Overview

• Findings from NIMH funded research in this area
• The benefits and challenges to the use of technology in HIV research
• NIMH Priorities
• Funding Opportunity Announcements
Monitoring Adherence in Real-Time Through Wisepill

Haberer 2013 AIDS
Haberer 2010 AIDS Behav

R01MH054907, K23MH087228 & K24MH087227
Parienti, et al. 2008
How to Handle Invalid and Suspicious Data

• Web-survey data collection is efficient and timely.
• Findings suggest that pre and post hoc decisions about how to handle suspicious data are needed.
• An approach that is too conservative, may harm the validity of the study.
• Studies should detail how they handle fraudulent and suspicious entries in their publications.
Recruitment/Surveillance Strategies

webRDS
KIU! Online HIV/STI Prevention Program for YMSM

- Intervention for diverse YMSM upon receiving an HIV negative test result
- Feasible and acceptable
- Participants in the intervention arm had a 44% lower rate of unprotected anal sex acts at the 12-week follow-up (p < 0.05) compared to an HIV information control condition.
- Now funded as a 3 city RCT by NIDA (R01DA07)

Mustanski 2013 AIDS Behav R34MH079714 (PI: Brian Mustanski)
Socially Optimized Learning in Virtual Environments (SOLVE)

• An interactive game designed to reduce MSM’s sexual shame.

• Participants in the SOLVE treatment condition reported greater reduction in shame, which in turn influenced reduction in UAI at 3 month follow-up.

Christensen 2013 J/AS
R01MH082671 (PI: Lynn Miller)
Using Facebook to Increase HIV Testing Among MSM of Color

• 95% of intervention participants and 73% of control participants communicated voluntarily on Facebook.

• 44% of the intervention group vs. 20% of the control group requested home-based testing kits.

• African-American and Latino MSM found home-based tests to be an acceptable HIV testing method.
Novel, Theory Based Internet HIV Intervention for Young Black MSM

- HealthMpowerment.org
  Building healthy communities online
- Multiple features – live chats, quizzes, personalized health journals, & decision support tools
- Demonstrated good content acceptability, usability and satisfaction ratings

Online Peer-to-Peer Social Support for ART Adherence

• Evaluation of “Thrive with Me” – an online social support intervention to improve ART adherence among HIV+ gay or bisexually-identified men.

• Feasible (90% retention) and acceptable (in Information Quality, System Quality, and Perceived Usefulness).

• Modest effects on adherence in the overall sample; however, significant effects among current drug-using participants.
Why use technology?

Advantages

• Reaching people where they are instead of having them come to us
• Can tailor an intervention to the individual without losing program fidelity
• Overcome barriers to uptake
• Anonymous
• Scalable and cost effective

Disadvantages

• Relying on self-motivation to find the information and then come back – lower follow up rates
• Ethical issues – informed consent, confidentiality
• High development costs
• Avoiding fads
• Selection bias
• Potential for fraudulent data
Finding the right balance between...

technology-enabled interactions  human interactions
Where do we need to go?

From

• Feasibility and usability
• Applying the same technologies (web, phone, etc) to traditional face-to-face interventions
• Focusing on the program or platform

To

• Impact
• Using new technologies in novel ways
• Gaining a better understanding of how technology based interventions work
NIMH Priorities

• Studies that optimize the accuracy and validity of self-report (e.g. ARV adherence, sexual behavior)

• Develop & test the acceptability, feasibility, validity, & accuracy of novel technologies for “real-time” or prospective monitoring of behavior

• Develop & test technology-assisted approaches that provide real-time feedback loops to participants regarding their behavior

• Increasing regular HIV testing among YMSM (home testing, social networking approaches?)

• More targeted technology based interventions for PLWHIV

• Enhancing our understanding of the ethical challenges of conducting HIV-related research using new technologies
Division of AIDS Research

Discovery, Development, and Testing of Novel Interventions to Advance HIV Prevention and Care

- New Intervention Approaches
- Structural and Cultural Barriers
- Mediators/Moderators

Advancing the Impact of Effective HIV/AIDS Prevention and Treatment Interventions

- MSM
- Adolescents
- Ethnic Minorities
- Cultural components
- International
- Active Ingredients
- Principles
- Validation

- Rapid Uptake
- Capacity Building
- Engagement in Communities
- Partnerships: PEPFAR, CDC, USAID
- QA/QC
### Examples of Current NIMH Sponsored Announcements

<table>
<thead>
<tr>
<th>Announcement ID</th>
<th>Agency</th>
<th>Title</th>
<th>Application Period</th>
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<td>PA-11-271</td>
<td>NIMH</td>
<td>Advancing the Impact of Effective HIV/AIDS Prevention and Treatment Interventions (R01/R03/R21/R34)</td>
<td>2011-07-26 to 2014-05-08</td>
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<td>NIMH</td>
<td>Discovery, Development, and Testing of Novel Interventions to Advance HIV Prevention and Care (R01/R03/R21/R34)</td>
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Keep an eye on this space as we refresh FOAs and post new FOAs regularly!

Examples of Current NIMH Co-Sponsored Announcements

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<tr>
<td>PAR-14-028</td>
<td>NIH</td>
<td>Mobile Health: Technology and Outcomes in Low and Middle Income Countries (R21)</td>
<td>2013-12-11</td>
<td>2015-02-20</td>
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<tr>
<td>PAR-13-323</td>
<td>NIH</td>
<td>Increased Knowledge and Innovative Strategies to Reduce HIV Incidence - iKnow Projects (R01)</td>
<td>2013-08-08</td>
<td>2016-01-08</td>
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<td>PA-13-288 PA-13-292</td>
<td>OBSSR</td>
<td>Behavioral and Social Science Research on Understanding and Reducing Health Disparities (R21/R01)</td>
<td>2013-08-02</td>
<td>2016-09-08</td>
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<td>PAR-12-244</td>
<td>NIH</td>
<td>Ethical Issues in Research on HIV/AIDS and its Co-morbidities (R01)</td>
<td>2012-07-24</td>
<td>2015-01-08</td>
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**Parent PAs**

| PA-13-302 | NIH       | Research Project Grant (Parent R01)                                 | 2013-08-02  | 2016-09-08      |
| PA-13-303 | NIH       | NIH Exploratory/Developmental Research Grant Program (Parent R21)    | 2013-08-02  | 2016-09-08      |
| PA-13-304 | NIH       | NIH Small Research Grant Program (Parent R03)                        | 2013-08-02  | 2016-09-08      |
THANK YOU!

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Questions?
References


