

Different uses of technology in health promotion

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Introduction

- Newer technologies are becoming widely popular
 - Electronic Health/Medical Records (EHR/EMR)
 - Patient Health Records (PHR)
- New uses of existing technologies
 - Text messaging
 - Games
- Currently, there is much ‘experimenting’ with how to use technology in health promotion

Purpose

- To understand how different HITs and new uses of existing modalities used to engage individuals in health promotion and disease prevention
- To understand theoretical frameworks when using HIT
 - HIT: Health Information Technology also includes any type of technology that is now used in health regardless of original purpose/ intent of use

H.I.T.

Types of technology

- World wide web
- Games
- Telephones
- Electronic mail
- Electronic Health Records (EHR/EMR)
- Patient Health Records (PHR)

Uses

- Information
- Correspondence
- Communication
- Reminders
- Education
- Behavioral modifications
- Tool
- Networking

Telephone

Hanauer et al. (2009)

- Adolescents and young adults with diabetes randomized to receive reminders to check glucose levels via text messaging or e-mail reminders
- Participants set their schedule for reminders on a designated website
- Concluded that text messaging to promote glucose monitoring is an acceptable option

Hanauer DA, Wentzell K, Laffel N, Laffel LM. 2009. Computerized Automated Reminder Diabetes System (CARDS): E-Mail and SMS Cell Phone Text Messaging Reminders to Support Diabetes Management. *Diabetes Technology & Therapeutics*. 11(2):99-106.

Electronic mail

Owens et al. (2009)

- Utilized daily e-mail messages sent to the students' home computers
- Conducted an obesity prevention program with fourth-graders
- Concluded that this type of interactive obesity prevention program is feasible

Owens S, Lambert L, McDonough S, Green K, Loftin M. 2009. Feasibility of a home-delivered Internet obesity prevention program for fourth-grade students. *Pediatric Exercise Science*; 21(3):279-90.

Games

Graf et al. (2009)

- Studied energy expenditure in children playing physically active video games and walking compared to watching TV
 - Dance Dance Revolution vs. Nintendo's Wii Sports
- Concluded that energy expenditure is higher when gaming and games are a **healthy option as exercise**

Graf DL, Pratt LV, Hester CN, Short KR. 2009. Playing active video games increases energy expenditure in children. Pediatrics;124(2):534-40.

Virtual Realities

Rand, Weiss, & Katz (2009)

- Studied VMall, a virtual supermarket system, to help improve multitasking among stroke patients
- Some improvements among participants were noted
- Concluded that VMall is an effective environment for teaching multitasking

Rand D, Weiss PL, Katz N. 2009. Training multitasking in a virtual supermarket: a novel intervention after stroke. *American Journal of Occupational Therapy*; 63(5):535-42.

Social networking websites

Farmer et al. (2009)

- Understand Facebook user groups connected with common conditions
- Identified existence of patient groups (47.4%), patient/care giver support groups (28.1%), fund raising groups (18.6%), others
- Concluded that Facebook provides a readily accessible portal for patients, care givers and healthcare professionals

Farmer AL, Ervikne H, Holt CE, Cook M, Heering S. 2009. Social networking sites: a novel portal for communication. Postgraduate Medical Journal;85(1007):455-9.

Patient Health Records

Fuji, Galt, & Serocca (2008)

- Examine awareness/engagement of doctors with patients who use a personal health record (PHR)
- Concluded that overall physicians' awareness of PHRs remains low, however physicians using EHRs were more likely to be aware and engaged with PHRs

Fuji KT, Galt KA, Serocca AB. 2008. Personal health record use by patients as perceived by ambulatory care physicians in Nebraska and South Dakota: a cross-sectional study. *Perspectives in Health Information Management*:15.

Conclusions

- Preliminary review of literature highlights that there are many new and innovative uses of existing technologies in health
- Use of technology in health is becoming widespread
- Use includes different age groups, diseases, health status, etc.
- Use is not often guided by health behavioral theories
- Most technologies used are inexpensive
- Long term outcomes are not known yet, but are questioned

Recommendations

- More research is necessary to identify which technologies are
 - most common
 - more impactful
 - underutilized
- Health behavior theories should be explored when using HIT