



Using Technological Innovation to Promote Community Wellness: A Strategy for Equity

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Using Technological Innovation to Promote Community Wellness: A Strategy for Equity

Grantmakers In Health March 18th, 2014

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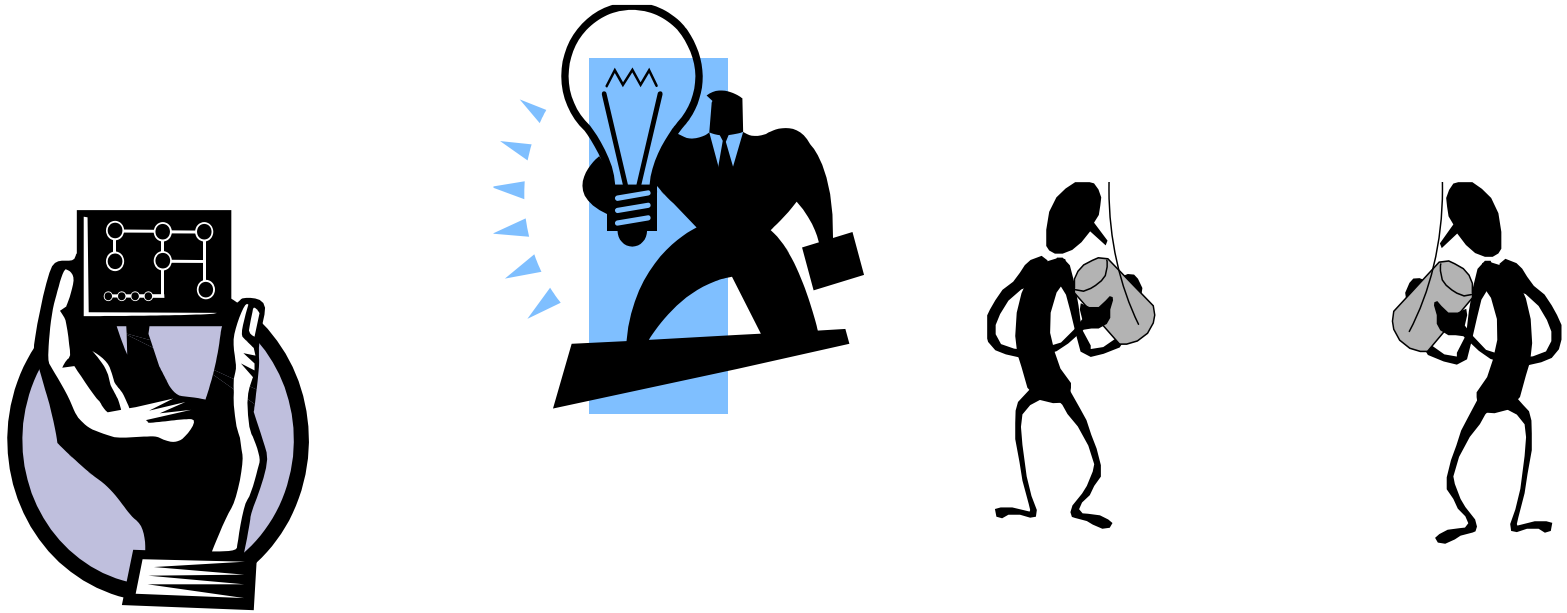
Gillian Barclay, DDS, DrPH
Vice President
Aetna Foundation, Inc.

What is Health?

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity

Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948. The Definition has not been amended since 1948.

Technology and Health Equity



Is technology a tool or the answer?

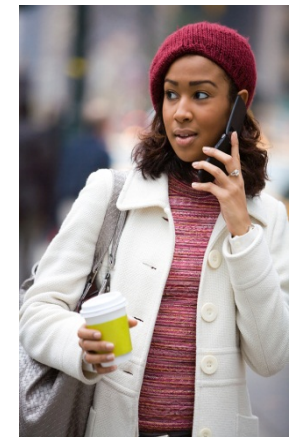
Technology, Digital Platforms and Health



There is increasing use of digital platforms to manage health. African Americans and Hispanics are more likely to go online using their handheld device than Whites¹ (48 percent and 47 percent versus 28 percent, respectively).



There is limited information on how theory-based interventions that use digital platforms may contribute to positive community-level impacts^{1,2} as well as to strategies to improve racial and ethnic health and social inequities.



1. M. Rotheram-Borus MJ, Swartz L, Tsai AC. PLoS Med. 2013 Feb;10(2):e1001382, Scaling up mHealth. Where is the Evidence?

2. Kallander K, Tibenderana J, et al., J Med Internet Res 2013 Jan 25;15(1): Mobile health (mHealth) approaches and lessons for increased performance and retention of community health workers in low- and middle-income countries: a review.

Aetna Foundation Digital Health Investments: Goals



- To strengthen the evidence base of digital health strategies to enhance health systems, promote health equity, and improve community health outcomes
- To assess the utility of digital health to promote racial and ethnic health equity, and to empower individuals to make healthful choices

Speakers



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THANK YOU!



Our mission is to promote, wellness, health, and access to high-quality health care for everyone, while supporting the communities we serve

www.aetnafoundation.org

Health Promotion through Digital Innovation

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March 18, 2014

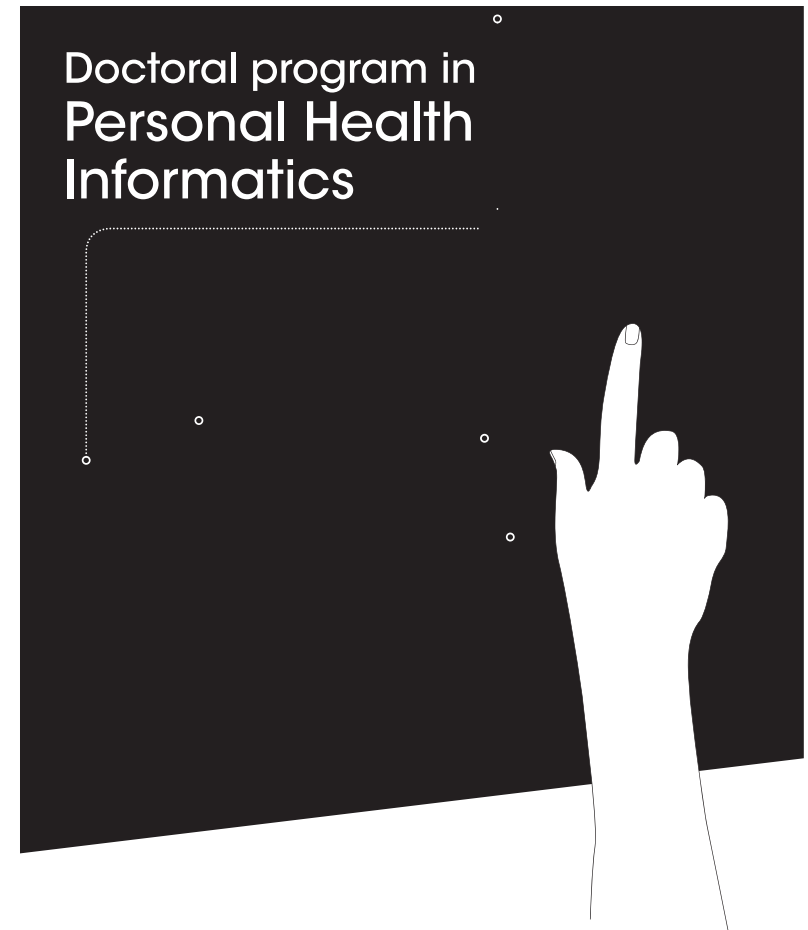
What do we mean by digital innovation?

Case Study: Community-based health promotion

Summary: Take-aways

Digital Innovation: What do we mean?

- Tools for the provider
 - EHR/EMRs
 - Health Information Exchange
 - Meaningful Use
 - Decision support systems
- Tools for provider + patient
 - PHRs
- Tools for the lay person



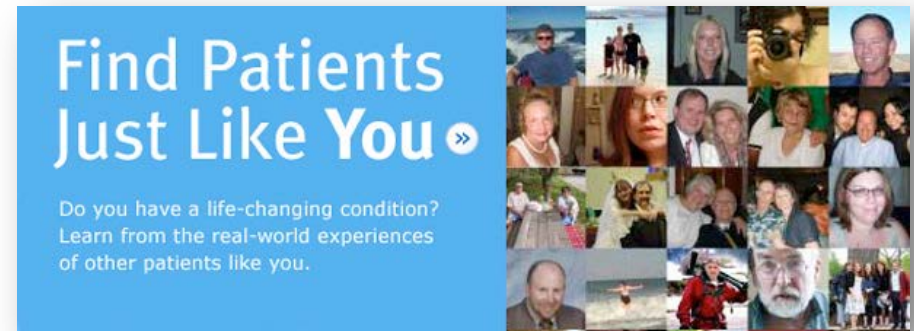
Digital Innovation: What do we mean?

- mHealth
 - Promotion through mobile devices
 - Portability, ease of access, context, sensors
 - Example challenges
 - Information visualization
 - Interruption



Digital Innovation: What do we mean?

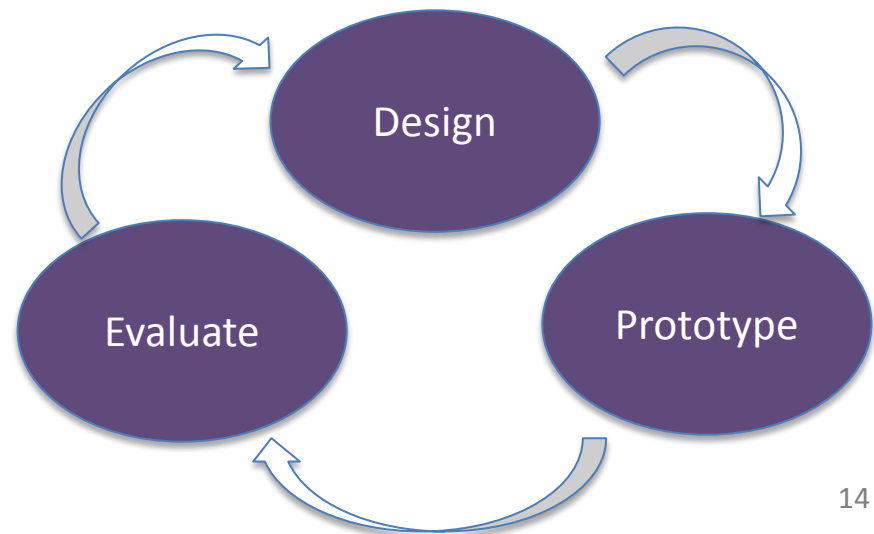
- Online communities + social computing
 - Leverage social networks
 - Connect over distance
 - Example Challenges
 - Identity Management
- Ubiquitous computing
 - Public displays / kiosks
 - Smart homes & spaces
 - Example Challenges
 - Operationalizing in low-income households



Chi et al.
Persuasive'08

Personal/Consumer Health Informatics

- How can technology empower end users to be
 - More involved in self-care
 - Advocates for the health of others
- Outcomes: behavior + attitude change
 - What else?
 - Useful
 - Usable
 - Used: Engagement
 - How & why





Neighborhoods Culture

Resources
Social Support

Norms
Attitudes

Social Determinants
of Health

CASE STUDY: EATWELL

Formative Research

- 15 participants
- Focus groups
 - existing nutrition-related practices and attitudes to gain a deeper appreciation for the socio-cultural context
- Participatory design sessions
 - with what aspects of nutrition are individuals most interested in receiving support?

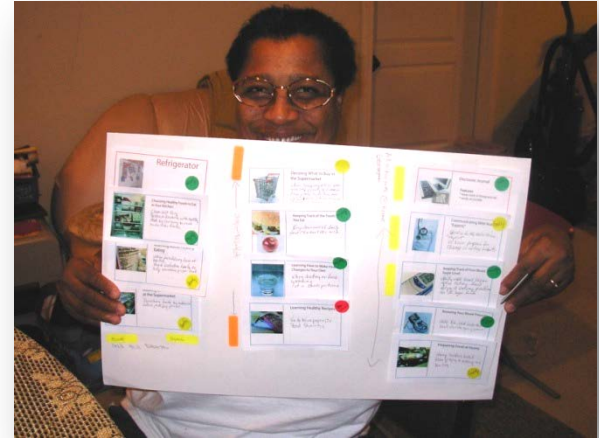


Formative Research

- Design Implications
 - Acknowledge & support learning from community experience
 - Account for cultural uniqueness without alienating

“I even get frustrated on television when I see something, where they say Blacks [have problems].

Why is it always got to be Blacks? **What make them think Black dominate just the low, the lowest of all?”**



Collectivism

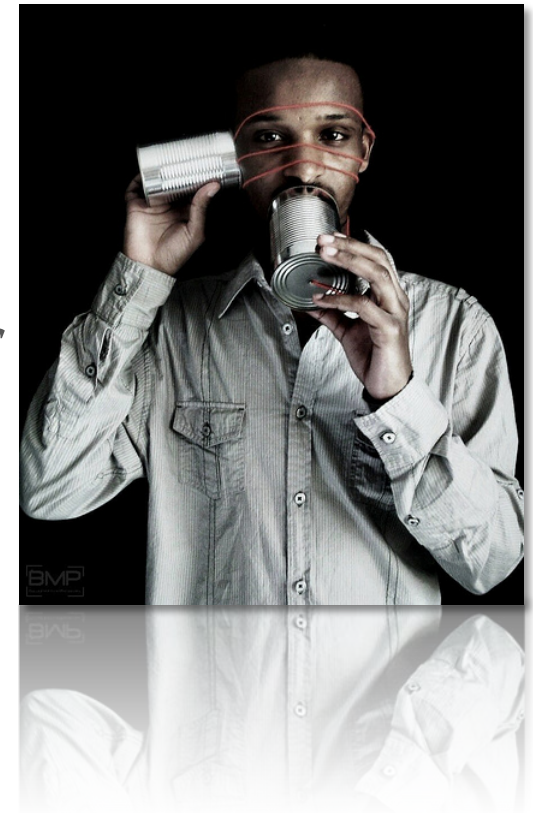
- Many relevant cultural values in African American health
 - One is collectivism [Triandis et al. 1995]
 - Value contributing to the community's wellbeing
 - Contrasts individualism: values personal goals, independence
- Premise of many health interventions for African Americans [Kreuter et al. 2006; Karanja 2002]
- Lay health advisors
 - community members who are trained and encouraged to take responsibility for the community's health
 - Health advice [Russell et al. 2010]

How can interactive systems facilitate collectivistic health promotion?

Lay health advocacy through technology: **residents as health promoters.**

EatWell

- Use existing cell phone
 - Record & share audio “memories”
- Sharing experiences for the benefit of others



Grimes, A. et al. (2008). EatWell: Sharing nutrition-related memories in a low-income community. *In Proceedings of the 2008 ACM Conference on computer supported cooperative work (CSCW'08)*.

EatWell: Method

- 3 week, in-depth field study of use
 - Is this a compelling system for people to use?
 - Do people listen & share, and if so, why?
 - 12 participants
 - Interviews, log analyses & content analysis of memories

EatWell Results

- In the midst of local challenges, user-generated content shared by culturally & geographically-similar contributors yields key benefits.
 - Identification
 - Hope
 - Excitement: interdependence

“It definitely was a plus to hear that so many African Americans are moving into eating well. I mean it just gave me hope.”
-P12



EatWell Results

- The mobile phone helped support the conveyance of emotion.
 - Ability to *listen to* experiences
 - Storytellers infused clips with personality & excitement
 - Audio is a valuable, under-designed for medium

“You getting to experience they joy, you get to hear the joy in they voice. You can’t get the joy in a text.” – P1

“You definitely found out a lot about the person’s personality. It gave you a personal touch **when they, you know, talk, and they leave a message. Rather than an email? Oh yeah absolutely.” – P12**

Summary

What do we mean by digital innovation?

Many platforms (mobile + beyond)

consumer/personal health informatics: self-care & health advocacy

Much opportunity:

neighborhood

local & cultural contextualization

social determinants

Effectiveness

Health outcomes

3 Us: “useful”, “usable”, “used”

Health Promotion through Digital Innovation

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Integrating a Health Risk Assessment Mobile App into Diverse Primary Care Settings



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Zuum app



- ⌘ Brief 3 – 5 minute questionnaire
- ⌘ Risk estimates for 5 major diseases (heart disease & stroke, diabetes, and cancers of the colon, lung, and breast/prostate)
- ⌘ Personalized prevention plan to take home and also share with health care provider
- ⌘ Personalized follow-up text messages (in English and Spanish)





History

- Distilled version of long-running Your Disease Risk website (yourdiseaserisk.wustl.edu)
- Evidence-based calculations and health messages
- Developed with a multi-disciplinary approach (epidemiologists, communication scientists, graphic designers, science writers, and programmers)
- Focus on end-user: the public





History (con't)

Development and testing of YDR/Zuum approach

- ⌘ In-depth interviews and focus groups with diverse, low-income, and minority populations
- ⌘ Implemented in low-income housing and in a busy primary care setting in Boston
- ⌘ Used in community outreach in diverse neighborhoods in Washington DC





Unique approach

- ⌘ Focus on personalized lifestyle messages, with impact across multiple diseases and conditions
- ⌘ Proven history in risk assessment
- ⌘ Proven public use and popularity
- ⌘ Trusted .edu source
- ⌘ No conflicts
- ⌘ No selling or sharing of information to third parties





Project

- 300 primary care patients in low-income and rural health clinics in St. Louis and southern Illinois.
- App completed in waiting area ahead of scheduled appointment
- Patients receive results print-out to share with provider at appointment
- Providers receive patient results and prevention counseling recommendations
- Patients receive 3 months of tailored follow-up text messages (in English or Spanish)





Theoretical framework

PRECEDE-PROCEED

- ⌘ Focus on predisposing, enabling, and reinforcing factors
- ⌘ App provides patients information that predisposes and enables them to consider behavior change
- ⌘ Providers (with app support) help enable and reinforce such change





Theoretical framework

Five A's in Clinical Practice

- ⌘ Assess health behavior (*Zuum* survey and results)
- ⌘ Advise about health risks/benefits (*Zuum* results and provider)
- ⌘ Agree on collaboratively set goals (provider and patient)
- ⌘ Assist to identify and overcome barriers (*Zuum* results, provider, and patient)
- ⌘ Arrange for follow-up (provider, office staff, and patient)





Patient resources

- ⌘ Select referrals in text messages (e.g. smokefree.gov)
- ⌘ Discussions with clinic directors about preferred approaches to linking patients with clinic resources





Population

St. Louis, MO

Federally-Qualified Health Center



& Total patients	46,000
& Adult (18 – 64)	72%
& Adult (65+)	4%
& Racial/Ethnic Minority	81%
& Best served in another language	8%



Population

St. Louis, MO

Federally-Qualified Health Center

- & At or below 100% of poverty 95%
- & Uninsured (2012) 58%
- & With hypertension 21%
- & With diabetes 11%





Project outcomes

Participants

- ⌘ Disease risk and risk factor profiles
- ⌘ Extent of text message delivery
- ⌘ Behavioral intentions and readiness to change
- ⌘ Recall of risk results and recommendations
- ⌘ Satisfaction and experience with app, text messages, and clinic integration
- ⌘ Health-related quality of life
- ⌘ Health literacy





Project outcomes

Health care providers/Clinic directors

- ⌘ Satisfaction and experience with integration of app into clinical practice
- ⌘ Extent of delivery of app results and provider counseling recommendations
- ⌘ Impact on prevention counseling





Community ties

History of relationship-building and collaboration around cancer prevention in St. Louis health centers

- & Created avenues for community members to voice needs and opinions
- & Performed qualitative assessments
- & Engaged collaborators and focused on local issues
- & Shared results with stakeholders
- & Developed framework for future projects





Future directions

- ⌘ Federally-Qualified Health Centers across Missouri (~440,000 patients)
- ⌘ Rural Health Centers in Missouri and Southern Illinois
- ⌘ Municipal worksites

