The Role of Emerging Technologies in Supportive Cancer Care

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My Disclosures:

I am not a digital health expert. However, I do own a smartphone and **I LOVE** my FitBit Charge 2 and wear it every day.

I gratefully acknowledge the American Cancer Society for amazing scholarship support to complete my Doctor of Nursing Practice education. Any of you who want to learn more about this scholarship program and how you might apply are welcome to contact me!
Today’s Objectives

• Define digital health and share examples
• Describe uses of telehealth in cancer care
• Explore modalities for sharing patient-reported outcomes (PROs)
• Examine online wellness, support, apps, mHealth, and wearable devices
Digital Health in 2019
Definition

Digital health is the *convergence of digital technologies* with health, healthcare, living, and society to enhance the efficiency of healthcare delivery and make medicines more personalized and precise.

The discipline involves the *use of information and communication technologies* to help address the health problems and challenges faced by people under treatment.

These technologies include both *hardware and software solutions and services*, such as telemedicine/telehealth, web-based analysis, email, mobile phones and applications, text messages, wearable devices, and clinic or remote monitoring sensors.

Generally, digital health is concerned about the *development of interconnected health systems* to improve the use of computational technologies, smart devices, computational analysis techniques, and communication media to aid healthcare professionals and their clients manage illnesses and health risks, as well as promote health and wellbeing.

Digital health is a *multi-disciplinary domain* involving many stakeholders, including clinicians, researchers and scientists with a wide range of expertise in healthcare, engineering, social sciences, public health, health economics, and data management.

Wikipedia, 2019
Cancer Informatics: New Theme at AMIA 2019 Annual Symposium

The Lancet Digital Health

Oncology Nursing Society launches innovation center

MASCC 2019 Plenary Session 1: Digital Health: Science Fact, Not Science Fiction
Telemedicine/Telehealth in Cancer Care

Telehealth Applications

- Provider Education/Mentoring
- Consultation
- Increase Access to Care
- Decrease Disparities and Cost of Care

Haozous, et al., 2012; Esco, 2017; Eichmeyer, 2014; Sirintrapun & Lopez, 2018
Digital Health in Cancer Care

Systematic reviews suggest interactive health communication technologies (IHCTs) are useful and acceptable to cancer survivors and their caregivers.

Examples studied:
• Comprehensive Health Enhancement Support System (CHESS)
• Prostate Cancer Interactive Education System (PIES)
• Counseling About Regaining Erections and Sexual Satisfaction (CAREss)
• Healthy Moves
• CanCare

Badr, Carmack, & Diefenbach, 2015
Internet-based Interactive Programs for Cancer Survivorship

Internet-based interactive program (IIP) is defined as an “internet-based package for patients that combines health information with at least one form of internet-based support”

Integrative review examined six IPPs:

- Comprehensive Health Enhancement Support System (CHESS)
- Oncology Interactive Educational Series (OIES)
- Advanced Symptom Management System (ASyMS)
- An internet-based peer-to-peer interaction program
- An internet-based support program
- A mobile phone-based symptom management program

Results in the following domains:

Symptom distress
Self-efficacy
Psychosocial well-being
Social support and QOL

Zhu, Ebert, & Wai-Chi Chan, 2017
Patient-Reported Outcomes

Purposes:
• improve patients’ symptoms
• improve communication
• improve clinical outcomes

The HOPE (Helping Our Patients Excel) Pilot Study

Wright et al., 2018; University of Oxford, 2017
There’s an APP for That!
The Ned (No Evident Disease) App for Personalized Prostate Cancer Survivorship Care

• Increased numbers of prostate cancer patients by 2030
• mHealth apps potential to complement treatment and monitoring strategies
• Multifactorial challenges of prostate cancer survivors demand new approaches for support
• Three critical problems in management of prostate cancer survivorship

Pham, Cafazzo, & Feifer, 2017
Cancer.net Mobile

- Info on more than 120 types of cancer
- Side effect management
- Cost of care

CaringBridge

- Create online health journal
- Solicit emotional support from friends and family
- Engage with others experiencing illness to offer support

iHealth Log

- $4.99 for iOS devices on iTunes
- Tracks appts, test results, lab values, weights
- Audio diary
- Can protect with password

Create to Heal

- Focus on creativity and stress relief
- Provides guided meditations, soothing music, and art

LivingWith

- Contains “request” feature for asking for specific help from friends/family
- Tracker for mood, pain, sleep and steps
- “Health Notes”—to record “takeaways from office visits, and record questions/concerns for future encounters

CareZone

- Organization aid
- Journal
- Includes camera

www.42gears.com/blog/6-wearable-technologies-you-must-know-right-now/

smartgeekwrist.com/best-smart-jewelry


www.lifewire.com/best-smart-clothes-4176104
Digital Health Happy Hour?

Links You May Find Interesting

helpsyhealth.com—world’s first whole-health virtual nurse for cancer symptom management and navigation
oschner.org/shop/o-bar—semi-retail space designed to help patients explore/purchase digital health devices
wearables.com—for news and product information for a wide variety of trackers, clothing, watches, etc.

YouTube “Keeping the Patient in the Picture: Patient Reported Outcome Measures”
happiestminds.com/Insights/wearable-technology smartgeekwrist.com/best-smart-jewelry
www.wearable-technologies.com
www.42gears.com/blog/6-wearable-technologies-you-must-know-right-now
www.lifewire.com/best-smart-clothes-4176104
thejournalofmHealth.com—the global voice of digital health
www.youtube.com/watch?reload=9&v=LlhzmVL5bm8—the internet of things
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References

