State of eHealth in Cancer Care

Review of the benefits and limitations of eHealth tools

Susan Doyle-Lindrud, DNP, APN

BACKGROUND: eHealth has the potential to improve patient access to care through the use of various tools.

OBJECTIVES: This article provides a review of some eHealth technologies, including a discussion of their benefits and limitations. An overview of studies using eHealth technologies are summarized, and future directions are explored.

METHODS: A review of the eHealth literature was conducted, with a focus on outcomes of telehealth interventions in cancer care.

FINDINGS: eHealth can transform health care by expanding the reach of clinical cancer care. Examples of this expansion of care include patients who live in remote areas with limited access to oncology providers, patients who find travel challenging, and patients who prefer the convenience of communicating with their provider from their home. Such telehealth interventions can increase patient satisfaction, but additional research is needed to further evaluate patient outcomes.

KEYWORDS
eHealth; telemedicine; telehealth; teleconsult; technology; supportive care

DIGITAL OBJECT IDENTIFIER
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ACCORDING TO THE WORLD HEALTH ORGANIZATION (n.d.), eHealth is defined as the use of information and communication technologies for health, whereas telehealth, according to the Center for Connected Health Policy (n.d.), is defined as using digital technologies to deliver health care and health education by connecting multiple users from different locations. eHealth is an overarching term that includes a broader array of tools, such as telephones, smartphones, mobile wireless devices, electronic health records (EHRs), computerized provider order entry, prescribing mechanisms, and clinical decision support tools (Office of the Assistant Secretary for Planning and Evaluation, 2016). Important aims of eHealth are to improve patient access to care, safety, quality, and cost effectiveness (Office of the National Coordinator for Health Information Technology, 2017), with a potential benefit of delivering medical services to locations that have a scarcity of providers, such as rural areas and medically underserved urban communities. For patients with cancer living in rural locations, this vulnerability is exacerbated by having to travel long distances to access oncology services. For a patient with pain, fatigue, or financial issues, these become major obstacles to care. eHealth may be the answer to this problematic healthcare disparity.

Background

The visionary Institute of Medicine (2001) publication *Crossing the Quality Chasm: A New Health System for the 21st Century* states that "information technology must play a central role in the redesign of the health care system if a substantial improvement in quality is to be achieved" (p. 16). Important contributions to eHealth were made through the Mercury space program of the 1960s. The National Aeronautics and Space Administration (NASA) began monitoring physiologic and psychological effects on astronauts through telemetry and remote communications. Over time, NASA developed new smart medical systems that were designed to communicate and diagnose ill astronauts, including providing physicians on the ground with the capability to remotely provide treatment options (Institute of Medicine, 2012; Simpson, 2020). This was accomplished through the Integrated Medical and Behavioral Laboratory Measurement System Program.