forms, but can usually be divided into one of two types based on the timing of the interaction.¹⁰ Asynchronous services do not involve real-time interaction, but rather the storage and forwarding of clinical data between participants. Examples of such services are teledermatology and

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