Fogarty International Center

Global mHealth Research Training Institute

June 6-9, 2016
Center for Global Health Studies
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.