



The Intersection of Technology, HAART Adherence, and Drug Abuse Treatment
Washington Marriott Wardman Park
Washington, DC

Thursday, March 4, 8:00 a.m. – 5:00 p.m.

Friday, March 5, 8:00 a.m. – 1:00 p.m.

Agenda

The purpose of this meeting is to encourage multidisciplinary collaboration between social scientists, medical (physician/nurse) researchers, and technology experts to develop and refine mobile instrumentation, e-health technology, and software as means of fostering adherence to HIV treatment regimens and access to care in “real time.” Specifically, NIDA hopes to stimulate research on the development and feasibility of such interventions (e.g., mobile enabling technologies, Ecological Momentary Assessment [EMA], enhanced Medication Event Monitoring System, computer software, portable digital devices, and cell phones and/or Digital Assistant Devices) to foster adherence to HIV treatment regimens among substance-abusing populations in natural timeframes and contexts.

Given the prevalence of HIV among active drug users and the high rates of nonadherence to HIV treatment regimens, together with the relatively consistent adherence necessary to maintain virological suppression, there is a critical need for valid and reliable methods to assess adherence and a need to develop, refine, and improve interventions in the context of drug abuse. Because HIV and substance abuse disorders represent two overlapping and chronic conditions, the generation and use of specific technological devices may offer an integrated and streamlined approach to target the complex treatment needs of substance users with HIV.

To date, much of the emerging literature on the use of technologies to monitor adherence to HAART and related treatment and care regimens among HIV+ populations has not included active drug users. In addition, much of the adherence data from HIV+ drug-abusing samples are retrospective in nature, and thus it is not possible to intervene as the nonadherent behaviors occur. Recent data suggest that some technologies, such as EMA and electronic diary reports, can be used in treating drug-abusing (such as methadone-maintained) populations, specifically in recording cue exposure, cravings, and mood in the hours before cocaine and/or heroin use. As such, technologies that can simultaneously monitor and assess adherence (particularly to help identify those most in need of intervention) and advance the delivery and efficacy of interventions to foster adherence in “real time” offer an innovative modality to target the numerous clinical needs of drug-abusing populations with HIV.

The topics to be addressed at this meeting include:

1. How feasible is it to develop, utilize, implement, and/or disseminate these technologies among drug-abusing populations with HIV? What are the potential barriers to adopting these approaches to these populations, and what resources/approaches are needed to overcome them? Are there particular settings (e.g., community health agencies, drug treatment clinics, needle exchange sites) in which this would be most viable?
2. Which groups and approaches are the most likely candidates for efficacious use of these technologies? What subgroups of drug-abusing populations with HIV are most suitable (e.g., prisoners leaving correction facilities and transitioning back to communities; or those already receiving specific behavioral and/or other interventions, such as DOT)?
3. What secondary benefits and innovative applications (e.g., HIV prevention, such as decreasing HIV-risk behaviors) may be developed as a result of adherence-related technologies?

4. What principles should guide the development and funding of research on technology to achieve a balance between the costs (in money and time) of research and the need to mount interventions (some of which might cost little but have the potential for at least modest public health impact)?

Thursday, March 4 – Day 1

8:00 – 8:30 a.m.

Registration

8:30 – 8:50 a.m.

Welcome and Introductions

*Jacques Normand, Ph.D.
Director, AIDS Research Program
National Institute on Drug Abuse
Bethesda, MD*

*Shoshana Y. Kahana, Ph.D.
Program Official, Behavioral and Integrative Treatment Branch
National Institute on Drug Abuse
Bethesda, MD*

8:50 – 10:10 a.m.

Session I: Overview

Highly Active Antiretroviral Therapy and Survival in HIV-Infected Injection Drug Users: Implications for the Critical Role of Adherence

*Robert S. Hogg, Ph.D.
Simon Fraser University/BC Centre for Excellence in HIV/AIDS
Vancouver, British Columbia, Canada*

Interventions Targeting Medication Adherence and Drug Use for HIV+ Men: Perspectives from an Academic/Outpatient Clinic

*Jeffrey Parsons, Ph.D.
Co-Director, Center for HIV/AIDS Educational Studies and Training
Hunter College
New York, NY*

Interventions Targeting Medication Adherence and Drug Use for HIV+ Criminal Justice Populations

*Frederick L. Altice, M.D., and Sandra Springer, M.D.
School of Medicine, Yale University
New Haven, CT*

Considerations for Continued Development of Behavioral Interventions Targeting HIV Treatment Adherence

*Gregory M. Lucas, M.D., Ph.D.
Division of Infectious Diseases
Johns Hopkins University School of Medicine
Baltimore, MD*

10:10 – 10:30 a.m.

Break

10:30 am-12:00 pm

Session II: Harnessing “Real Time” Technology: Implications for Monitoring Drug Cues/Cravings and HIV Treatment Adherence

(Each scheduled talk also will include a demonstration of relevant technology discussed)

Self-Monitoring Applications and Implications for Interventions Targeting Drug Abuse and HIV Treatment Adherence

Mary Jane Rotheram-Borus, Ph.D.

Center for HIV Identification, Prevention, and Treatment Services

University of California at Los Angeles

Los Angeles, CA

Real-Time Electronic Diary Reports of Cue Exposure, Mood, and Drug Use

Kenzie Preston, Ph.D.

Intramural Research Program

National Institute on Drug Abuse

Baltimore, MD

Novel Approaches to Monitoring Adherence to HIV Therapy

Jessica Haberer, M.D.

Massachusetts General Hospital

Boston, MA

Biosensing and Wireless Technologies to Detect Drug Use and/or to Promote Adherence to Drug Abuse and HIV Treatment

Edward W. Boyer, M.D., Ph.D.

University of Massachusetts Medical School

Worcester, MA

12:00 – 1:30 p.m.

Lunch (*on your own*)

1:30 – 2:45 p.m.

Group Discussion

Lisa Onken, Ph.D.

Branch Chief, Behavioral and Integrative Treatment Branch

National Institute on Drug Abuse

Bethesda, MD

2:45 – 4:00 p.m.

Session III: Other Technologies that Promote or Monitor HIV Care and/or Treatment Adherence

Impact of Frontline SMS, Mobile Phones, and Text Messaging on Health Care Delivery in Rural Malawi

Josh Nesbit

FrontlineSMS:Medic |+/

Washington, DC

The Development of a Web-Based Program to Improve Adherence to HIV/AIDS Medications among Drug Abusers in a Community Clinic

Royer F. Cook, Ph.D.

ISA Associates, Inc.

Arlington, VA

CFAR Network of Integrated Clinical Systems (CNICS): The Use of Real-Time Patient-Centered Clinical Metrics for Substance Abuse and HIV Care

Stephen L. Boswell, M.D.

*Fenway Health/Harvard Medical School
Boston, MA*

Collaboration with Developers: A Two-Way Learning Experience

*Vesta Brue
Inventor and Lead Developer, MedSignals LLC
San Antonio, TX*

4:00 – 4:15 p.m.

Break

4:15 – 5:30 p.m.

Group Discussion

*Lisa Marsch, Ph.D. (Facilitator)
National Development and Research Institute
New York, NY*

*Julia H. Arnsten, M.D., M.P.H. (Facilitator)
Albert Einstein College of Medicine
Montefiore Medical Center
Bronx, NY*

5:30 p.m.

Closing Remarks and Adjournment

Friday, March 5 – Day 2

8:15 – 8:30 a.m.

Registration

8:30 – 8:50 a.m.

Review Day 1

8:50 – 10:30 a.m.

Session IV: Exploring Opportunities to Develop and Disseminate Adherence-Promoting Technologies

Creating a Shared, Open, and Scalable Platform for Intervention Innovation

*Deborah Estrin, Ph.D.
Director, Center for Embedded Networked Sensing
University of California Los Angeles
Los Angeles, CA*

Future Considerations and Lessons Learned from Internet-Based Interventions for HIV/STI Prevention

*Lisa Marsch, Ph.D.
National Development and Research Institute
New York, NY*

Substance Use, ART Adherence, and the Development of Class-Specific Antiretroviral Resistance: Implications for Future Interventions

*Edward M. Gardner, M.D.
University of Colorado at Denver
Denver Public Health
Denver, CO*

Small Business Innovation Research (SBIR) and Technology Transfer (STTR) Programs

*Cathrine A. Sasek, Ph.D.
Office of Science Policy and Communications
National Institute on Drug Abuse*

Bethesda, MD

Fostering Public Partner Partnerships

Shawnmarie Mayrand-Chung, Ph.D.

Public-Private Partnership Program, Office of Science Policy

National Institutes of Health

Bethesda, MD

10:30 – 10:45 a.m.

Break

10:45 a.m.-12:15 p.m.

Session V: Future Directions and Charting Recommendations for Developing, Implementing, and Evaluating Adherence-Promoting Technologies

Continued Group Discussion

Synthesis and Generation of Recommendations

Lisa Marsch, Ph.D. (Facilitator)

National Development and Research Institute

New York, NY

Julia H. Arnsten, M.D., M.P.H. (Facilitator)

Albert Einstein College of Medicine

Montefiore Medical Center

Bronx, NY

12:15 p.m. – 12:30 p.m.

Wrap-up and Adjournment