Use of Distance Delivery Interventions (web-based, mHealth, telehealth) for Hard-to-reach, Vulnerable Midlife and Older Individuals

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Use of Distance Delivery Interventions (Web-based, mHealth, Telehealth) for Hard-to-Reach, Vulnerable Midlife and Older Individuals

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Linkages
- Complimentary Health Promotion approaches
- Conceptual Frameworks
- Interprofessional
- Community

Goal Stretch our Thinking!

Objectives
Distance Delivery Interventions For Hard to Reach, Vulnerable Midlife and Older Individuals

The learner will be able to:
1) Identify benefits and limitations of various technologies for use with the identified population.
2) Discuss literature findings about feasibility, acceptability, effectiveness of distance delivery interventions for self-monitoring, safety and behavior change in the identified population.
3) Identify regulatory and other concerns when using telehealth and other distance delivery technologies for managing patient/client care.
Road-Map

Medical vs COPC/COPH
Web-based
Telehealth mHealth

Traditional

Population


Population Health

Community Oriented Primary Care - COPC

Adapted from Gofin J, Gofin R.2011.Essentials of Global Community Health, Jones & Bartlett

Technology Definitions

(See Glossary with references)

- eHealth
- web-based
- mHealth
- Telehealth
  - Synchronous/Asynchronous
  - (store and forward/home monitoring)
  - Telemedicine
  - Telerehabilitation

Note for researchers - eCONSORT

Web-based

Khaylis A et al.2010.Telemedicine J and E-Health
Wieland LS et al.2012.Cochrane Database

Reaching Rural - Web-based

Women Weigh-in for Wellness
ClinicalTrials.gov. NCT01207644
(Pullen CH – PI - R01 NR010589)
Hageman K et al.2011.BMC Public Health

Wellness for Women: DASHing Towards Health
ClinicalTrials.gov. NCT00580528
(Pullen CH - PI - R01 NR04861)
Hageman K et al.2014.Int J Behavior Nutr Phys Act

http://depts.washington.edu/uwruca/index.php
Conceptual Model (adapted from Health Promotion Model\textsuperscript{1,2})

<table>
<thead>
<tr>
<th>Individual Characteristics And Experiences</th>
<th>Behavior-Specific Cognitions</th>
<th>Behavioral Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Benefits*</td>
<td>+ Benefits*</td>
<td>+ Plan of Action*</td>
</tr>
<tr>
<td>- Barriers*</td>
<td>- Barriers*</td>
<td></td>
</tr>
<tr>
<td>- Self-Efficacy*</td>
<td>- Self-Efficacy*</td>
<td></td>
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<tr>
<td>- Interpersonal Support*</td>
<td>- Interpersonal Support*</td>
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</tr>
<tr>
<td>- Situational</td>
<td>- Situational</td>
<td></td>
</tr>
</tbody>
</table>

* = constructs used in study

\textsuperscript{1} http://nursingtheories.weebly.com/nola-pender.html
\textsuperscript{2} Pender N et al.2006. Health Promotion in Nursing Practice. NJ: Prentice Hall
### WWW Results - % Weight Loss

**Graph**

<table>
<thead>
<tr>
<th>Time</th>
<th>WO</th>
<th>WD</th>
<th>WE</th>
</tr>
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<tr>
<td>18 mo</td>
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<td></td>
</tr>
<tr>
<td>30 mo</td>
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</tbody>
</table>

### Discussion/Implications

Despite limitations, web-based interventions have potential for changing behavior.

Consider other implications – patient perspectives about health provider


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### mHealth

- 58% mobile patient portals
- 48% apps for patient use
- 37% remote patient monitoring


### mHealth

- 34% telehealth fee for service
- 33% SMS texting
- 37% telehealth concierge


### mHealth – Drivers / Benefits

- **Drivers**
  - Technology advances
  - Potential efficacy in client management, improved access and quality
  - Potential cost-effectiveness

- **Benefits**
  - Client access to health information & reminders
  - Client engagement and motivation
  - Reach wide audience

### mHealth – Barriers / Challenges

- **Ecosystem Barriers**
  - Policy
  - Legal / Regulations
  - Priorities
  - Cost

- **Regulatory / Policy Barriers**
mHealth

- Research Learning
- Apps tracking and managing conditions
- SMS [Text] Reminders
- Talking provider
- Refills

Consumer Use of Mobile Phones for Health

mHealth Rural Men Study

Men Needed

The Rural Men’s Health Study...


mHealth and Behavior Change

Monitors with apps
- May be less powerful than face-to-face
- May have greater public health impact
- Half of electronic activity monitor systems had
  - Goal setting
  - Social support & comparison
  - Prompts/cues
  - Reward & focus on past success
- Missing
  - Practice
  - Action plans & problem solving
- What is potential for rehabilitation?

Lyons EJ et al. 2014. J Med Internet Research

Telehealth (Goes beyond web & phone)

Telehealth (Regulations)

Telehealth operates across state lines
Knowing state and federal regulations is important

Laws and regulations are constantly changing – Vigilance helps compliance

Calouro C et al. 2014. Int J Telerehabilitation
Bremner D et al. 2010. Int J Telerehabilitation

Telehealth (Payment Issue)

- Medicare does not cover PT/OT/Speech
- Medicaid is leading use of telehealth as covered services
- Other plans – some pay and some do not

Wilson 2016. J Telemed Telecare
www.americanTelemed.org

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Lessons learned (Physician use)

- Rapid explosion of laws
- Guidelines — limited or not-consistent
- Reimbursement less than office visit
- Online patient interactions do not affect in person physician frequency
- Studies underway

North F et al 2014. Telemedicine and e-Health
See reference list for additional sources

Lessons learned (Plans-Private)

- Rapid explosion in plans offering telemedicine
- 73% offer nurse coaching for lifestyle management
- Employers view telemedicine consultations as low cost alternative; current use is low
- Retail based clinics dramatically expand telemedicine care — though controversial

Medscape. 2015. Survey results from National Business Group on Health
See reference list for additional sources

Lessons learned (Current research — rehabilitation)

- Feasible alternative to in-person encounters for meeting PT supervision requirements in SNF
- Effective in other populations (TKA, MS, Stroke)
- Validity and reliability of assessment
- No specific CPT codes
- As noted by Lee & Brown
  - All telehealth is not same
  - Practitioners should establish standard of care

Lee AC, Brown, CA. 2015. APTA Learning Center Module
Lee AC, Harada NH. 2012. Phys Ther
See reference list for additional sources

Summary

- Rapid advances technology
- Literature
  - Infancy
  - Benefits / Barriers
- Tools
  - Behavior change
- Interprofessional
  - Merits at individual / public health levels

Where can we go? The future.. In a Galaxy Not so far away
Glossary


E-health is an emerging field in the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the internet and related technologies. In broader sense the term characterizes not only a technical development but a state of mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care locally, regionally and worldwide by using information and communication technology.


mHealth* 1) mHealth is “the delivery of healthcare services via mobile communication devices”

Ref: Foundation for the National Institutes of Health (FNIH) www.caroltorgan.com/mhealth-summit/

2) “mHealth is the use of mobile and wireless devices to improve health outcomes, healthcare services and health research.”


3) "Mobile Health (mHealth) is an area of electronic health (eHealth) and it is the provision of health services and information via mobile technologies such as mobile phones and Personal Digital Assistants (PDAs)."


4) "mHealth stands for mobile-based or mobile-enhanced solutions that deliver health. The ubiquity of mobile devices in the developed or developing world presents the opportunity to improve health outcomes through the delivery of innovative medical and health services with information and communication technologies to the farthest reaches of the globe."

Ref: The mHealth Alliance http://www.mhealthknowledge.org/resource-type/mhealth-alliance
5) mHealth is "The use of mobile networks and devices in supporting e-care. Emphasizes leveraging health-focused applications on general-purpose tools such as smartphones and Short Message Service (SMS) messaging to drive active health participation by consumers and clinicians."


Telehealth

Telehealth is the use of electronic communications to provide and deliver a host of health-related information and health care services, including, but not limited to physical therapy-related information and services, over large and small distances. Telehealth encompasses a variety of health care and health promotion activities, including, but not limited to, education, advice, reminders, interventions, and monitoring of interventions.

Ref: APTA Board of Directors TELEHEALTH - DEFINITIONS AND GUIDELINES BOD G03-06-09-19 [Retitled: Telehealth; Amended BOD G03-03-07-12; Initial BOD 11-01-28-70] [Guideline]

Telemedicine

Use of medical information exchanged from one site to another via electronic communications to improve a patient’s clinical health status. Telemedicine includes a growing variety of applications and services using two-way video, email, smart phones, wireless tools and other forms of telecommunications technology.

Telerehabilitation refers to the delivery of rehabilitation services via information and communication technologies. Clinically, this term encompasses a range of rehabilitation and habilitation services that include assessment, monitoring, prevention, intervention, supervision, education, consultation, and counseling.

Synchronous: Interactive video connections that transmit information in both directions during the same time period.

Asynchronous: Term describing store and forward transmission of medical images and/or data because the data transfer takes place over a period of time, and typically in separate time frames. The transmission typically does not take place simultaneously. This is the opposite of synchronous.

Ref: American Telemedicine Association [http://www.americantelemed.org/about-telemedicine/what-is-telemedicine#.V2RViqjFOwh]

*Definitions of mHealth are listed randomly, not by any level of meaning or relevance
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Digitas. m.Book: Marketing Mobile Health, 2013 Edition

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Healthcare Information and Management Systems Society (HIMSS) http://www.himss.org/


Johnsen M. 2014. Almost 80% of Americans would consider a virtual visit with their healthcare professional. The Harris Poll. November 19, 2014
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REFERENCES/Bibliography


Most large employers will offer telemedicine, study shows. Medscape. Aug 24, 2015. (Summary of survey results from the National Business Group on Health and from Towers Watson)


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Veterans Administration http://www.telehealth.va.gov/index.asp