



# Telemedicine in Oncology

Susan Doyle-Lindrud, DNP, AOCNP®, DCC

For patients who have difficulty traveling to a clinic or doctor's office because of living in a remote location or lack of transportation, increasing opportunities exist to access health care remotely. Telemedicine is a growing field that has potential benefits for patients, providers, and the healthcare system.

## At a Glance

- Telemedicine increases access to care for those living in remote locations.
- Telemedicine services may decrease costs for the healthcare system.
- Many barriers exist for using telemedicine because of federal and state laws written prior to the development of this technology.

Susan Doyle-Lindrud, DNP, AOCNP®, DCC, is an assistant dean of Academic Affairs in the School of Nursing at Columbia University in New York, NY. The author takes full responsibility for the content of the article. The author did not receive honoraria for this work. No financial relationships relevant to the content of this article have been disclosed by the author or editorial staff. Doyle-Lindrud can be reached at [smd9@columbia.edu](mailto:smd9@columbia.edu), with copy to editor at [CJONEditor@ons.org](mailto:CJONEditor@ons.org).

Key words: telemedicine; teleoncology; e-health  
Digital Object Identifier: 10.1188/16.CJON.27-28

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).