Engaging youth for health research and health promotion via Text and other Social Media: Challenges in a crowded and competitive environment

Sheana S. Bull, PhD, MPH

Innovative Uses of Technology in HIV Clinical Trials
Objectives

• Brief intro to digital and mobile health
• Reflect on why/whether to focus on engagement
• Consider the evidence of efficacy of mHealth for recruitment and retention in trials
• Explore “what works” to engage youth in intervention content
• Discuss implications of engagement evidence for HIV Trials recruitment and interventions
Brief historical perspective

• Definitions:
  • Digital Health:
    – Allows people to track, manage and improve their own and their family’s health, live better and more productive lives and improve society
  • Mobile Health:
    – The practice of medicine and public health supported by mobile devices
Unique Aspects of mHealth

• It can substantially extend the *reach* of programs
  – Instead of reaching 45 people in a group level intervention for diabetes self management, you can reach 450 people

• It can facilitate the *standardization* of programs
  – Rather than relying on one fabulous counselor to meet the needs of all program participants, you can make the program uniform
Unique Aspects of mHealth

• It can be delivered using *interactive* platforms
  – Makes participants more engaged, and can facilitate better learning and retention of material

• It can be *tailored* to individuals
  – Makes material more personally relevant

• It can afford more *privacy*
  – Caution: in some instances the content is actually less private
Unique Aspects of mHealth

• It can offer greater *autonomy*
  – Programs can be delivered on a time table convenient for participants

• It can be *portable*
  – Current trends are to offer programs on mobile devices (cell phones, laptops, tablets)

• Offers potentially lower program costs
Brief historical perspective

• Use of computers and computer kiosks for research pre-dates that of the Internet

• Internet use for health promotion began in earnest in the 1990’s
  – Diabetes, Heart Disease, Cancer, Smoking, HIV

• Shift to social media and text messaging with Web 2.0

• Newly emerging attention to apps for health promotion
Play hard? Take charge.

Hook-up with the quest for smart cyber cruising.

Participate in this study about men's sex behaviors and the Internet! All participants will be automatically enrolled in a drawing for one of six $50 gift certificates. The study will take about 20 minutes now and 20 minutes when we ask you back to this site in 3 months. Interested? Start Here!
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Physical Activity How You Compare

You

Average

Below Approaching Meets Exceeds

Next >>
Youthnet

Wait for sex... 
Take a break... 
Stay with one person with a condom.

You’re there your 
RISK is lower

Hold your ground

YOU’RE WORTH IT

It’s cool...

be prepared 
be smart about it

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PUBLIC HEALTH
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Challenges to mHealth

• Who are you reaching exactly?
  – Are these the right people?
  – Can you generalize your research findings based on your sample?
  – What about the digital divide and associated bias that could potentially be created with program delivery?
Challenges to mHealth

• Some of the culture of new media ensures that attention span may be limited
• Rapid evolution of technology means technological obsolescence is possible
Challenges to mHealth

• Theory
  – While we have seen application of theoretical perspectives to technology based interventions, we have yet to consistently employ theory in this field
• Evaluation
  – Apps and Devices
  – Scale
Why consider engagement?

- Recruitment online via mobile and social media
  - Can be quite efficient—rapid enrollment is possible
  - Engagement for recruitment is critical to “Cut through” the deluge of information and communication that audiences face on a daily basis
Online Recruitment Methods for Web-Based and Mobile Health Studies: A Review of the Literature

Taylor S Lane, BA, Julie Armin, PhD, and Judith S Gordon, PhD

Abstract

Internet and mobile health (mHealth) apps hold promise for expanding the reach of evidence-based health interventions. Research in this area is rapidly expanding. However, these studies may experience problems with recruitment and retention. Web-based and mHealth studies are in need of a wide-reaching and low-cost method of recruitment that will also effectively retain participants for the duration of the study. Online recruitment may be a low-cost and wide-reaching tool in comparison to traditional recruitment methods, although empirical evidence is limited.

Objective

This study aims to review the literature on online recruitment for, and retention in, mHealth studies.

Methods

We conducted a review of the literature of studies examining online recruitment methods as a viable means of obtaining mHealth research participants. The data sources used were PubMed, CINAHL, EbscoHost, PsycINFO, and MEDLINE. Studies reporting at least one method of online recruitment were included. A narrative approach enabled the authors to discuss the variability in recruitment results, as well as in recruitment duration and study design.

Results
The case for recruiting online

• Reviews studies with participant enrollment ranging from 79 to 1893 participants
  – Recruitment took place over time periods ranging from 1 month to 18 months (Batterham et al., recruited 1893 over 2 months)
  – Costs are calculated using different approaches
    • Per participant costs range from $1.50 to $42
    • Click through and conversion rates range from $0.09 to $0.67
The case for recruiting online

- Challenges remain
  - Participant retention
  - Verification of participants
  - Establishing generalizability
Why consider engagement?

- Engagement for intervention
  - Is engagement in the form of posting, responding to messages and/or sharing messages a critical element of benefit?

- In one study passive receipt of information showed no difference in effect when compared to "engaged" activity

- 90% of those enrolled never engaged

- Effects were equal between those engaged and those not engaged
Used a condom at last sexual intercourse

Proportion of sex acts protected by condoms in 60 days
Why consider engagement?

Jonah Berger

Contagious: Why Things Catch On

#1 The New York Times  #1 WALL STREET JOURNAL

amazon.com  BARNES & NOBLE

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Features of engagement

• STEPPS
  – Social Currency
  – Triggers
  – Emotion
  – Public
  – Practical Value
  – Stories
Social Currency

- People want to share things that say something about who they are as a human being
- People are wired to talk about themselves
- They like to look wise/intelligent
REMINDERS /

You’ve got enough to remember already.

Set up a reminder and leave the rest to us. We'll nudge you when it's time to take your pill, change your patch, visit your provider... you get the idea.

appointment reminders /

Never forget an appointment. We'll remind you a couple days before.

set up an appointment reminder »
Emotion

- Emotion **does** impact sharing behavior
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<th>Low Arousal</th>
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<td>Positive</td>
<td>Cute Excitement Amusement (humor)</td>
<td>Contentment</td>
</tr>
<tr>
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<td>Anger Anxiety</td>
<td>Sadness</td>
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Public

- Humans are monkey see, monkey do
- This principle leads to further social bonding
  - Take private choices and make them public actions
Practical Value

• For content to be shareable it has to be relevant.
• Content should also provide practical value to your audience.
Story

• Information gets communicated under the guise of idle chatter.
• They give people an easy way to discuss ideas without sounding like a television advertisement.

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From Foucault to Freire Through Facebook: Toward an Integrated Theory of mHealth

Sheana Bull, PhD, MPH¹, and Nnamdi Ezeanochie, MPH¹

Abstract
Objective. To document the integration of social science theory in literature on mHealth (mobile health) and consider opportunities for integration of classic theory, health communication theory, and social networking to generate a relevant theory for mHealth program design. Method. A secondary review of research syntheses and meta-analyses published between 2005 and 2014 related to mHealth, using the AMSTAR (A Measurement Tool to Assess Systematic Reviews) methodology for assessment of the quality of each review. High-quality articles from those reviews using a randomized controlled design and integrating social science theory in program design, implementation, or evaluation were reviewed. Results. There were 1,749 articles among the 170 reviews with a high AMSTAR score (≥30). Only 13 were published from 2005 to 2014, used a randomized controlled design and made explicit mention of theory in any aspect of their mHealth program. All 13 included theoretical perspectives focused on psychological and/or psychosocial theories and constructs. Conclusions. There is a very limited use of social science theory in mHealth despite demonstrated benefits in doing so. We propose an integrated theory
An Integrated Theory for mHealth

Incorporates both justification for an mHealth Solution and attention to appropriate use of channels to reach many more who could benefit from the program.

Access

Engagement

Behavioral Control

Social Network Sharing

Social Support

Self-Efficacy

Social Norms

Behavioral Outcome

Biomedical Outcome

Dotted lines represent those constructs of particular relevance for mHealth; solid lines include constructs used across mHealth and traditional behavior change interventions; dashed lines represent outcomes.

Attends to message design to evoke passion, logic or emotion and utilizes effective approaches such as Gain/Loss Framing and ELM.
Implications for HIV Trials recruitment and interventions

• Using Social Media for trial recruitment possible and an important strategy for engaging youth
  – Considerations for retention, participant verification and generalizability remain

• Using Social Media for intervention also possible
  – Decay of effects remains a challenge
  – Utilization of theory to enhance engagement necessary