

Mobile Health Technology and the Use of Health-Related Mobile Applications

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Medical mobile applications (apps) are prevalent in society. Healthcare providers use them to obtain clinical information more efficiently, and healthcare consumers use them to gain greater personal control over their health management. With the increasing number of health-related mobile apps available, people in the oncology community now have many relevant apps at their fingertips. These apps are targeted to the oncology healthcare provider as well as the patient. This article will review a few popular apps and discuss the potential benefits of accessing information using apps and the possible risks associated with them.

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Since the mid-2000s, technological advances have transformed health care. Innovations have provided important tools for healthcare providers and have empowered patients with access to medical information unavailable to them in the past. Technology, available in the form of computers and cell phones, has greatly affected the way in which people communicate. According to Pew Research Center's (2014) examination related to mobile technology, 90% of American adults have cell phones and 58% of American adults have smartphones as of January 2014. Smartphones have similar capabilities to a computer, with cameras, instant messaging, Internet access, GPS, and calculators. Mobile applications (apps) are software programs that run on smartphones, tablets, or other mobile communication devices. They are typically available through app distribution platforms, which are operated by the owner of the operating system (e.g., Google Play

for Android, Apple App Store, Windows Phone Store). Smartphones have provided opportunities for healthcare providers who are busy in a clinic or hospital setting to instantly access health-related mobile apps that assist them with patient care and work-related responsibilities. These mobile apps include clinical decision-support tools, drug dosing, medication interactions, and International Classification of Diseases coding information.

Various mobile health apps are also available to healthcare consumers. An independent study by the IMS Institute for Healthcare Informatics (2013) examined consumer healthcare apps, which included an objective assessment of their type, role, and functionality. The study revealed that the most common category of consumer-based, health-related mobile apps is for prevention and healthy lifestyles. The prevention and healthy lifestyles category includes diet and exercise, addiction quitting, stress, relaxation, and sleep. This was

followed by the second most popular mobile app category of self-diagnosis, which includes symptom checkers. Examples of health-related mobile apps used by consumers include medication reminders, pedometers, daily calorie counters, blood glucose logs, and access to blood test results through a laboratory service.

Mobile Applications for Clinicians

With the large amount of information that needs to be processed, interpreted, and developed into a patient plan in a brief period of time, not surprisingly, technology companies have found a target audience in healthcare providers. Mobile apps, such as Epocrates (www.epocrates.com) and Lexicomp® (www.lexi.com), can be accessed from a smartphone within minutes of a patient encounter. These apps allow for the review of drug dosing, side effects, and drug interactions, which are useful for medication reconciliation and prescribing purposes. Lexicomp provides content specific to nursing. Both apps include clinical content, dosing by patient population, IV administration recommendations, physical assessment, patient monitoring guidelines, and adult and pediatric patient education.

The National Comprehensive Cancer Network has a mobile app available for healthcare providers working in the oncology setting (www.nccn.org/apps). This app provides the latest guidelines for the treatment of cancer by site, supportive care guidelines, and patient educational resources. The app serves as a resource for detection, prevention, and risk-reduction guidelines. Oncology nurses will find the supportive care guidelines extremely useful for managing cancer- and treatment-related