Telemedicine is the remote delivery of healthcare services using technology, such as two-way video, email, smartphones, and other forms of electronic communication, to improve patient health outcomes (American Telemedicine Association [ATA], 2012). Telemedicine began in rural areas because of lack of access to primary care providers but has since expanded into a variety of specialties and subspecialties across settings, including oncology (Daniel & Sulmasy, 2015). One of the main goals of telemedicine is to decrease the disparity that exists in access to health care between rural and metropolitan areas (Hazin & Qaddoumi, 2010).

Growing interest exists for teleoncology (telemedicine in oncology) in medical, surgical, radiation, bone marrow transplantation, and palliative care services. Medical oncology models for these services include face-to-face outreach appointments that are followed by video visits for consultation and supervision of chemotherapy administration or oral medications, as well as video visits that involve rural clinical practices accessing a cancer center’s multidisciplinary team through a prearranged tumor group meeting with patient case presentation and discussion via videoconferencing (Sabesan, 2015). These same services can also be used to offer patient support services through psychiatry or nutrition (Satcher et al., 2014). In most of these models, the first medical consultation and the first dose of chemotherapy is administered in the major center, with subsequent care being provided close to home in the local oncology clinic with accompanied telemedicine services as needed (Sabesan, 2014).

A recent addition to the telemedicine community is a nursing service provided through the TeleNurse Network, LLC, founded by Marisela Cigliuti, BSN, RN. The TeleNurse Network is a telehealth provider portal connecting patients to nursing services. Through this service, nurses and nurse practitioners can provide clinical support, education, and medication management via telephone and video chats. Goals of management include decreasing readmission rates and reducing chronic illness complications (TeleNurse Network, 2015).

**Telemedicine Benefits**

The telemedicine market is growing rapidly. Data estimates on the growth of telemedicine services predict an increase in use from about 350,000 visits in 2014 to 7 million visits by 2018 (Cocchi, 2014). Telemedicine can potentially be a cost-effective alternative to the traditional healthcare system. A study by Lee, Stewart, and Calugar-Pop (2014) found that, by the end of 2014, an estimated 100 million telemedicine visits across the world resulted in $5 billion in savings for the healthcare system and that the greatest users of this technology will likely be in North America. In addition to improved access to care, telemedicine has been shown to improve health outcomes and patient satisfaction (Mair, Whitten, May, & Doolittle, 2000; Mooi, Whop, Valery, & Sabesan, 2012; Taylor, Khoo, Saltman, Boutell, & Porter, 2007; Weinerman, den Duyf, Hughes, & Robertson, 2005). A randomized, controlled trial of patients with prostate cancer after radical prostatectomy compared video visits to office visits and found an equivalency in efficiency of the visit measured in wait time, total time devoted to care, and face time. Equivalent patient and provider satisfaction also occurred when comparing office and video visits (Viers et al., 2015).
Challenges and Concerns

A concern of telemedicine is the inability of the healthcare provider to physically examine the patient. This concern is often managed by having the patient examined by a local healthcare provider as deemed appropriate. Concerns have also been raised regarding the safety of remote supervision of chemotherapy. The studies that exist support its safety, but the number of studies is limited (Pathmanathan, Burgher, & Sabesan, 2013).

Another significant barrier is that federal and state laws and regulations related to reimbursement for medical services were drafted prior to telemedicine technology and guidelines on licensing, prescribing, and e-visits vary by state. Current laws require that the healthcare provider be licensed in the location in which a patient receives treatment, with few exceptions. The Federation of State Medical Boards (2015) completed an interstate medical licensure compact that expedites the licensing process for physicians obtaining medical licenses in several states. This increases the ability of physicians to see patients in different locations via telemedicine video technology, but a continued reimbursement issue involves the Centers for Medicare and Medicaid Services imposing criteria that have limited telemedicine billing codes to rural areas defined by population density (Satcher et al., 2014).

Forty-six states and Washington, DC, have some type of Medicaid reimbursement; 29 states and Washington, DC, have parity laws for telemedicine that require private insurers to cover remote consultations services in the same way they cover in-person visits. Medicare coverage is limited to certain beneficiaries, technologies, and areas (ATA, 2012).

Conclusion

Telemedicine has shown great promise within the healthcare system by improving access to care, improving patient satisfaction, and potentially reducing costs to the healthcare system. Telemedicine can improve the field of oncology by increasing access to a multidisciplinary oncology team from a comprehensive cancer center for patients with cancer who live in remote locations. This access includes consultation, supervision of chemotherapy, and symptom management. Unfortunately, many barriers exist through federal and state laws. For telemedicine to meet its full potential, updated policies, regulations, and clinical practice guidelines need to recognize these new technologies while maintaining rigorous quality-of-care standards.

References


Do You Have an Interesting Topic to Share?

Novel Approaches discusses the ways that technology and other new techniques can affect nurses, patients, the healthcare team, and the oncology setting. Length should be no more than 1,000–1,500 words, exclusive of tables, figures, insets, and references. If interested, contact Associate Editor Susan Doyle-Lindrud, DNP, AOCNP®, DCC, at smd9@columbia.edu.