

Fogarty International Center

Global mHealth Research Training Institute

June 6-9, 2016

Center for Global Health Studies



Fogarty International Center

Engaging Health Researchers

Donna Spruijt-Metz, MFA PhD

Thomas Odeny, MD

Gari Clifford, PhD

CGHS mHealth Research Training Institute

June 6- 9, 2016, Bethesda, MD

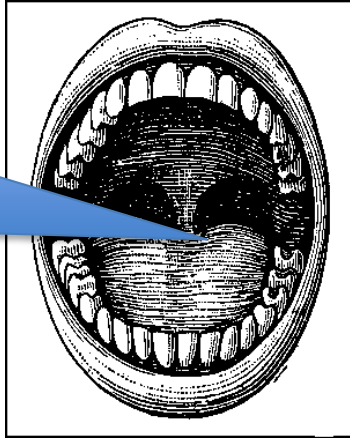
mHealth across disciplines: THE CHALLENGE



OMG(oodness)!!
TRANSDISCIPLINARY
MOBILE HEALTH
SYSTEMS DYNAMIC
RESEARCH WOW!!

mHealth across disciplines: THE CHALLENGE

Promotion =
1st AUTHORSHIP
IN JAMA



mHealth across disciplines: THE CHALLENGE

Has the
accelerometer in
that cell phone (or
that EMA
questionnaire) been
validated?



mHealth across disciplines: THE CHALLENGE



Is it the most
up-to-date
technology?

mHealth across disciplines: THE CHALLENGE



Proof of concept!
Done!

mHealth across disciplines: THE CHALLENGE



But I need to be
able to take this
out into the
field and use it
with REAL
PEOPLE!!!

Finding the Right Tech Collaborators

- Engineers come in many flavors
 - Signal processing
 - EE
 - Computer science (just to name a few)
 - You might need a harem
 - Understanding your needs might not even be in your job description!
- Engineers may not be the only 'tech' people you need
 - Human-computer interaction, game design, user-centered design, creatives (music, visual arts, story)
- Really good to map this out up front (at the budgeting phase)

Choosing technologies

- What you really want versus what is out there, what is 'on the shelf' that we can really use? (black box, not really bluetooth, won't give you your data)
- The 'we can do that' attitude vs. budgetary and time realities – and what does 'that' really mean?
- Who has an 'in' with Nokia, can the non-tekkies use it?

Roles and Phases

- Ground truthing and qualitative iterations
 - Small, iterative data collection rounds, first in lab and then in 'the wild' – make sure the target population is involved
 - Will they wear it? Use it? Focus groups, idea building groups, etc. every step of the way
 - This is a 'taking turns' scenario – not always comfortable, agree and understand up front
- Stay in touch – mutual involvement in every phase.

TAKING TURNS: Hurry up and wait

- For many projects, engineers and creatives work is up front
 - Behaviorists play an important, but more advisory role in this part of the journey. This is not always academically rewarding. Be patient, think creatively
- When you go into the field, behaviorists take the lead
 - engineers and creatives might play more of a 'maintenance' role – this is not academically rewarding. Think about this up front. When do you need a programmer?
- This scenario looks different if you engage a company – understand the trade-offs.

What isn't measured isn't modeled

- What to measure?
- How to tag it?
- Different disciplines need different measures,
- Different disciplines interpret the same data differently
- Limited measurement 'real estate' – repurposing measurement & sharing the space

Keep Communicating!!

- Make team presentations a regular, fun event – explain what you are doing and why you need to do it in terms that your colleagues can understand

Benefits of Engaging a Health Researcher

- Funding success
 - Both NSF and NIH
- Solve problems that have a chance to address a larger societal issue
 - A paper vs. health improvement
- Solutions developed will have a better chance of working in real-life
 - Social activity analysis
- Know of techniques and methods that may have worked in other fields
 - Conduct truly transdisciplinary research

Recruiting Health Researchers

- **Cold calls**
 - Invitation to collaborate on a new project
 - Both internal and external
- **Social circles**
 - A social relationship can help get through the settling phase
- **References**
 - Existing relationship with someone on the team

The Vetting Process

- **Early adopter**
 - Have the patience and long-term view
- **Willing to learn and trust**
 - Respect other disciplines as equal partners and not as mere service providers
- **Willingness and capacity**
 - Willing to conduct pilot studies
 - Experience and resources to conduct research studies for data collection and evaluation

The Engagement Process

- **Make the device work**
 - In the field setting with sufficient pilots
- **Handling unforeseen delays**
 - Urgency vs. reliability
- **Integrated pilots**
 - Iterate through the entire process
 - Training the research site
- **Co-authorship**
 - Sensitive about data ownership
 - Sharing authorship generously
 - Contributing generously to papers in other discipline
 - Not intruding on each other's territory

Take A Broader View

- Serving mankind vs. serving science vs. home discipline
 - Impact on native discipline may not be clear
 - Takes a lot of hard work in making tech work
 - Productivity in # papers may decline
 - But the impact of each paper usually higher
 - Strive to publish in prestigious venues in native disciplines to earn respect in native discipline

Career to Career

- Tension between Phd student's need to innovate (and publish early on) on the tech side, and the need for simplicity
- Faculty career development ... making a simple app is time consuming and not exciting ... so there have to be some exciting innovative elements.
- Overcoming the clinical bias. The MD is highly trained and knows a lot, but doesn't have the answer (even though they might think they do).

Working across borders

- Patriarchal and hierarchical systems
- Open conflict and contradiction is unusual so if you aggressively push your point of view, people will say yes then revert to the norm rapidly.
- Working with teams across borders ... embedding engineers in the target communities.
- Local engineers versus remote ... capacity building vs. supervision
- Communication tools - keep everything online and meet weekly.