

Program and Abstracts

11th International
Conference on
HIV TREATMENT
AND PREVENTION
ADHERENCE



Adherence 2016

MAY 9-11, 2016 • FORT LAUDERDALE

Jointly provided by





Adherence 2016

MAY 9 - 11, 2016 • FORT LAUDERDALE

WELCOME FROM THE CO-CHAIRS

Welcome to Adherence 2016! This conference marks 11 years of coming together from around the world to share, support, and sustain scientific advances towards fully leveraging available social-behavioral and biomedical treatments to promote health and well-being of people affected by and those living with HIV. This year we continue to focus on adherence to biomedical prevention and treatment strategies, as well as engagement in HIV prevention and care. In line with national and international targets, the content covered through our invited speakers, oral abstracts, and poster presentations comprehensively maps upon prevention and treatment cascades, and the spaces in between.

With delegates from around the world and across the United States, all united in the mission of realizing the end of the epidemic through treatment and prevention, we are looking forward to another collaborative and energizing conference. We anticipate nearly 400 delegates from 25 countries will come together here in Fort Lauderdale, and sincerely thank each of you for making this conference a priority in what are undoubtedly busy schedules and tight budgets. Please take every opportunity to engage with a truly amazing community of diverse delegates. There are a number of added opportunities and events in the program to help to foster such discussions.

We also wish to thank the International Association of Providers of AIDS Care (IAPAC) for their continued support of this unique conference and commitment to strengthening our diverse network of individuals in this important field. This conference would not be possible without considerable contributions from IAPAC as well as from many individuals:

- Intellectual and programmatic guidance from IAPAC President/CEO José M. Zuniga, PhD, MPH, who has facilitated the creation of yet another year of high-quality plenaries and thematic oral sessions.
- IAPAC Vice President/Chief Technical Officer Rueben Granich, MD, MPH, and Michael J. Stirratt, PhD, a Program Chief at the National Institute of Mental Health/National Institutes of Health, provided invaluable contributions to developing the scientific program.
- All of the IAPAC faculty and ad-hoc reviewers provided essential guidance in their careful scientific review of abstracts submitted to the conference.
- IAPAC Conference Manager Jonathan Hess and other staff whose work allows for the successful implementation of the conference.

We are also grateful for our distinguished conference faculty, including our:

- Keynote speaker: Ambassador Deborah L. Birx, MD, the US Global AIDS Coordinator;
- Memorial lecturer: Robert Remien, PhD, from Columbia University; and
- Invited Speakers: Amy Lansky, PhD, MPH, Acting Director of the Office of National AIDS Policy; Bruce Agins, MD, MPH, from HealthQUAL International; Benjamin Young, MD, MPH, IAPAC's Senior Vice President/Chief Medical Officer; Jeremiah Johnson from the Treatment Action Group; Kenneth Mayer, MD, from Fenway Health; Phill Wilson and Anna Zakowicz, MPH, MI, from the Black AIDS Institute and AIDS Healthcare Foundation, respectively; Catherine Hanssens, JD and Jason Sigurdson, MPA, LLP, from the Center for HIV Law & Policy and the Joint United Nations Programme on HIV/AIDS, respectively; and Julio Montaner, MD, from the British Columbia Center of Excellence in HIV/AIDS.

We hope that you fully partake of our next three days together, centered around new scientific knowledge and clinical practicum, and return to your communities reinvigorated to further study, implement, and advance the art, science, and practice of HIV treatment and prevention adherence.



K. Rivet Amico, PhD¹
Co -Chair



Michael J. Mugavero, MD, MHS²
Co -Chair

¹ University of Michigan, Ann Arbor, MI, USA

² University of Alabama at Birmingham, Birmingham, AL, USA



TABLE OF CONTENTS

General Information	3
Continuing Education	4
Hotel Map	5
Faculty Roster	6
Conference Program - Monday, May 9, 2016	7
Conference Program - Tuesday, May 10, 2016	8
Conference Program - Wednesday, May 11, 2016	9
Oral Abstracts Schedule	10
Oral Abstracts	14
Poster Abstracts	50
Author Index	101
Acknowledgements	105



CONFERENCE INFORMATION

TARGET AUDIENCE

The target audience for the 11th International Conference on HIV Treatment and Prevention Adherence (Adherence 2016) includes physicians, nurses/nurse-practitioners, pharmacists, psychologists, behavioral researchers, social scientists, epidemiologists, social workers, case managers, AIDS service organization (ASO) staff, and allied healthcare and lay professionals working in the field of HIV medicine.

STATEMENT OF NEED

The preventative and therapeutic benefits of antiretroviral therapy are only achievable when patients are optimally engaged in a continuum of HIV care, including linkage to care, adherence to treatment, and long-term viral suppression through ongoing engagement in care. Poor or non-adherence to treatment, as well as suboptimal linkage to and engagement in care, can lead to the resumption of rapid viral replication, decreased survival rates, and virus mutation to treatment-resistant strains of HIV. Similarly, linkage and adherence to biomedical prevention interventions is critical to curbing HIV acquisition rates among at-risk populations.

Implementing evidence-based behavioral, clinical, and structural interventions to enhance linkage to and adherence to HIV treatment and biomedical prevention, as well as long-term engagement in the continuum of HIV care, is critical to attain individual, community, and public health objectives.

PROGRAM OVERVIEW

Adherence 2016 will provide a forum where the state-of-the-science for HIV treatment and biomedical prevention adherence research will be presented, discussed, and translated into evidence-based approaches. The 3-day program will allow healthcare and human service professionals to examine scientifically sound and practical strategies to enhance adherence to HIV treatment and biomedical prevention interventions in a variety of domestic and international settings.

EDUCATIONAL OBJECTIVES

After completing this activity, participants will be able to:

- Summarize evidence-based strategies to optimize the HIV care continuum
- Employ interventions to enhance linkage to and engagement and retention in HIV care, as well as adherence to HIV treatment, to facilitate long-term viral suppression
- Integrate biomedical prevention interventions, including pre-exposure prophylaxis, into clinical practice to decrease HIV acquisition among at-risk populations
- Apply harm reduction, mental health, and psychosocial strategies in the management of people affected by and living with HIV who are substance users and/or diagnosed with mental health issues

GENERAL INFORMATION

MEETING VENUE

Adherence 2016 is being held at the Diplomat Hotel and Resort. Plenary, Oral Abstract, and Breakout Sessions, as well as the Poster Session will be held on the second level (see the Hotel Maps and the Program Schedule on page 5 and pages 7-9, respectively).

MEALS

Complimentary breakfast and lunch will be provided daily in the Foyer, which is located outside of the Grand Ballrooms East/West. Please refer to the program for scheduled breakfast and lunch times.

SOCIAL MEDIA

If you have not already done so, please "like" our Facebook page (International Association of Providers of AIDS Care) and join the Adherence 2016 event for live updates on the conference. Join the conference's social media conversation: #Adherence2016

QUESTIONS

If you have any questions during the conference, please locate an IAPAC staff member at the conference's Registration Area. If you have any questions post-conference, please contact Jonathon Hess at jhess@iapac.org.

INTERNET ACCESS

Complimentary Internet access is available for Adherence 2016 delegates. Wireless Internet can be accessed through the following network:

Network: Adherence

Password: adherence

SLIDE PRESENTATIONS/ABSTRACTS

Slide presentations will be available at www.iapac.org post-conference. The Program and Abstracts book will be distributed at registration, and electronic versions will be available at www.iapac.org post-conference.



PHYSICIANS, NURSES, AND PSYCHOLOGISTS

CONTINUING EDUCATION

CONTINUING MEDICAL EDUCATION

Accreditation Statement

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Postgraduate Institute for Medicine and the International Association of Providers of AIDS Care (IAPAC). The Postgraduate Institute for Medicine is accredited by the ACCME to provide continuing medical education for physicians.

Credit Designation

The Postgraduate Institute for Medicine designates this live activity for a maximum of 18.5 *AMA PRA Category 1 Credit(s)*[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Disclosure of Conflicts of Interest

The Postgraduate Institute for Medicine (PIM) requires instructors, planners, managers, and other individuals who are in a position to control the content of this activity to disclose any real or apparent conflict of interest (COI) they may have as related to the content of this activity. All identified COI are thoroughly vetted and resolved according to PIM policy. PIM is committed to providing its learners with high quality CME activities and related materials that promote improvements or quality in healthcare and not a specific proprietary business interest of a commercial interest.

A Disclosure of Conflicts of Interest handout is inserted in the Program and Abstracts book. The handout reflects reports of financial relationships or relationships to products or devices faculty, planners, and managers, or their spouses/ life partners, have with commercial interests related to the content of this CME activity. If you do not find this handout inserted in your Program and Abstracts book, please visit the conference's Registration Desk.

This activity is supported by an independent educational grant from Gilead Sciences, Inc. and Merck & Co.



Postgraduate Institute
for Medicine

Disclosure of Unlabeled Use

This educational activity may contain discussion of published and/or investigational uses of agents that are not indicated by the US Food and Drug Administration (FDA). The planners of this activity do not recommend the use of any agent outside of the labeled indications. The opinions expressed in the educational activity are those of the faculty and do not necessarily represent the views of the planners. Please refer to the official prescribing information for each product for discussion of approved indications, contraindications, and warnings.

Disclaimer

Participants have an implied responsibility to use the newly acquired information to enhance patient outcomes and their own professional development. The information presented in this activity is not meant to serve as a guideline for patient management. Any procedures, medications, or other courses of diagnosis or treatment discussed or suggested in this activity should not be used by clinicians without evaluation of their patient's conditions and possible contraindications on dangers in use, review of any applicable manufacturer's product information, and comparison with recommendations of other authorities.

Evaluation

Participants may complete an online evaluation at www.cmeuniversity.com. On the navigation menu, click on "Find Post-Tests by Course" and search by Course ID 11347. Upon successfully completing the evaluation, a CME certificate will be made available to each participant.

CONTINUING EDUCATION - PSYCHOLOGISTS

Psychology Sponsorship Statement

Postgraduate Institute for Medicine is approved by the American Psychological Association to sponsor continuing education for psychologists. PIM maintains responsibility for this program and its content.

Psychology Credit Designation

This program offers 18.5 continuing education credits for psychologists.

CONTACT HOURS - NURSES

Nursing Accreditation Statement

Postgraduate Institute for Medicine is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

Nursing Credit Designation

This educational activity for 18.5 contact hours is provided by Postgraduate Institute for Medicine.

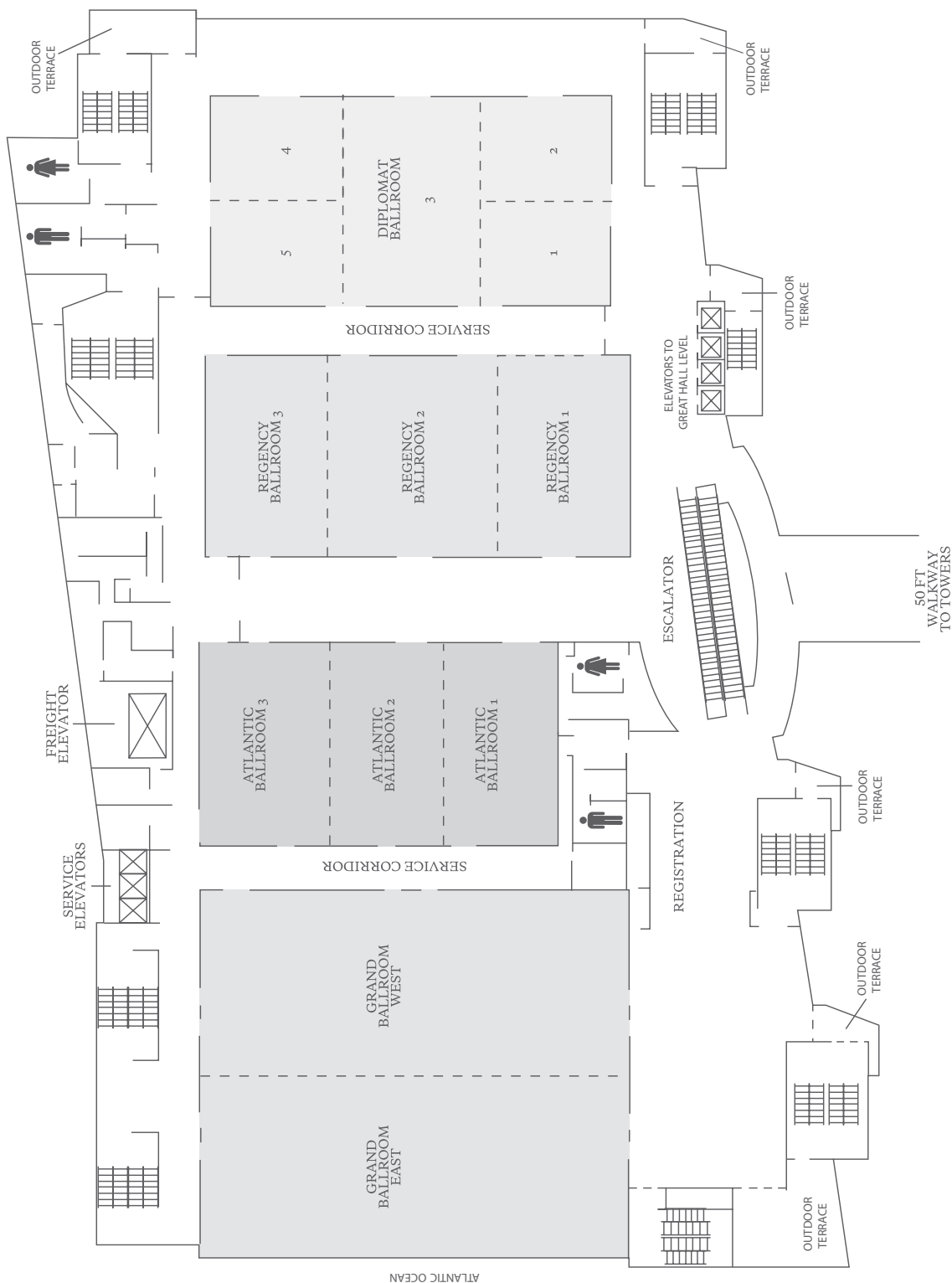
EVALUATION FOR PSYCHOLOGISTS AND NURSES

Participants may complete an online evaluation at www.cmeuniversity.com. On the navigation menu, click on "Find Post-Tests by Course" and search by Project ID 11347. Upon successfully completing the evaluation, a CE certificate will be made available to each participant.

THE DIPLOMAT HOTEL AND RESORT



HOTEL MAP





FACULTY ROSTER

Bruce Agins, MD, MPH
HEALTHQUAL International
New York, NY, USA

Moisés Agosto-Rosario
National Minority AIDS Council
Washington, DC, USA

Josef Amann, MD, MPH
Centers for Disease Control and Prevention
Atlanta, GA, USA

K. Rivet Amico, PhD
University of Michigan
Ann Arbor, MI, USA

Ambassador Deborah L. Birx, MD
Office of the Global AIDS Coordinator
Washington, DC, USA

George Butchko
AIDS Healthcare Foundation
Fort Lauderdale, FL, USA

Amanda Castel, MD, MPH
George Washington University
Washington, DC, USA

Jennifer Cocohoba, PharmD, MAS
University of California, San Francisco
San Francisco, CA, USA

Maureen Connolly, MD
Henry Ford Health System
Detroit, MI, USA

Heidi Crane, MD, MPH
University of Washington
Seattle, WA, USA

Dázon Dixon Diallo, MPH, DHL
SisterLove
Atlanta, GA, USA

Thomas P. Giordano, MD, MPH
Baylor College of Medicine
Houston, TX, USA

Alex Gonzalez, MD
Fenway Institute
Boston, MA, USA

Reuben Granich, MD, MPH
International Association of
Providers of AIDS Care
Washington, DC, USA

Catherine Hanssens, JD
The Center for HIV Law & Policy
New York, NY, USA

Michael Horberg, MD, MAS
Kaiser Permanente
Rockville, MD, USA

Jeremiah Johnson
Treatment Action Group
New York, NY, USA

Amy Lansky, PhD, MPH
Office of National AIDS Policy
Washington, DC, USA

Albert Liu, MD, MPH
San Francisco Department of Public Health
San Francisco, CA, USA

Darius Massie
Brothers Living Authentically Creating Change
Miami, FL, USA

Kenneth Mayer, MD
Fenway Health
Boston, MA, USA

Eugene McCray, MD, MPH
Centers for Disease Control and Prevention
Atlanta, GA, USA

LaTrischa Miles
Kansas City CARE Clinic
Kansas City, MO, USA

Julio Montaner, MD
BC Center for Excellence in HIV/AIDS
Vancouver, BC, CANADA

Tia Morton, RN, MS
National Institute of Allergy and Infectious
Diseases
Bethesda, MD, USA

Michael Mugavero, MD, MHSc
University of Alabama, Birmingham
Birmingham, AL, USA

Kenneth Ngunjiri, PhD, MSc
Jomo Kenyatta University of
Agriculture and Technology
Nairobi, KENYA

Celso Ramos, MD, MSc
Federal University of Rio de Janeiro
Rio de Janeiro, Brazil

Sindhu Ravishankar, MPhil
International Association of
Providers of AIDS Care
Washington, DC, USA

Robert Remien, PhD
Columbia University
New York, NY, USA

Sarah Rowan, MD
Denver Health and Hospital Authority
Denver, CO, USA

Jorge Saavedra, MD
AIDS Healthcare Foundation
Los Angeles, CA, USA

Jeffrey Schouten, MD, JD
University of Washington
Seattle, WA, USA

Jason Sigurdson, MPA, LLB
Joint United Nations Programme on HIV/AIDS
Geneva, SWITZERLAND

Michael J. Stirratt, PhD
National Institute of Mental Health
Bethesda, MD, USA

Evelyn Ullah, BSN, MSW
Broward County Health Department
Fort Lauderdale, FL, USA

Ira Wilson, MD, MSc
Brown University
Providence, RI, USA

Phill Wilson
Black AIDS Institute
Los Angeles, CA, USA

Joey Wynn
Empower U
Miami, FL, USA

Benjamin Young, MD, PhD
International Association of
Providers of AIDS Care
Washington, DC, USA

Anna Zakowicz, MI, MPH
AIDS Healthcare Foundation
Amsterdam, NETHERLANDS

Carmen Zorrilla, MD
University of Puerto Rico
San Juan, Puerto Rico, USA

José M. Zuniga, PhD, MPH
International Association of
Providers of AIDS Care
Washington, DC, USA



MONDAY, MAY 9, 2016

PROGRAM SCHEDULE

TIME	ACTIVITY			
7:30am-8:45am	PRE-CONFERENCE BREAKFAST SESSION: Continuity of Care: Tracking Patients across Health Plans and Clinical Settings Michael Horberg, MD, MAS			
9:00am-9:30am	Opening Remarks			
DATA FOR ACTION • GRAND BALLROOM EAST				
9:30am-10:00am	PLENARY SESSION: US National HIV/AIDS Strategy: Contending with Disparities, Reaching for Ambitious Targets Amy Lansky, PhD, MPH			
10:00am-10:45am	KEYNOTE ADDRESS: PEPFAR 3.0: Progress in and Outcomes of Data-Driven Reorientation of HIV Services Ambassador Deborah L. Bix, MD			
10:45am-11:30am	PLENARY SESSION: Data 4 Care: Using Clinical and CQI Data for HIV Care Continuum Monitoring and Intervention Bruce Agins, MD, MPH			
11:30am-11:45am	Break/Transition			
TIME	ACTIVITY	GRAND BALLROOM EAST	REGENCY 2	REGENCY 3
11:45am-12:45pm	Thematic Oral Abstract Sessions	SESSION 1 PrEP: Prescribing and Adherence Support	SESSION 2 Social and Structural Determinants Across the “Adherence” Spectrum	SESSION 3 Structural Programs to Promote Adherence to Care and ART
12:45pm-2:15pm	Lunch			
DATA FOR ACTION (Continued) • GRAND BALLROOM EAST				
2:15pm-3:15pm	PANEL DISCUSSION: Actioning the Data: Multisectoral Perspectives on CQI Data Utility in HIV Medicine Moderator: Michael J. Mugavero, MD, MHSc Panelists: Bruce Agins, MD, MPH; Josef Amann, MD, MPH			
3:15pm-4:15pm	PANEL DISCUSSION: Fast-Track Cities: Using Data to Optimize Local HIV Care and Prevention Continua Moderator: Sindhu Ravishankar, MPhil Panelists: Reuben Granich, MD, MPH; Albert Liu, MD, MPH; Sarah Rowan, MD			
4:15pm-4:30pm	Break/Transition			
TIME	ACTIVITY	GRAND BALLROOM EAST	REGENCY 2	REGENCY 3
4:30pm-5:30pm	Thematic Oral Abstract Sessions	SESSION 4 PrEP Perceptions: Access, Uptake, and (Dis)use	SESSION 5 Leveraging Technology to Promote ART Adherence and Treatment Success	SESSION 6 Linkage to Care Across Contexts and Cultures
TIME	ACTIVITY	LOCATION		
5:30pm-6:30pm	Poster Session & Exhibit Session	GRAND BALLROOM WEST		
6:30pm	Adjourn			
OPENING RECEPTION • GRAND BALLROOM WEST				
6:30pm-8:00pm	Welcome to Fort Lauderdale!			



TUESDAY, MAY 10, 2016

PROGRAM SCHEDULE

TIME	ACTIVITY			
7:30am-8:45am	PRE-CONFERENCE BREAKFAST SESSION: Setting Up a PrEP Clinic: The ABCs of Integrating PrEP into Clinical and other Settings Alex Gonzalez, MD			
OPTIMIZING THE HIV CARE CONTINUUM • GRAND BALLROOM EAST				
9:00am-9:30am	GARY S. REITER, MD, AND ANDREW KAPLAN, MD, MEMORIAL LECTURE: Ending AIDS: Considering the Human Element Robert Remien, PhD			
9:30am-10:00am	PLENARY SESSION: New Directions in HIV Treatment: Implications for Antiretroviral Therapy Adherence Benjamin Young, MD, PhD			
10:00am-11:00am	Panel Discussion: Put Us in the Driver's Seat: Community Perspectives on User-Driven HIV Care Moderator: Moisés Agosto-Rosario Panelists: Darius Massie; LaTrischa Miles; Joey Wynn			
11:00am-11:30am	Break/Transition			
TIME	ACTIVITY	GRAND BALLROOM EAST	REGENCY 2	REGENCY 3
11:30am-12:30pm	Thematic Oral Abstract Sessions	SESSION 7 Making the Strategy a Reality: PrEP in the USA	SESSION 8 Adherence Approaches and Interventions	SESSION 9 Care Coordination and Navigation Across the Care Continuum
12:30pm-2:00pm	Lunch			
2:00pm-3:00pm	Thematic Oral Abstract Sessions	SESSION 10 PrEP Monitoring and Tracking at the Individual and Population Level	SESSION 11 New Insights in ART Adherence Monitoring in Vulnerable Populations	SESSION 12 Healthcare System and Theory-Informed "Adherence"
3:00pm-3:15pm	Break/Transition			
OPTIMIZING THE HIV PREVENTION CONTINUUM • GRAND BALLROOM EAST				
3:15pm-3:45pm	PLENARY SESSION: Paradigm Shift(ing): When Treatment is Prevention, What Then Do We Mean by Prevention? Jeremiah Johnson			
3:45pm-4:15pm	PLENARY SESSION: PrEP 2016: What Will It Take to Generate Demand, Increase Access, and Accelerate Uptake? Kenneth Mayer, MD			
4:15pm-5:15pm	PANEL DISCUSSION: Sex-Positive Dialogue and Comprehensive HIV Prevention: A Packaged Deal Moderator: K. Rivet Amico, PhD Panelists: Maureen Connolly, MD; Dázon Dixon Diallo, MPH, DHL; Kenneth Ngure, PhD, MSc; Robert Remien, PhD			
5:15pm-5:30pm	Break/Transition			
TIME	ACTIVITY	LOCATION		
5:30pm-6:30pm	Poster Session & Exhibit Session	GRAND BALLROOM WEST		
6:30pm	Adjourn			



WEDNESDAY, MAY 11, 2016

PROGRAM SCHEDULE

TIME	ACTIVITY			
7:30am-8:45am	PRE-CONFERENCE BREAKFAST SESSION: Enhancing Retention in HIV Care: A State-of-the-Art Intervention George Butchko			
LEAVING NO ONE BEHIND • GRAND BALLROOM EAST				
9:00am-10:00am	MARIO S. COOPER MEMORIAL COLLOQUIUM: The Quest for Dignity, Equity, and Rights for HIV-Affected Communities Phill Wilson; Anna Zakowicz, MI, MPH			
10:00am-10:30am	PLENARY SESSION: HIV Criminalization: Progress, Challenges, and Perils along a Slippery Slope Catherine Hanssens, JD			
10:30am-11:00am	PLENARY SESSION: HIV-Related Discrimination and Stigma: How Do We Get to Zero? Jason Sigurdson, MPA, LLB			
11:00am-Noon	THREE TOP-RATED ORAL ABSTRACTS			
Noon - 12:15pm	Break/Transition			
TIME	ACTIVITY	GRAND BALLROOM EAST	REGENCY 2	REGENCY 3
12:15pm-1:15pm	Thematic Oral Abstract Sessions	SESSION 13 Treatment Adherence and Epidemiology	SESSION 14 ART Initiation, Persistence, and Adherence at a US Population Level	SESSION 15 Correlates and Predictors of Retention in Care
1:15pm-2:45pm	Lunch			
TIME	ACTIVITY	GRAND BALLROOM EAST	REGENCY 2	REGENCY 3
2:45pm-3:45pm	Late-Breaker Oral Abstract Sessions	SESSION 1 Prevention and Treatment Continuum Potpourri	SESSION 2 Perceptions and Daily Experiences with ART	SESSION 3 Data to Care (D2C): “Real-World” Lessons Learned
3:45pm-4:00pm	Break/Transition			
ENDING AIDS AS A PUBLIC HEALTH THREAT • GRAND BALLROOM EAST				
4:00pm-4:30pm	PLENARY SESSION: The Devil’s in the Details: What Do We Mean by Ending AIDS as a Public Health Threat? Julio Montaner, MD			
4:30pm-5:30pm	PANEL DISCUSSION: Through a Wide Angle Lens: Perspectives on Ending AIDS as a Public Health Threat Moderator: K. Rivet Amico, PhD Panelists: Ambassador Deborah L. Bix, MD; Julio Montaner, MD; José M. Zuniga, PhD, MPH			
5:30pm-6:00pm	RAPPOREUR SESSION: Highlights from Adherence 2016 Michael J. Stirratt, PhD			
6:00pm	Adjourn			



MONDAY, MAY 9, 2016

ORAL ABSTRACTS SCHEDULE

THEMATIC ORAL ABSTRACT SESSIONS

SESSION 1

PrEP: Prescribing and Adherence Support

11:45 A.M. – 12:45 P.M. / Grand Ballroom East
Moderator: Kenneth Mayer, MD

- 200** Adverse Implications of Heterosexism for PrEP Clinical Decision-Making and Considerations Regarding Provider Education
Sarah Calabrese presenting
- 84** Associations with PrEP Prescribing and Adherence to Clinical Guidelines Among New York City Providers, 2015-2016
Paul Salcuni presenting
- 140** HIV Pre-Exposure Prophylaxis Continuum of Care in Patients Presenting to an Urban STD Clinic
Grace Marx presenting
- 130** The Important Role of the PrEP Specialist in a Multidisciplinary Team Approach to PrEP at a Community Health Center
Sally Holt presenting

SESSION 2

Social and Structural Determinants Across the “Adherence” Spectrum

11:45 A.M. – 12:45 P.M. / Regency 2
Moderator: Celso Ramos, MD

- 90** Adherence to PrEP among HIV-Negative Women Attempting Conception with HIV-Positive Male Partners in the US
Erika Aaron presenting
- 155** Socio-Structural and Psychosocial Factors Associated with Antiretroviral Therapy Adherence by Gender in British Columbia, Canada
Cathy Puskas presenting
- 29** Factors Associated with Medical Care Engagement, ART Adherence, and Viral Suppression among Persons Living with HIV Infection (PLH) in St. Petersburg, Russia
Jeffrey Kelly presenting
- 19** Age Differences in Viral Suppression, ART Use, and Adherence among HIV-Positive MSM Receiving Medical Care in the United States, Medical Monitoring Project, 2009-2013
Nicholas DeGroot presenting

SESSION 3

Structural Programs to Promote Adherence to Care and ART

11:45 A.M. – 12:45 P.M. / Regency 3
Moderator: Amanda Castel, MD, MPH

- 146** Improved Adherence to Care and Treatment for People Living with HIV and Participating in a Comprehensive Nutrition Food Support Program in the San Francisco Bay Area: A Longitudinal Qualitative Study
Lee Lemus Hufstetler presenting
- 25** PLWHA Who Delay, Decline, or Discontinue ART: A Mixed Methods Study to Understand the Mechanisms of Action of a New Efficacious Intervention to Increase ART Initiation
Marya Gwadz presenting
- 24** Stable Housing Placement and Viral Suppression after Rapid Rehousing for Homeless Persons with HIV: Data for Action from the Enhanced Housing Placement Assistance (EHPA) Randomized Controlled Trial in New York City
Ellen Wiewel presenting
- 125** The MAX Clinic: A Structural Healthcare Systems Intervention Designed to Engage the Hardest-to-Reach Persons Living with HIV/AIDS
Julia Dombrowski presenting

SESSION 4

PrEP Perceptions: Access, Uptake and (Dis)use

4:30 P.M. – 5:30 P.M. / Grand Ballroom East
Moderator: Carmen Zorrilla, MD

- 66** Changing Attitudes to PrEP Among Sexually Risky Men who have Sex with Men
Conall O’Cleirigh presenting
- 118** Why I Quit: A Mixed Methods Examination of the Reasons Gay and Bisexual Men Give for Stopping a PrEP Regimen
Thomas Whitfield presenting
- 101** Healthcare Access and PrEP Continuation in San Francisco and Miami Following the US PrEP Demo Project
Susanne Doblecki-Lewis presenting
- 44** “I am Happy to Take PrEP so that She Does Not Feel Alone”: Integrated Delivery of PrEP and ART Facilitates ART Initiation and Adherence
Emily Pisarski presenting

SESSION 5

Leveraging Technology to Promote ART Adherence and Treatment Success

4:30 P.M. – 5:30 P.M. / Regency 2
Moderator: Benjamin Young, MD, PhD

- 32** An iPhone App/Game Improves ART Adherence and Increases Condom Use
Laura Whiteley presenting
- 95** Utilizing Real-Time Adherence Monitoring Devices Among HIV-Positive Pregnant and Postpartum Women: Challenges Encountered in the Uganda WiseMama Study
Mary Bachman DeSilva presenting
- 56** Real-Time Adherence Monitoring with Follow-up Improves Adherence Compared to Electronic Monitoring Alone: A Quasi-Experimental Analysis
Jessica Haberer presenting
- 163** A Telemedicine-Delivered Cognitive Behavioral Therapy for Adherence and Depression (CBT-AD) in HIV-Infected women in the Deep South
Mirjam-Colette Kempf presenting

SESSION 6

Linkage to Care Across Contexts and Cultures

4:30 P.M. – 5:30 P.M. / Regency 3
Moderator: Evelyn Ullah, BSN, MSW

- 160** Improvements in HIV-Related Outcomes Among Homeless HIV Patients Using an Intensive Trauma-Informed-Care-Based Intervention
Jessica Davila presenting
- 92** Costs and Consequences of HIV Linkage-to-Care Strategies Implemented in Urban and Rural South African Settings
Kristen Little presenting
- 151** Identifying MSM and Transgender Women who Have Poor Linkage to HIV Care in Lima, Peru
Angela Primbas presenting
- 168** Higher Levels of Internalized HIV Stigma at Clinic Intake Paradoxically Predict More Successful Linkage to Primary Care
Katerina Christopoulos presenting



TUESDAY, MAY 10, 2016

THEMATIC ORAL ABSTRACT SESSIONS

SESSION 7

Making the Strategy a Reality: PrEP in the USA

11:30 A.M. – 12:30 P.M. / Grand Ballroom East
Moderator: Thomas P. Giordano, MD, MPH

- 104** PrEP Uptake Among Cisgender Women at an Urban, Community-Based STI Clinic
Oni Blackstock presenting
- 211** Uptake of Pre-exposure Prophylaxis (PrEP) in Young Men Who Have Sex with Men is Associated with Race, Sexual Risk Behavior and Network Size
Lisa Kuhns presenting
- 161** Enhancing PrEP Access for Black and Latino Men Who Have Sex with Men
Corina Lelutiu-Weinberger presenting
- 128** Expanding PrEP Implementation as a Key Initiative of the Getting to Zero (GTZ) Consortium in San Francisco
Albert Liu presenting

SESSION 8

Adherence Approaches and Interventions

11:30 A.M. – 12:30 P.M. / Regency 2
Moderator: Tia Morton, RN, MS

- 18** A Randomized Controlled Trial of Rise, a Culturally Tailored Behavioral Adherence Intervention for African Americans Living with HIV
Laura M. Bogart presenting
- 117** Testing the Health Care Empowerment Model Among Persons Living with HIV for Medication Adherence
Jacob van den Berg presenting
- 100** “We’re Not Just HIV Infection”: Promoting Antiretroviral Adherence Among HIV-Positive Women through a Group Clinical Visit Intervention
Oni Blackstock presenting
- 173** Survival Needs and ART Adherence among Young HIV-Infected MSM of Color in Oakland
Janet Myers presenting

SESSION 9

Care Coordination and Navigation Across the Care Continuum

11:30 A.M. – 12:30 P.M. / Regency 3
Moderator: Jorge Saavedra, MD

- 48** A Comparison Group Analysis Aimed at Assessing HIV Care Coordination Program Effectiveness
Denis Nash presenting
- 86** The Impact of Patient Navigation Services for HIV-Positive Individuals on Retention in HIV Care and Viral Suppression in Virginia
Lauren Yerkes presenting
- 88** Integrating the ONE CALL Statewide HIV CALL Center: An Innovative Approach to Linkage and Re-engagement for HIV Care
Tyffany Evans Coleman presenting
- 61** Medication Adherence Self-Efficacy mediates the impact of Patient Navigation + Contingency Management on HIV Viral Suppression
Daniel Feaster presenting

SESSION 10

PrEP Monitoring and Tracking at the Individual and Population Level

2:00 P.M. – 3:00 P.M. / Grand Ballroom East
Moderator: Jennifer Cocohoba, PharmD, MAS

- 78** Prevention-Effective Adherence per Short Message Service (SMS) Surveys within a Demonstration Project of Pre-Exposure Prophylaxis (PrEP) among HIV Serodiscordant Couples in East Africa
Jessica Haberer presenting
- 22** Prospective Use of Urine Tenofovir Assay to Monitor Adherence to PrEP
Helen Koenig presenting
- 54** Short Message Service (SMS) Surveys Assessing Pre-Exposure Prophylaxis (PrEP) Adherence and Sexual Behavior are Highly Acceptable among HIV-Uninfected Members of Serodiscordant Couples in East Africa
Timothy R. Muwonge presenting
- 71** Adapting National Estimates of Populations at Risk for HIV to Calculate the Number of Persons with Indications for PrEP at the State Level
Jennifer Donnelly presenting

SESSION 11

New Insights in ART Adherence Monitoring in Vulnerable Populations

2:00 P.M. – 3:00 P.M. / Regency 2
Moderator: Ira Wilson, MD, MSC

- 62** Pharmacy Refill Data are Poor Predictors of Virologic Treatment Failure in Adolescents
Elizabeth Lowenthal presenting
- 73** A Self-Reported Adherence Measure to Screen for Elevated HIV Viral Load in Pregnant and Postpartum Women on Antiretroviral Therapy
Tamsin Phillips presenting
- 79** Use of Unannounced Telephone Pill Counts to Measure Medication Adherence among Perinatally HIV-infected Young Adults
Jeannette Raymond presenting
- 137** Daily Text Message Responses as Compared to Retrospective Self Report of Antiretroviral Adherence among HIV-Infected Methamphetamine Users
David Moore presenting

SESSION 12

Healthcare System and Theory-Informed “Adherence”

2:00 P.M. – 3:00 P.M. / Regency 3
Moderator: Michal J. Mugavero, MD, MHS

- 16** Increasing Antiretroviral Therapy Initiation Among Those Who Have Delayed, Declined, or Discontinued Medication: Applying Critical Race Theory to Understand Barriers and Inform Intervention Strategies
Marya Gwadz presenting
- 67** Atmosphere of Risk or Family-Like Support?: Alternative Patient Experiences of Decentralized Care in North Central Nigeria
Grace Kolawole presenting
- 207** HIV-Related Stigma in Healthcare Settings and Health Outcomes among People Living with HIV
Whitney Smith presenting

ORAL ABSTRACTS SCHEDULE



WEDNESDAY, MAY 11, 2016

ORAL ABSTRACTS SCHEDULE

THREE TOP-RATED ORAL ABSTRACTS

11:00 A.M. – Noon / Grand Ballroom East • Moderator: K. Rivet Amico, PhD

- | | | |
|--|--|---|
| <p>2 Increases in ART Use and Viral Suppression among HIV-Infected Young Adults in the United States, 2009-2013
Linda Beer presenting</p> | <p>80 Prevention-Effective Adherence in a Demonstration Project of Pre-Exposure Prophylaxis (PrEP) among HIV Serodiscordant Couples in East Africa
Jessica Haberer presenting</p> | <p>99 A Randomized Controlled Trial of an Intervention to Maintain Suppression of HIV Viremia Following Prison Release through Linkage to Community Care: The imPACT Trial
David Wohl presenting</p> |
|--|--|---|

THEMATIC ORAL ABSTRACT SESSIONS

SESSION 13

Treatment Adherence and Epidemiology

12:15 P.M. – 1:15 P.M. / Grand Ballroom East
Moderator: Heidi Crane, MD, MPH

- 141** A 5-item HIV-Affect Management Scale (H-AMS): Evaluating a Novel Theory-Based Construct Situated to HIV Treatment Adherence Contexts
Laramie Smith presenting
- 15** Retention in Care Services among HIV Primary Care Providers in the United States – National HIV Provider Survey, 2013-2014
Jason A. Craw presenting
- 159** High Mortality and Low Rates of Long Term Engagement in Care Following Delivery Among HIV infected Women in Mississippi
Aadia Rana presenting
- 11** Inpatient Hospitalizations among People with HIV/AIDS in New York City, 2013
Rachael Lazar presenting

SESSION 14

ART Initiation, Persistence, and Adherence at a US Population Level

12:15 P.M. – 1:15 P.M. / Regency 2
Moderator: Eugene McCray, MD, MPH

- 103** Implementation of Antiretroviral Therapy Improved between 2001 and 2010 in the US: Population Level Data from the Medicaid Beneficiaries in the 13 States with the Greatest HIV Prevalence
Bora Youn presenting
- 105** Persistence with Antiretroviral Therapy Improved between 2001 and 2010 in the US: Population Level Data from the Medicaid Beneficiaries in the 13 States with the Greatest HIV Prevalence
Bora Youn presenting
- 208** Nonadherence and Unsuppressed Viral Load across Stages of Adolescent Development in US Youth with Perinatally Acquired HIV in the Pediatric HIV/AIDS Cohort Study: A Longitudinal Analysis
Deborah Kacanek presenting

SESSION 15

Correlates and Predictors of Retention in Care

12:15 P.M. – 1:15 P.M. / Regency 3
Moderator: Kenneth Ngunjiri, PhD, MSc

- 136** Cars, Chaos and Grief: Women of Color Report Reasons for Missed HIV Care Visits
Anna Finestone LeViere presenting
- 204** The Effect of Depression on Missed HIV Medical Visits among Patients in the CFAR Network of Integrated Systems (CNICS) Cohort in the United States
Brian Pence presenting
- 201** Who Will Show? Predicting Missed Visits in the CFAR Network of Integrated Systems (CNICS) Cohort of Patients in HIV Care in the United States
Brian Pence presenting
- 177** Predictors of Retention in HIV Care and HIV Viral Load Suppression One Year after Being Hospitalized while Out of HIV Care
Thomas Giordano presenting



WEDNESDAY, MAY 11, 2016 (Continued)

LATE-BREAKER ORAL ABSTRACT SESSIONS

SESSION 1

Prevention and Treatment Continuum Potpourri

2:45 P.M. – 3:45 P.M. / Grand Ballroom East
Moderator: Michael J. Stirratt, PhD

- 169** PrEP and Sexual Health Services for Young Urban Men who have Sex with Men
Janet Myers presenting
- 158** Testing and Linkage to Care for People Who Inject Drugs (PWID) in Kenya: Challenges and Successes
John Lizcano presenting
- 77** Seek, Test, Treat, and Retain (STTR) for People Who Inject Drugs (PWID) in Kenya: An Update of this Stepped Wedge Study
John Lizcano presenting
- 156** Substance Use and the HIV Care Cascade: Findings from an HIV Community-Based Test and Treat Initiative
Laramie Smith presenting

SESSION 2

Perceptions and Daily Experiences with ART

2:45 P.M. – 3:45 P.M. / Regency 2
Moderator: Jeffrey Schouten, MD, JD

- 3** Participants' Perceived Barriers to Adherence vs Empirically Based Barriers to Adherence: Do they Agree?
John Saucedo presenting
- 5** Participants' Perceived Barriers to Adherence vs Empirically Based Barriers to Adherence: Do they Differ by Age and Race and Ethnicity?
John Saucedo presenting
- 50** Would HIV-Positive MSM Use a Home Viral Load Test?
Sabina Hirshfield presenting
- 89** The Critical Influence of Daily Experiences of Internalized HIV Stigma on Medication Non-Adherence for HIV-Positive Gay and Bisexual Men
H. Jonathon Rendina presenting

SESSION 3

Data to Care (D2C): "Real-World" Lessons Learned

2:45 P.M. – 3:45 P.M. / Regency 3
Moderator: Reuben Granich, MD, MPH

- 127** Lessons Learned in the Provision of Technical Assistance to Health Departments on Using HIV Surveillance Data to Improve the HIV Care Continuum
Kathleen Ruth presenting
- 190** New York City's Efforts to Make Data to Care More Efficient: Lessons for Other Jurisdictions
Shakara Brown presenting
- 180** Identifying Out-of-Care Key Populations in Tijuana, Mexico: A Comparison of Data-to-Care and More Traditional Methods
Laramie Smith presenting

ORAL ABSTRACTS SCHEDULE



2 Increases in ART Use and Viral Suppression among HIV-Infected Young Adults in the United States, 2009-2013

Linda Beer (presenting), Christine Mattson, Heather Bradley, R. Luke Shouse

US Centers for Disease Control and Prevention, Atlanta, GA, USA

Background: HIV-infected young adults are less likely than older adults to take antiretroviral therapy (ART), be adherent, and be virally suppressed. Current HIV treatment guidelines now recommend universal prescription of ART and simpler, more tolerable regimens have been developed. Efforts to engage young adults in care have also received renewed focus. Whether these changes have been accompanied by increased ART prescription, adherence, and care utilization, and whether this has contributed to improvements in viral suppression, is unknown.

Methods: The Medical Monitoring Project (MMP) is a surveillance system designed to produce representative estimates of HIV-infected adults receiving medical care in the United States. Using weighted MMP data from 636 young adults (aged 18-24) collected 6/2009-5/2014, we analyzed temporal trends in viral suppression (all viral loads in past year).

Results: From 2009 to 2013, viral suppression among young adults increased from 29% to 46% ($\beta = 0.05$, $P_{\text{TREND}} = 0.01$). Accounting for ART prescription somewhat attenuated the viral suppression trend ($\beta = 0.04$, $P_{\text{TREND}} = 0.02$). There was no significant trend in adherence or care utilization among young adults over the time period (range 70-82% and 69-74%, respectively).

Conclusion: We found significant increases in viral suppression among HIV-infected young adults in care, which may be partially attributable to increases in ART prescription. Implementation of effective strategies to improve adherence in this population may be warranted, as we did not see significant increases in adherence over the observation period. Nevertheless, our results suggest there may be cause for optimism regarding efforts to improve outcomes for this vulnerable population.

3 Participants' Perceived Barriers to Adherence vs Empirically Based Barriers to Adherence: Do They Agree?

John Saucedo (presenting)¹, Torsten Neilands², Mallory Johnson², Parya Saberi²

¹ Center for AIDS Prevention Studies, San Francisco, CA, USA

² University of California, San Francisco, CA, USA

Background: "Simply forgetting" to take antiretroviral therapy (ART) is a commonly self-reported adherence barrier and thus addressed in adherence-promoting interventions. We evaluated whether "simply forgetting" is as important as other barriers to adherence by assessing the relative importance of multiple barriers in the prediction of four-day ART treatment interruption.

Methods: This cross-sectional study analyzed data from HIV-positive adults using an online survey advertised on social media (e.g., Facebook) to investigate barriers to adherence and mobile technologies. The survey assessed self-reported four-day treatment interruptions (0 versus at least 1 in the past three months), viral load (undetectable vs. detectable) and barriers to ART adherence using the ACTG Adherence Barrier Questionnaire plus six psychosocial barriers and demographics. Dominance analysis is a regression-based pairwise approach that tests all possible combinations of barrier comparisons. Each barrier is compared to one another in their unique contribution to the prediction of a treatment interruption, which results in a ranking of dominance weights (i.e., importance).

Results: The sample ($N = 1,217$) was largely male, gay identified, non-Latino White and college educated. Simply forgetting was the most commonly cited reason for ART non-adherence (19%, $n = 232$). However, the resulting dominance analysis found that in prediction of treatment interruption, sleeping through doses, feeling depressed, day-to-day life events, drinking alcohol and using drugs, and wanting to avoid side-effects were more important than simply forgetting. Of these, feeling depressed yielded the largest effect size ($OR = 2.6$, $p < 0.01$) on treatment interruption. Treatment interruption was in turn associated with VL status ($OR = 1.16$, $p < 0.05$).

Conclusion: Identifying the most important barriers to ART adherence is critical to optimizing HIV treatment and overcoming the limitations of adherence interventions that include small effect sizes and benefits that dissipate over time. These data support the call to improve mental health and substance use treatment as a vehicle to improve adherence.



5 Participants' Perceived Barriers to Adherence vs Empirically Based Barriers to Adherence: Do They Differ by Age and Race and Ethnicity?

John Saucedo (presenting), Torsten Neilands, Mallory Johnson, Parya Saberi

University of California, San Francisco, CA, USA

Background: Barriers to ART adherence are extensively studied, yet little is known about whether the most important barriers vary based on a person's age or race and ethnicity. We used an empirically based analytic approach to examine the importance of barriers stratifying by age and race and ethnicity.

Methods: This cross-sectional study analyzed data from HIV-positive adults using an online survey advertised on social media to investigate barriers to adherence and mobile technologies. The survey assessed self-reported four-day treatment interruptions (0 versus at least 1 in the past three months), viral load (undetectable vs. detectable) and the ACTG Adherence Barrier Questionnaire plus six psychosocial barriers and demographics. Dominance analysis is a regression-based pairwise approach that tests all possible combinations of barrier comparisons. Each barrier is compared to one another in their unique contribution to the prediction of a treatment interruption, which results in a ranking of dominance weights (i.e., importance).

Results: The barriers to adherence were examined by race and ethnicity: White (n = 929), Latino (n = 148), and Black adults (n = 110), and then age groups: young (18-29 years), middle-age (30-49 years), and older adults (>50 years). The single most important adherence barrier (based on the size of dominance weights) differed by groupings: *day-to-day life events* for Whites, *sleeping through doses* for Latinos, and *drinking alcohol or using drugs* for African Americans. The single most important barrier for young adults was *drinking alcohol or using drugs*. For middle-aged adults it was *feeling depressed/overwhelmed*, and for older adults it was *sleeping through doses*.

Conclusion: It is critical to understand how barriers to adherence vary based on the target population characteristics. The data found that forgetfulness does not appear to be a major barrier, while mental health and substance use-related barriers were very important. Thus, adherence interventions must address mental health problems to improve their efficacy.

11 Inpatient Hospitalizations among People with HIV/AIDS in New York City, 2013

Rachael Lazar (presenting), Sarah Braunstein, Laura Kersanske

New York City Department of Health and Mental Hygiene, New York, NY, USA

Background: New York City (NYC) HIV surveillance monitors the clinical status of people with HIV/AIDS (PWA) via HIV-related laboratory test reporting. New York's Statewide Planning and Research Cooperative System (SPARCS) maintains discharge records for all hospitalized patients. Linking SPARCS hospitalization data with NYC HIV surveillance allowed for characterization of PWA receiving inpatient care and reasons for hospitalization among PWA.

Methods: Patient-level data from HIV surveillance were deterministically matched to 2013 SPARCS records for NYC inpatient hospitals. The matched dataset included 27,049 hospitalization events for 16,648 PWA alive as of 1/1/2013 and diagnosed as of 12/31/2013. Patient- and event-level data were analyzed to determine characteristics of hospitalized PWA and reasons for hospitalizations. Principal diagnoses were classified using International Classification of Diseases, Ninth Revision, Clinical Modification codes.

Results: Hospitalized NYC PWA were mostly male (63%), Black (49%) or Latino/Hispanic (38%), living in higher poverty areas (69%), and diagnosed with AIDS (72%). Compared with all NYC PWA, hospitalized PWA were more likely to be female (37% vs 28%), ages 50 and older (56% vs 48%), Black or Latino/Hispanic (87% vs 77%), living in a very high poverty area (37% vs 27%), have a history of injection drug use (26% vs 17%), and be diagnosed with AIDS (72% vs 59%). Non-HIV/AIDS principal diagnoses were assigned to 86% of hospitalized PWA. The proportion of all hospitalized PWA with at least one principal diagnosis of HIV was higher for Blacks, people with AIDS, and those living in very high poverty areas.

Conclusion: A match between NYC HIV surveillance and state hospital records identified 16,648 NYC PWA hospitalized in 2013, an estimated 14% of all NYC PWA. Most were hospitalized for non-HIV/AIDS conditions. Certain demographic subgroups were overrepresented among hospitalized PWA with HIV principal diagnoses, indicating the need to improve access and engagement in HIV primary care.



15 Retention in Care Services among HIV Primary Care Providers in the United States – National HIV Provider Survey, 2013-2014

Jason A. Crow (presenting)¹, Heather Bradley¹, Garrett Gremel², Brady T. West³, Chris Duke², Linda Beer¹, John Weiser¹

¹ Centers for Disease Control and Prevention, Atlanta, GA, USA

² Altarum Institute, Ann Arbor, MI, USA

³ Survey Research Center, University of Michigan, Ann Arbor, MI, USA

Background: The International Association of Providers of AIDS Care (IAPAC) and federal agencies have recently issued guidelines emphasizing the importance of HIV care providers offering recommended services to increase the proportion of patients retained in care. However, data are lacking on the extent to which providers offer recommended retention services.

Methods: Data were collected in 2013-2014 from 1,234 HIV care providers (64% response rate) in facilities sampled for the Medical Monitoring Project (MMP), a national probability survey of HIV-infected adults in care. We estimated weighted percentages of HIV care providers who offered five retention services within their practice and conducted stratified analyses by facility/practice characteristics. We also estimated weighted percentages of providers' perceived barriers to HIV care among their patients. Data were weighted for unequal selection probabilities and non-response.

Results: Of 1,234 providers surveyed, 21% (95% confidence interval: 15-26%) practiced at facilities that provided all five retention services: 96% reinforced importance of follow-up visits, 89% provided appointment reminders, 82% performed missed visit follow-up, 53% used systematic monitoring of retention, and 33% offered patient navigation services. Fifty-five percent offered four or more and 84% offered three or more retention services. Providers at smaller (400), private, and non-Ryan White HIV/AIDS Program (RWHAP)-funded practices, and those without onsite case management were less likely to provide patient navigation services or do systematic monitoring of retention. Providers' most commonly perceived barriers to care among patients were mental health (40%), substance abuse (36%), and transportation problems (34%).

Conclusion: Our findings suggest considerable room for improvement in adopting recommended retention services, particularly for conducting systematic monitoring of retention and delivering patient navigation services. Increased dissemination of tools facilitating uptake of recommended services may particularly be needed in facilities that have fewer patients, are private, and lack RWHAP funding or onsite case management.

16 Increasing Antiretroviral Therapy Initiation among those who have Delayed, Declined, or Discontinued Medication: Applying Critical Race Theory to Understand Barriers and Inform Intervention Strategies

Marya Gwadz (presenting)¹, Elizabeth Silverman², Robert Freeman, Alexandra Kutnick³, Sylvie Honig¹, Amanda Ritchie¹, Rebecca de Guzman, Noelle Leonard¹, Charles Cleland⁴

¹ New York University College of Nursing, New York, NY, USA

² Hunter College School of Social Work, New York, NY, USA

³ New York University Center for Drug Use & HIV Research, New York, NY, USA

⁴ New York University, New York, NY, USA

Background: Almost half of persons living with HIV (PLHA) delay, decline, or discontinue antiretroviral therapy (ART), mainly low-income African Americans/Blacks and Latinos/Hispanics (referred to as "PLHA of color"). The present qualitative study applies Critical Race Theory to unpack barriers to and facilitators of ART initiation with sustained good adherence.

Methods: Adult PLHA not taking ART (N = 37; 78% African American/Black) were purposively sampled for maximum variation on HIV indices from a larger intervention study. Participants completed audio-recorded semi-structured interviews guided by a multi-level social-cognitive theory. Transcripts were analyzed using systematic content analysis.

Results: Barriers to ART emerge from a historical and cultural context, most importantly past abuses of people of color by the medical/research system and present-day structural racism. This context serves as a filter for PLHA's understanding of ART, by contributing to medical distrust and "conspiracy beliefs." Fear of side effects, a common barrier, is often interpreted as evidence that ART is toxic. Older PLHA and those diagnosed before protease inhibitors have the greatest psychosocial barriers to ART, due in part to attitudes and norms shaped in an era of less-effective regimens. Relationships with health care providers have both positive and negative aspects. Providers are experienced as pressuring patients to take ART, which has a counter-productive effect on ART initiation. Factors fostering motivation to initiate ART included a non-judgmental stance, support of autonomy, acknowledgement of legitimate reasons to decline ART and barriers common to PLHA of color, providing time to process the meaning/emotional significance of ART, addressing substance use, incorporating peer role models, and assistance overcoming structural barriers to care.

Conclusion: Barriers to ART emerge from, and are experienced in, a historical and cultural context. The perspectives of PLHA of color regarding the multi-level factors driving this public health problem, and their solutions, can improve interventions for this important subgroup.



18 A Randomized Controlled Trial of Rise, a Culturally Tailored Behavioral Adherence Intervention for African-Americans Living with HIV

Laura M. Bogart (presenting)¹, Matt G. Mutchler², Bryce McDavitt³, David J. Klein¹, William E. Cunningham⁴, Kathy Goggin⁵, Sean Lawrence², Nikki Rachal⁶, Kelsey Nogg⁷, Glenn J. Wagner¹

¹ RAND Corporation, Santa Monica, CA, USA

² California State University Dominguez Hills, CA, USA

³ University of Southern California, Los Angeles, CA, USA

⁴ University of California Los Angeles, CA, USA

⁵ University of Missouri, Kansas City, MO, USA

⁶ AIDS Healthcare Foundation, Los Angeles, CA, USA

⁷ AIDS Project Los Angeles, CA, USA

Background: HIV-positive African Americans have lower adherence to antiretroviral therapy (ART) and worse health outcomes than individuals of other races/ethnicities, yet adherence interventions have rarely been tailored to the needs of this population. We conducted a randomized controlled trial of Rise, a manualized treatment education adherence intervention that was culturally tailored to address the needs of African-Americans living with HIV.

Methods: A total of 216 participants were recruited through community-based organizations and clinics via presentations of the study to staff and clients, flyers, provider referrals, and radio and print advertisements. Eligibility criteria included: (1) age ≥ 18 years, (2) self-identification as African American/Black, (3) prescribed ART, and (4) reported missing ≥ 1 dose in the past month. Participants were randomized to the Rise intervention or to a usual-care control condition. Rise consisted of 6-10 individual counseling sessions over 6 months, with more sessions provided to those who showed lower adherence. The counselor worked with clients to overcome culturally relevant adherence barriers (e.g., stigma, medical mistrust). Adherence was monitored with electronic Medication Event Monitoring System (MEMS) caps. Surveys were administered at baseline and month 6.

Results: After accounting for attrition (19%), the final sample was 174 (86 intervention, 85 control; 73% men). In logistic regressions predicting adherence (at least 85% of doses taken) with baseline self-reported adherence and socio-demographic covariates, we found superior adherence among Rise participants (versus controls) at months 3 (OR = 2.27, $p = .02$), 4.5 (OR = 2.56, $p = .009$), and 6 (OR = 3.91, $p = .0005$). Based on all four follow-ups, the overall likelihood of adherence over time was greater in the intervention group (OR = 2.26, $p = .02$).

Conclusion: Rise was very effective in improving adherence, providing community-based organizations with a culturally tailored intervention that promotes optimal adherence among African Americans.

19 Age Differences in Viral Suppression, ART Use, and Adherence among HIV-Positive MSM Receiving Medical Care in the United States, Medical Monitoring Project, 2009-2013

Nicholas DeGroot (presenting), Linda Beer, Christine Mattson, Joseph Prejean

US Centers for Disease Control and Prevention, Atlanta, GA, USA

Background: To ensure optimal health and decrease the likelihood of HIV transmission, it is essential that HIV-infected men who have sex with men (MSM) achieve viral suppression through antiretroviral therapy (ART) use and adherence. However, national estimates of these indicators are lacking, and differences between young and older HIV-infected MSM have not been fully explored.

Methods: We used Medical Monitoring Project data from 2009-2013 to estimate sustained viral suppression (all viral loads < 200 copies/mL, past 12 months), ART use, and adherence among 361 HIV-infected MSM aged 18-24 (YMSM) and 9,635 MSM aged 25 or older (OMSM). We then assessed how the association between MSM's characteristics and adherence differed by age (significance: $p < 0.05$).

Results: Sustained viral suppression was significantly lower among YMSM compared to OMSM (39% vs 72%). ART use and adherence among those taking ART were also significantly lower among YMSM compared to OMSM (ART use: 77% vs 94%, adherence: 77% vs 89%). YMSM were more likely than OMSM to report binge drinking, stimulant use, ART side effects, and lower ART self-efficacy. Binge drinking and stimulant use were significantly associated with adherence among OMSM, but not YMSM. Among YMSM, 75% of binge drinkers were adherent compared to 78% of others; these estimates were 84% and 90% among OMSM. Among YMSM, 79% of stimulant users were adherent compared to 76% of others; these estimates were 76% and 90% among OMSM. ART side effects and lower ART self-efficacy were associated with nonadherence among all MSM.

Conclusion: HIV-infected YMSM in medical care had significantly lower prevalence of viral suppression, ART use, and adherence compared to OMSM, supporting the need for continued efforts to improve the last steps in the HIV care continuum among this highly affected population. The association between substance use and nonadherence differed by age among MSM, suggesting that tailored adherence interventions may be beneficial.



22 Prospective Use of Urine Tenofovir Assay to Monitor Adherence to PrEP

Helen Koenig (presenting)¹, Linden Lalley-Chareczko¹, Ganesh Moorthy², Devon Clark¹, Caroline Sloan³, Pablo Tebas⁴, S. Caitlin Conyngham¹, Karam Mounzer¹, Giffin Daughtridge⁵, Athena Zupp², Jessica Sima²

¹ Philadelphia FIGHT, Philadelphia, PA, USA

² Children's Hospital of Philadelphia, PA, USA

³ Duke University, Durham, NC, USA

⁴ Hospital of the University of Pennsylvania, Philadelphia, PA, USA

⁵ Harvard Kennedy School of Government, Cambridge, MA, USA

Background: TDF/FTC (Truvada) is effective in HIV prevention when taken daily as pre-exposure prophylaxis (PrEP). Adherence is critical, but current measurements (self-report, plasma tenofovir) are inadequate to accurately assess adherence in a clinic setting. We developed and validated a urine assay to measure tenofovir (TFV) in HIV-negative subjects. Here we utilize this assay prospectively to assess adherence to PrEP in young men and transgender women of color who have sex with men.

Methods: We developed a semi-quantitative urine assay using liquid chromatography mass spectrometry with high sensitivity/specificity for TFV to determine TFV concentrations in log categories between <10 ng/ml to >10,000 ng/ml with a 24hr turn-around time. In a previous validation (Abstract 975, CROI 2015), urine TFV concentration >1,000 ng/ml was highly predictive of presence of TFV in plasma (>10 ng/ml) (PPV 0.88, 95%CI, 0.69-0.97; NPV 0.88, 95%CI, 0.47-0.99), suggesting that the assay could distinguish between recent adherence as defined by a dose of TDF within 48 hours (>1,000 ng/ml), low adherence as defined by some but not daily TDF in the last week (>10 to <1,000 ng/ml), and non-adherence as defined by last dose more than one week prior (<10 ng/ml). In this prospective cohort study, urine was collected every 2 or 4 weeks to assess adherence to PrEP among men and transgender women ages 18-30 who have sex with men.

Results: Fifty subjects were enrolled (Table 1); 47 had at least 1 urine sample collected, and 3 were recently enrolled and have yet to have their first sample collected. Some subjects have had only 1 sample collected while others have had up to 11 thus far. Urine samples were collected every 2 weeks (n = 19) or every 4 weeks (n = 28). Out of 46 subjects with a measurement at week 4, 37 (80.4%) had urine TFV concentrations consistent with consistent recent adherence, 7 (15.2%) had urine TFV concentrations suggestive of having taken some but not daily TDF/FTC in the previous week, and 2 (4.3%) had no TFV in their urine suggesting complete non-adherence in the previous week. Out of 36 subjects with a measurement at week 8, 31 (86.1%) had recently taken TDF/FTC, 2 (5.6%) had taken at least some but not daily TDF/FTC in the previous week, and 3 (8.3%) had not taken any TDF/FTC in the previous week.

Conclusion: Urine TFV testing allowed us to monitor adherence to PrEP in a community clinic setting among patients at very high risk of HIV, and to target adherence support interventions to those who could most benefit.

24 Stable Housing Placement and Viral Suppression after Rapid Rehousing for Homeless Persons with HIV: Data for Action from the Enhanced Housing Placement Assistance (EHPA) Randomized Controlled Trial in New York City

Vivian Towe¹, Ellen Wiewel (presenting)², Yaoyu Zhong², Rachel Johnson³, Laura McAllister Hollo², Joanne Hsu², Jesse Thomas⁴, John Rojas²

¹ RAND Corporation, Santa Monica, CA, USA

² New York City Department of Health and Mental Hygiene, New York, NY, USA

³ University of Washington, Seattle, WA, USA

⁴ RDE Systems, Clifton, NJ, USA

Background: Providing stable housing to unstably housed persons can be complex but reduces homelessness and improves HIV and other health outcomes. Rapid re-housing aims to connect people to stable (permanent supportive or independent) housing as quickly as possible and subsequently provide support services. Best practices for this approach are evolving. We randomized low-income homeless persons living with HIV (PLWH) and with high single-room-occupancy utilization in New York City (NYC) to either 1) Enhanced Housing Placement Assistance (EHPA), i.e., immediate assignment to a case manager to rapidly re-house the client and provide 12 months of case management or 2) usual services, i.e., referral to an NYC housing placement program for which all HIV emergency housing residents are eligible, and compared outcomes.

Methods: PLWH were recruited in 2012-2013 via door-to-door recruitment from 22 emergency housing facilities for single adults with HIV. Data came from baseline questionnaires, and the NYC HIV surveillance registry (for viral loads) and other administrative databases through 24 months post-enrollment. Chi-square assessed differences between study arms in baseline characteristics, Kaplan-Meier curves and Cox proportional hazards models in time from enrollment to stable housing placement, and repeated measures logistic regression in HIV viral suppression (viral load ≤ 200 copies/mL).

Results: Most study participants were male, Black or Hispanic, ≥ 40 years old, disabled or unemployed, and chronically homeless. EHPA clients were placed more quickly than usual-services clients ($p = 0.04$; 25% placed by 134 days vs. 238 days, respectively), had 49% higher rates of placement (adjusted hazards ratio [AHR] = 1.49, 95% confidence interval [CI]=1.02-2.18), and were twice as likely to achieve or maintain suppression between baseline and six months (adjusted odds ratio=1.96, 95% CI=1.06-3.63).

Conclusion: EHPA resulted in quicker housing placement and greater viral suppression than usual services. This suggests that rapid-rehousing with case management is better than standard housing placement assistance at achieving these outcomes among homeless adults.



25 PLWHA who Delay, Decline, or Discontinue ART: A Mixed Methods Study to Understand the Mechanisms of Action of a New Efficacious Intervention to Increase ART Initiation

Nadim Salomon¹, **Marya Gwadz (presenting)**², Charles Cleland², Noelle Leonard², Elizabeth Silverman³, Robert Freeman, Alexandra Kutnick², Amanda Ritchie², Rebecca de Guzman, Sylvie Honig²

¹ Mount Sinai Beth Israel, New York, NY, USA

² New York University, New York, NY, USA

³ Hunter College School of Social Work, New York, NY, USA

Background: Approximately half of persons living with HIV (PLWHA) delay, decline, or discontinue antiretroviral therapy (ART), mainly low-income African Americans/Blacks and Hispanics. Barriers to ART include fear of side effects and stigma, medical distrust, substance use, and mental health problems. We recently tested an intervention to increase ART uptake and adherence, which was found efficacious. The present study describes the intervention and explores its potential active ingredients and mechanisms of action using qualitative data, from the perspective of this vulnerable population.

Methods: Adult PLWHA of color (N = 95) not taking ART participated in a randomized controlled trial of a culturally targeted, individualized, multi-component behavioral intervention (3 individual sessions, support groups co-led by successful peers, navigation) guided by social-cognitive theory and using Motivational Interviewing, which produced significant changes in viral load levels over 8 months, with a large effect size. A proportion (N = 37; 78% African American/Black; 60% male; 60% of males gay/bisexual) was purposively sampled for maximum variation on HIV indices for qualitative in-depth interviews. Interview transcripts were analyzed using systematic content analysis.

Results: We found the intervention's active ingredients included: encouraging examination of reasons for not taking ART, without applying pressure or judgment (consistent with Motivational Interviewing); time to tackle powerful emotional barriers such as fear; support of autonomy/personal decisions; and unpacking barriers specific to PLHA of color. These elements were seen as largely missing from medical encounters. Further, exposure to successful peer role models and navigation to mental health/substance use treatment were beneficial. Because medical decision-making style and barriers to ART varied, the intervention's individualized approach had utility. Mechanisms of action included the emergence of durable, high-quality intrinsic motivation to initiate and sustain ART, and to address ancillary barriers.

Conclusion: The perspectives of PLHA of color on strategies to overcome barriers to ART uptake can improve interventions for this vulnerable population.

29 Factors Associated with Medical Care Engagement, ART Adherence, and Viral Suppression among Persons Living with HIV (PLHIV) in St. Petersburg, Russia

Yuri Amirkhanian¹, **Jeffrey Kelly (presenting)**¹, Anna Kuznetsova², Wayne DiFranceisco¹, Alexei Yakovlev², Timothy McAuliffe¹, Sergey Tarima¹, Anastasia Meylakhs²

¹ Medical College of Wisconsin, Milwaukee, WI, USA

² Botkin Hospital for Infectious Diseases, St. Petersburg, Russia

Background: More than 1 million HIV infections have been diagnosed in Russia. ART uptake in Russia is lower than in most other regions, fewer PLHIV are virally suppressed, AIDS-related mortality is high, and transmission continues to increase. This study recruited a community sample of PLHIV in St. Petersburg and examined factors associated with participants' viral suppression, recent medical care engagement, and ART adherence.

Methods: 241 PLHIV were recruited using a social network methodology in which HIV-positive "seeds" were located in community and online venues. Seeds then recruited their PLHIV friends into the study. Participants provided blood samples and completed behavioral measures assessing HIV treatment history, ART adherence, substance use, HIV treatment attitudes, and psychosocial distress. Multiple regression analyses used these variables to predict undetectable viral load (<75 copies/ml), ≥90% ART adherence in the past 30 days, and HIV medical visits in the past 6 months.

Results: 26% of participants were out of care, 18% on ART had suboptimal adherence, and 55% of the sample were not virally suppressed. Alcohol use, frequent drug injection, and younger age independently predicted not having a recent HIV medical care visit. ART nonadherence was predicted by more frequent drinking, lower state anxiety, and poorer medication-taking self-efficacy. Viral suppression was associated with older age, less frequent drinking, and a trend for females to more often be virally suppressed.

Conclusion: Russia's still-expanding HIV epidemic is driven by the high proportion of PLHIV with unsuppressed viral load. At an individual level, poor care engagement and adherence were strongly associated with substance (and particularly alcohol) use, especially among young men. Integrated HIV and effective substance abuse interventions are needed. At a structural and policy level, ART in Russia should begin upon diagnosis rather than awaiting CD4+ decline in order to improve clinical and public health outcomes.



32 An iPhone App/Game Improves ART Adherence and Increases Condom Use

Estefany Bologna¹, Trisha Arnold¹, Virginia Curtis², Lacey Craker², Laura Beauchamps¹, Leandro Mena³, Larry Brown², Laura Whiteley (presenting)²

¹ University of Mississippi Medical Center, Jackson, MI, USA

² Rhode Island Hospital, Providence, RI, USA

³ Mississippi State Department of Health, Jackson, MI, USA

Background: Despite the need for consistent adherence, youth and young adults living with HIV (YLWH) have suboptimal rates of adherence to antiretroviral treatment (ART). We have developed the first iPhone game to promote ART adherence among YLWH in the United States. The smartphone app/game includes content consistent with the Information-Motivation-Behavioral Skills (IMB) Model. While gaming, participants experience absorbing action-oriented adventures that increase information about their health (e.g. knowledge about ART and HIV), improve motivation (e.g. action-figures experience health benefits of adherence), and build skills (e.g. condom use). A smart pill bottle monitoring device (Wisepill) is integrated into the app/game to both measure adherence and enhance game play.

Methods: A small randomized controlled pilot study (12-week intervention and 4-week follow-up) among 36 participants on ART (mean age 22.1, 94% African American, 72% non-heterosexual, 100% sexually active, 28% played games every day) examined the preliminary efficacy of the gaming intervention compared to a comparison group on adherence, and HIV risk behavior.

Results: The IMB adherence intervention (integrating Wisepill adherence data with the IMB informed game), was well liked, and appealing. Compared to subjects in the control group (n = 18), participants in the IMB Gaming Intervention (n = 18) showed over the course of 16 weeks improved adherence to ART as measured by Wisepill (57% vs 43%, p < 0.05), and more frequent condom use (54% vs 27%, p = 0.08) at final follow-up.

Conclusion: An interactive, engaging, IMB-consistent, HIV-specific app/game can improve ART adherence and decrease HIV risk behaviors. The game can be played by participants on an iPhone and is appealing to YLWH with a wide range of gaming interest and experience.

44 “I am Happy to Take PrEP So that She Does Not Feel Alone”: Integrated Delivery of PrEP and ART Facilitates ART Initiation and Adherence

Edith Nakku-Joloba¹, Timothy Muwonge¹, Elly Katabira¹, Melanie Tam², Norma Ware², Monique Wyatt², Emily Pisarski (presenting)²

¹ Makerere University, Kampala, Uganda

² Harvard Medical School, Boston, MA, USA

Background: Delayed uptake of antiretroviral therapy (ART) represents a major obstacle to achieving the goals of universal test and treat and preventing new HIV infections. Innovative delivery strategies may facilitate ART initiation. The Partners Demonstration Project implemented an integrated strategy of delivering pre-exposure prophylaxis (PrEP) and ART to HIV serodiscordant couples. PrEP was offered to HIV-uninfected partners until viral suppression in the HIV-infected partner was achieved. We use qualitative data to explore how this strategy influenced ART initiation and adherence in HIV-infected partners.

Methods: Forty-eight serodiscordant couples from the Kampala, Uganda site of the Partners Demonstration Project took part in multiple, in-depth qualitative interviews. Interview topics included study experiences, experiences initiating and using ART and PrEP, and adherence. Interview data were examined for content, yielding insight into HIV-infected partners' experiences. Data were coded using Atlas.ti and organized into descriptive categories.

Results: The integrated strategy positioned serodiscordant couples to experience ART use together. Uptake of and adherence to ART for prevention and treatment were approached as a means of benefiting the dyad. Reasons for initiating ART reflected this. HIV-infected partners initiated ART in order to: (1) preserve their health; (2) add a prevention method for greater protection against HIV transmission; and (3) enable the HIV-uninfected partner to transition off PrEP. ART adherence strategies evidenced the same “couples-based” emphasis. When using antiretrovirals concurrently, couples chose the same dosing time, reminded each other to take pills and solved practical problems together. PrEP users drew on their own experience with antiretrovirals to empathize and provide emotional support when their partners faced adherence challenges. Shared circumstances created a sense of solidarity, helping HIV-infected partners sustain ART adherence.

Conclusion: An integrated strategy of PrEP and ART delivery for Ugandan serodiscordant couples facilitated initiation of and adherence to ART in HIV-infected partners in a number of ways.



48 A Comparison Group Analysis Aimed at Assessing HIV Care Coordination Program Effectiveness

Sarah Gorrell Kulkarni¹, Levi Waldron¹, Sarah Braunstein², Stephanie Chamberlin², McKaylee Robertson¹, Rebekkah Robbins², Denis Nash (presenting)¹, Mary Irvine²

¹ City University of New York, NY, USA

² New York City Department of Health & Mental Hygiene, New York, NY, USA

Background: The New York City (NYC) Ryan White HIV Care Coordination Program (CCP) applies multiple strategies to promote care and treatment engagement among persons at risk for suboptimal HIV outcomes. We compared engagement in care (EiC) and viral load suppression (VLS) among CCP enrollees (2009-2013) to EiC and VLS in a matched group of similar HIV patients.

Methods: We merged CCP enrollment data with NYC's HIV Surveillance Registry containing longitudinal laboratory (CD4 and viral load [VL]) test data and demographics on all persons receiving HIV care in NYC. After selecting a comparison group of non-CCP patients meeting CCP eligibility criteria, we randomly assigned non-CCP individuals pseudo-enrollment dates with a distribution mimicking the CCP enrollment date distribution. For the year before and after enrollment, we assessed EiC (≥ 2 laboratory tests ≥ 90 days apart) and VLS (VL ≤ 200 copies/mL on latest test). We then matched CCP and non-CCP patients on baseline EiC and VLS and propensity for CCP enrollment. Comparing CCP and non-CCP patients, we estimated relative risks (RRs) of EiC and VLS at 12-month follow-up.

Results: CCP patients (N = 7,030) were clinically and demographically similar to matched non-CCP patients (N = 7,030). After 12 months, CCP patients were more likely to demonstrate EiC (RR = 1.22; 95% confidence interval [CI] 1.20, 1.24) and VLS (RR = 1.20; 95% CI 1.16, 1.23) than non-CCP patients. EiC and VLS at follow-up varied greatly with pre-enrollment EiC and VLS status. CCP (vs non-CCP) patients without EiC at baseline had the highest RR of EiC at 12-month follow-up (1.73; 1.64, 1.83), and CCP (vs non-CCP) patients with neither EiC nor VLS at baseline had the highest RR of VLS at 12-month follow-up (1.91; 1.73, 2.11).

Conclusion: Evidence of CCP effectiveness over usual care in real-world practice settings suggests the public health value of intervention scale-up targeted toward those who are most likely to benefit.

50 Would HIV-Positive MSM use a Home Viral Load Test?

Richard Teran¹, Irene Yoon², Steven Houang², Mary Ann Chiasson², Martin Downing², Sabina Hirshfield (presenting)²

¹ Columbia University, New York, NY, USA

² Public Health Solutions, New York, NY, USA

Background: As HIV-positive men who have sex with men (MSM) have low antiretroviral therapy (ART) adherence and may be more likely to transmit HIV, there is a need to monitor viral load (VL). This study assessed perceived likelihood of using a home VL test by HIV-positive MSM.

Methods: From 06/01/2015-12/31/2015, U.S. HIV-positive MSM (n = 11,863) recruited from gay-oriented websites/apps completed an online health survey to determine eligibility for a video-based intervention. We report significant (p < .01) analyses.

Results: Median age was 41; 54% were White; 29% Black, 14% Hispanic, 3% other. By self-report, all men were HIV-positive; 96% had a past-year HIV VL test, 92% were taking ART, 42% reported a past-year detectable VL or suboptimal adherence (<90% on Wilson scale), and 19% reported a past-year HIV diagnosis. MSM with a detectable VL/suboptimal adherence were younger (18-29 [53%]) vs 30+ [39%]), more likely to be non-White (Black OR = 1.39; Hispanic OR = 1.27), and more likely to report a past-year HIV diagnosis (OR = 1.71) than men with an undetectable VL or optimal adherence. Most (83%) endorsed using a home VL test if one becomes available. Endorsing a home test was associated with age <30 vs. 30+ (91% vs. 80%), non-White (Black OR = 2.53; Hispanic OR = 2.04; other OR = 1.96), having a detectable VL/suboptimal adherence (Ref: undetectable/optimal adherence OR = 1.58), and past-year HIV diagnosis (OR = 2.17). In multivariable analysis, age <30 (AOR = 1.84), being non-White (Black AOR = 2.10; Hispanic AOR = 1.77; other AOR = 1.65), having a detectable VL/suboptimal adherence (AOR = 1.41), and past-year HIV diagnosis (AOR = 1.59) were associated with endorsing a home VL test.

Conclusion: Young HIV-positive Black and Hispanic MSM were more likely to report suboptimal ART adherence but also more likely to endorse a home VL test. In an era of increasing technology-based self-care, developing a home VL test may provide an important new tool to monitor ART adherence, prevent forward HIV transmission, and link traditionally unengaged, priority populations to care.



54 Short Message Service (SMS) Surveys Assessing Pre-Exposure Prophylaxis (PrEP) Adherence and Sexual Behavior are Highly Acceptable among HIV-Uninfected Members of Serodiscordant Couples in East Africa

Timothy R. Muwonge (presenting)¹, Kenneth Ngunye², Betty Nankya¹, Grace Kimemia², Bridget Frances O'Rourke Burns³, Nelly Mugo⁴, Elly Katabira¹, Renee Heffron⁵, Jared M. Baeten⁵, Jessica E. Haberer³

- ¹ Infectious Disease Institute Makerere University, Kampala, Uganda
- ² Jomo Kenyatta University of Agriculture and Technology, Juja, Kenya
- ³ Massachusetts General Hospital, Boston, MA, USA
- ⁴ Kenya Medical Research Institute, Nairobi, Kenya
- ⁵ University of Washington, Seattle, WA, USA

Background: Given the wide availability of cellular phones globally, SMS surveys are a promising method for data collection in research studies. Acceptability of questions on PrEP adherence and sexual behavior, however, is unclear.

Methods: Participants were HIV-uninfected members of serodiscordant couples enrolled in the Partners Mobile Adherence to PrEP (PMAP) Study, a sub-study of the Partners Demonstration Project (an open-label, pilot demonstration project of antiretroviral-based HIV-1 prevention among high-risk HIV-1 serodiscordant African couples). SMS surveys on PrEP adherence and sexual behavior were sent daily for two weeks around each scheduled quarterly study visit. A small incentive (~\$0.50 airtime) was provided for survey completion. Questionnaires on SMS survey acceptability were conducted after study exit in a convenience sample of PMAP participants.

Results: Of the 393 participants enrolled in the PMAP study, 104 (26%) completed exit surveys. The average age was 31.2 years (SD 8.9), 62% were male, and the average number of years in school was 10 (SD 3.5). Ninety-four percent of participants felt that completing the SMS surveys was "easy," 74% had "no challenges," 59% were "comfortable" with number of questions, and 79% preferred providing data through SMS surveys compared to clinic visits. Reported challenges were related to the mobile network (37%), phone itself (26%), airtime incentive (15%), and time involved (4%). Dislikes were "questions were repetitive" (4%), "questions were offensive" (3%), and technical problems (2%). The majority of participants (92%) did not need assistance to respond to the surveys. Participants >35 years were more likely to report challenges with surveys ($p < 0.001$).

Conclusion: Acceptability for SMS surveys assessing PrEP adherence and sexual behavior was generally high among HIV-uninfected members of serodiscordant couples in East Africa. Similar surveys should be considered for further studies (and possibly clinical care) to understand the context of PrEP use.

56 Real-Time Adherence Monitoring with Follow-Up Improves Adherence Compared to Electronic Monitoring Alone: A Quasi-Experimental Analysis

Jessica Haberer (presenting)¹, Nicholas Musinguzi², Alexander Tsai¹, Yap Boum³, Bosco Mwebesa Bwana², Conrad Muzoora², Peter Hunt⁴, Jeffrey Martin⁴, David Bangsberg¹

- ¹ Massachusetts General Hospital, Boston, MA, USA
- ² Mbarara University of Science and Technology, Mbarara, Uganda
- ³ Epicentre Uganda Research Center, Mbarara, Uganda
- ⁴ University of California San Francisco, CA, USA

Background: Sustained adherence interruptions are associated with viral rebound and can be detected in real-time; however, the impact of real-time follow-up on sustained interruptions is unknown.

Methods: In a longitudinal observational cohort study (Uganda AIDS Rural Treatment Outcomes Study), HIV-infected adults were monitored for ART adherence using standard electronic monitoring (MEMS; 2005-2011), followed by electronic monitoring (Wisepill; 2011-2015). During Wisepill monitoring, sustained (>48 hour) interruptions triggered home visits (brief interviews and phlebotomy). Socio-demographic data, ART regimen, and HIV RNA were assessed quarterly. We analyzed adherence data for participants who had >6 months of both MEMS and Wisepill monitoring with <1 day in between monitoring periods. We used regression modeling to project MEMS adherence for participants switched to Wisepill and compared it to their observed Wisepill adherence after the switch. We also compared mean Wisepill adherence between participants who had or did not have prior MEMS monitoring.

Results: 112 participants had 6 months each of MEMS and Wisepill adherence monitoring. Median age was 36 years, 68% were female and pre-ART CD4 count was 141 cells/ml. Immediately after participants switched from MEMS to Wisepill, mean adherence increased from 84% to 93% ($p < 0.001$); this difference was maintained in an analysis stratified by time on ART, ART regimen, education, wealth, distance to clinic, depression, alcohol use, social support, food insecurity, and viral suppression were similar in the two monitoring periods. No difference was seen in Wisepill adherence for participants with prior MEMS monitoring ($N = 112$) versus no MEMS monitoring prior to Wisepill ($N = 255$, mean adherence 92%; $p = 0.35$).

Conclusion: In this quasi-experimental analysis, real-time adherence monitoring linked to home visits for sustained interruptions was associated with increased adherence. Randomized trials of participants initiating ART with long-term follow-up are needed to assess the impact of real-time adherence monitoring interventions on virologic outcomes; costing studies are also needed.



61 Medication Adherence Self-Efficacy Mediates the Impact of Patient Navigation + Contingency Management on HIV Viral Suppression

Raul Mandler¹, Lauren Gooden², Lisa Metsch², Maxine Stitzer³, Mamta Jain⁴, David Batey⁵, Wendy Armstrong⁶, Tim Matheson⁷, Allan Rodriguez⁸, Carlos del Rio⁸, Ahnalee Brincks⁸, **Daniel Feaster (presenting)**⁸

- ¹ National Institute on Drug Abuse, Bethesda, MD, USA
- ² Columbia University, New York, NY, USA
- ³ Johns Hopkins Bayview Medical Center, Baltimore, MD, USA
- ⁴ University of Texas Southwestern Medical Center, Dallas, TX, USA
- ⁵ University of Alabama at Birmingham, AL, USA
- ⁶ Emory University, Atlanta, GA, USA
- ⁷ San Francisco Department of Health, San Francisco, CA, USA
- ⁸ University of Miami, FL, USA

Background: Viral suppression is the goal of interventions for HIV-positive individuals, and can be challenging to achieve for individuals with substance abuse comorbidities. Patient navigation and financial incentives (contingency management) are possible tools to improve outcomes for this population. These interventions may improve self-efficacy for adherence to HIV medications, a theoretically important precursor to medication adherence. This study tested change in adherence self-efficacy as a mechanism through which a patient navigation and/or contingency management intervention improves viral suppression among individuals with HIV and substance abuse comorbidities.

Methods: Participants were recruited over a two-year period beginning in July 2012 from 11 hospitals across the U.S. through the Clinical Trials Network of NIDA. The 801 HIV-positive, substance using participants were assigned to a six-month intervention that included patient navigation (PN), a combination of patient navigation and contingency management (PN+CM) or treatment as usual. PN and PN+CM participants received up to 11 sessions with a patient navigator. Those in the PN+CM condition also earned a maximum of \$1,160 for engaging in behaviors designed to reduce drug use and increase participation in HIV care. The outcome was HIV viral suppression (200 copies/mL) at 12-month follow-up. Adherence self-efficacy (i.e., confidence taking HIV medications) was measured at baseline and 6-months. Analyses controlled for age, gender, education and race.

Results: PN+CM, but not PN alone, improved six-month adherence self-efficacy scores over treatment as usual ($b = 0.532$, $p = .007$), controlling for baseline. Change in adherence self-efficacy from baseline to six months was associated with viral suppression at 12-months ($b = 0.142$, $p < .001$). The mediated effect of PN+CM on viral suppression was statistically significant ($b = 0.075$, $p = .014$).

Conclusion: PN+CM can improve adherence self-efficacy and increase the likelihood of viral suppression. As interventions are refined for this population, increasing attention to adherence self-efficacy as a proximal target is recommended.

62 Pharmacy Refill Data are Poor Predictors of Virologic Treatment Failure in Adolescents

Robert Gross¹, Gabriel Anabwani², Ontibile Tshume², Tafireyi Marukutira², Harriet Okatch³, Jennifer Chapman³, Leah Genn³, **Elizabeth Lowenthal (presenting)**¹

- ¹ University of Pennsylvania, Philadelphia, PA, USA
- ² Botswana-Baylor Children's Clinical Centre of Excellence, Gaborone, Botswana
- ³ Children's Hospital of Philadelphia, PA, USA

Background: Adolescents are the only group for which AIDS-related deaths have risen between 2001 and 2012 and medication non-adherence is a major cause. In low-resource settings, low-cost, simple methods of tracking adherence are desirable and in adults, pharmacy refill data have been shown to reflect virologic treatment outcomes. The utility of pharmacy refill data in treatment-experienced adolescents is unknown and may differ from adults because they may not be responsible for picking up medications, but have autonomy over their medication-taking.

Methods: We evaluated data from 291 adolescents on antiretroviral therapy (ART) in Botswana. The main outcome measure was virologic treatment failure, defined as two consecutive viral load measurements ≥ 400 copies/mL during 24-months of follow-up. Pharmacy refill non-adherence was defined as two consecutive refill adherence measurements

Results: Fifty-three (18%) adolescents experienced virologic failure. One hundred nine adolescents (37%) had immunologic failure. One hundred twenty-eight (44%) adolescents had refill non-adherence. Immunologic failure and refill non-adherence had similarly poor discriminative ability for indicating virologic failure (AUCs of 0.66 and 0.60, respectively ($p = 0.17$)). Sensitivity and specificity for the strength of immunologic failure in predicting virologic treatment failure were 64% (95% CI: 50-77%) and 68% (95% CI: 62-74%); the same measures for refill non-adherence were 60% (95% CI: 46-74%) and 60% (95% CI: 53-66%).

Conclusion: Both immunologic failure and refill non-adherence had low sensitivity and specificity for identifying virologic failure in adolescents. The lack of viable alternatives highlights the urgent need for more access to virologic testing.



66 Changing Attitudes to PrEP among Sexually Risky Men who have Sex with Men

Conall O'Cleirigh (presenting)¹, Abigail Batchelder¹, Samantha Marquez², Aaron Blashill³, Steven Safren⁴, Kenneth Mayer²

¹ Massachusetts General Hospital, Boston, MA, USA

² Fenway Health, Boston, MA, USA

³ San Diego State University, San Diego, CA, USA

⁴ University of Miami, FL, USA

Background: Pre-exposure prophylaxis (PrEP) has demonstrated HIV prevention efficacy, particularly among men who have sex with men (MSM). To better understand attitudes to PrEP within a rapidly changing landscape, perceptions of PrEP were examined among a community sample of HIV-uninfected MSM in New England collected between 6/2012-4/2014.

Methods: Perspectives of PrEP were then compared between recent participants, those enrolled in the last year of the study (4/2013-4/2014, n=81), versus those enrolled earlier (6/2012-3/2013, n=116) using χ^2 and t-tests.

Results: The sample was 199 MSM; mean age 37-years-old (SD = 12). Sixty-six percent identified as white, 20% as black, and 16% as Hispanic. Thirty-five percent had a college education or more. Three percent had taken PrEP and 18% planned to take PrEP in the future. Seventy-nine percent of recent participants had heard of PrEP compared to 60% of earlier participants ($\chi^2 = 7.88$ (df = 1), $p = 0.005$). Recent participants thought PrEP was a better HIV prevention strategy than those enrolled earlier (1 = excellent and 4 = poor; $t = 1.98$ (df = 189), $p = 0.049$). Similarly, recent participants thought PrEP was more effective (scale 0 = not at all and 4 = extremely; $t = -3.35$ (156), $p = 0.001$) than those enrolled earlier. Among recent participants, participants with substance use disorders considered PrEP to be a better prevention strategy than those without substance use disorders ($t = 2.275$ (df = 76), $p = 0.026$). Those who experienced childhood sexual abuse and those and those who experienced sexual intimate partner violence were not as confident in PrEP as a prevention strategy compared to those who denied these traumas ($t = -4.06$ (df = 76), $p < 0.001$ and $t = -2.57$ (df = 74), $p = 0.01$, respectively).

Conclusion: These findings suggest that within this community sample of MSM, perceptions of PrEP as a prevention strategy, PrEP effectiveness, and interest in PrEP are significantly more positive over time. As perceptions of PrEP differ based upon trauma history and patterns of alcohol/substance use these may suggest a useful focus of interventions to support PrEP uptake among sexually risk MSM.

67 Atmosphere of Risk or Family-Like Support?: Alternative Patient Experiences of Decentralized Care in North Central Nigeria

Grace Kolawole (presenting)¹, Hannah Gilbert², Nancin Dadem¹, Becky Genberg³, Oche Agbaji¹, Prosper Okonkwo⁴, Norma Ware²

¹ Jos University Teaching Hospital, Jos, Nigeria

² Harvard Medical School, Cambridge, MA, USA

³ Brown University, Providence, RI, USA

⁴ AIDS Prevention Initiative in Nigeria, Nigeria Ltd., Nigeria

Background: Decentralization of HIV care and treatment has played a critical role in scaling up services across sub-Saharan Africa. However, little is understood about the implications for people living with HIV (PLWHIV) in having care closer to their communities. This qualitative study examined patient experiences of challenges and advantages of receiving care at decentralized clinics.

Methods: Four decentralized clinics in small community hospitals in Plateau State, north central Nigeria, served as study sites. Thirty-nine (N = 39) patients took part in individual open-ended interviews; 23 (N = 23) participated in four focus groups. All participants had transferred from a large, urban HIV clinic. Interview topics addressed access to and preferences for care, services received perceived impact of decentralization and experiences of decentralization. Resulting data were analyzed to identify recurrent themes and develop descriptive categories.

Results: Receiving care at clinics located in local communities' shapes the experience of care for patients. Because decentralized sites have fewer HIV patients, HIV clinics run on specific days of the week. This creates a situation of predictable clinic attendance for PLWHIV that can alternately lead to unwanted disclosure of HIV status or promote a "family-like" atmosphere of support within the clinic. Underlying factors determine whether a decentralized HIV clinic creates an atmosphere of risk or family-like support. These include: physical layout of the clinic, whether "ground rules" for confidentiality are established and enforced by staff, and whether staff foster social interaction among patients by offering patient-centered care and organizing activities such as group meetings and positive living discussions.

Conclusion: Decentralized clinics located within communities can pose the risk of unwanted disclosure. However, with patient-specific provider management, clinics can use local positioning to promote family-like relationships. These relationships may positively impact patient interpretations of quality of care, thereby improving retention rates in decentralized clinics.



71 Adapting National Estimates of Populations at Risk for HIV to Calculate the Number of Persons with Indications for PrEP at the State Level

Sarah Rowan¹, Alia Al-Tayyib¹, Kelly Voorhees², Mark Thrun³, Thomas Deem², **Jennifer Donnelly (presenting)**²

¹ Denver Public Health, Denver, CO, USA

² Colorado Department of Public Health, Boulder, CO, USA

³ Gilead Sciences, Denver, CO, USA

Background: Pre-exposure prophylaxis (PrEP) is a critical biomedical intervention to reduce HIV incidence. The Centers for Disease Control and Prevention (CDC) recently estimated the proportion of high-risk groups with PrEP indications. Health departments need tools to adapt national estimates to evaluate public health PrEP programming. We utilized two methodologies to estimate the proportion of persons in Colorado who might benefit from PrEP.

Methods: Census data and literature review were used to estimate populations of men who have sex with men (MSM), persons who inject drugs (PWID) and high-risk heterosexuals (HRH). We then calculated the number of persons with indications for PrEP using CDC estimates. We created alternate population-level estimates using local National HIV Behavioral Surveillance (NHBS) risk data for MSM, PWID and HRH. We applied these estimates to develop state-specific percentages for each risk group. For both estimates, state HIV surveillance data was used to subtract the numbers of individuals living with HIV to determine the number of HIV-negative individuals at-risk for HIV.

Results: Applying CDC methodology, we estimate that 19,915 persons in Colorado are at high-risk for HIV and could benefit from PrEP including 7,500 MSM (24.7% of HIV-negative MSM), 1,571 PWID (18.5%), and 10,844 heterosexuals (0.4%). Utilizing risk data from NHBS, we estimate 76,268 people are at high-risk for HIV and could benefit from PrEP including 16,094 MSM (53%), 5,010 PWID (58.9%), and 55,164 HRH (6.3%), residing mostly in Colorado's high prevalence areas where most of the HIV burden exists.

Conclusions: We used practical, real-world methods to estimate numbers of high-risk individuals who could benefit from PrEP in our state. These estimates will help refine strategies for public health planning and ensure optimal impact of this efficacious biomedical intervention. Next steps include sub-calculations using health equity approaches to ensure minority populations receive specific support for PrEP.

73 A Self-Reported Adherence Measure to Screen for Elevated HIV Viral Load in Pregnant and Postpartum Women on Antiretroviral Therapy

Ira Wilson¹, Landon Myer², Elaine Abrams³, Robert Remien³, Allison Zerbe³, Kirsty Brittain², **Tamsin Phillips (presenting)**²

¹ Brown University, Providence, RI, USA

² University of Cape Town, South Africa

³ Columbia University, New York, NY, USA

Background: Lifelong antiretroviral therapy (ART) is now the recommended policy for prevention of mother-to-child transmission of HIV (PMTCT). However, maternal ART adherence is a concern and monitoring adherence presents a significant challenge in low resource settings. We investigated the association between reported adherence and elevated HIV viral load (VL) among HIV-infected pregnant and postpartum women on ART in Cape Town, South Africa.

Methods: ART eligible women entering PMTCT services were enrolled into the MCH-ART study. Reported adherence, using an isiXhosa translation of a scale originally developed in the United States using cognitive interviewing, and VL (Abbott RealTime HIV-1) were measured at up to three study visits from ART initiation during pregnancy to six weeks postpartum. The first adherence and VL measure for each woman after 16 weeks on ART was included. The association between VL and the adherence scale score was assessed using logistic regression and Receiver Operating Characteristics (ROC) curve analysis.

Results: The scale achieved good psychometric characteristics (Cronbach $\alpha = 0.79$). Among 452 women included in the analysis (median age 28 years, 33% pregnant at assessment), only 12% reported perfect adherence (score = 100) on the self-report scale, while 92% had a VL <1,000 copies/mL. Having a raised VL was consistently associated with lower median adherence scores and the area under the curve for the scale was 0.599, 0.656 and 0.642 using a VL cut-off of ≥ 50 , $\geq 1,000$ and $\geq 10,000$ copies/mL, respectively.

Conclusion: This was the first use of this scale in a non-English speaking setting and this simple self-report adherence scale showed reduced ceiling effect and has potential as a first stage adherence screener. Maternal adherence monitoring in low resources settings requires more attention in the era of universal ART, and with further validation within routine care, this simple scale may add value to adherence monitoring in low resource settings.



77 Seek, Test, Treat and Retain (STTR) for People Who Inject Drugs (PWID) in Kenya: An Update of a Stepped Wedge Study

Charles Cleland¹, Helgar Musyoki², Ann Kurth³, Peter Cherutich², John Lizcano (presenting)³

¹ New York University, New York, NY, USA

² Ministry of Health Kenya, Nairobi, Kenya

³ Yale University, New Haven, CT, USA

Background: HIV infections in sub-Saharan Africa increasingly occur among people who inject drugs (PWID). The World Health Organization (WHO) recommended earlier antiretroviral therapy (ART) to enhance viral suppression among persons at high-risk of transmission including PWID. We present data from an implementation science study to improve testing, linkage and retention in HIV care of PWID in Kenya.

Methods: This stepped-wedge-cluster-randomized-design evaluation used respondent-driven-sampling (RDS) to reach PWIDs for HIV-1 and hepatitis C virus (HCV) prevalence and viral load determination [SEEK]. We collected study data in six-time-periods as PWID service sites roll out, including behavioral data collected using tablets, rapid HIV and HCV testing [TEST], POC CD4 determination for HIV-positives, and assignment of peer case managers (PCMs) to those with CD4 <500 cells/ μ L to link to ART with adherence [TREAT]. Both PCMs and PWID receive small conditional cash transfers for PWID adherence to HIV care visits [RETAIN].

Results: 1,677 individuals were screened during the fifth intervention period with 1,659 found to be eligible and enrolled (98.9%). Most enrolled participants were male (88.6%). Median age was 32 years; age ranged from 18 to 82 years. Median age at first injection was 28 years. 252 of 1659 (15.2%) were HIV-positive. About 5.6% (n = 14) of those with HIV infection were newly diagnosed by our study. 288 of 1658 (17.4%) were HCV-positive. 74 participants were eligible to be assigned to a PCM and initiate ART. Of those, 72 initiated ART, 70 successfully continued on ART, 0 stopped taking ART, and 0 died. Thus 97.2% were retained in care (70/72 retained).

Conclusion: Current Kenyan guidelines facilitated access to ART among PWID. The combination of RDS and rapid testing is an effective strategy for finding PWID with HIV and HCV infection, including those not previously diagnosed. Linkage to care by PCMs has been very effective for ART initiation and retention.

78 Prevention-Effective Adherence per Short Message Service (SMS) Surveys within a Demonstration Project of Pre-Exposure Prophylaxis (PrEP) among HIV Serodiscordant Couples in East Africa

Jessica Haberer (presenting)¹, Kenneth Ngunjiri², Timothy Muwonge³, Nelly Mugo⁴, Elly Katabira³, David Bangsberg¹, Lara Kidoguchi⁵, Nicholas Musinguzi⁶, Bridget Burns¹, Renee Heffron⁵, Connie Celum⁵, Jared Baeten⁵

¹ Massachusetts General Hospital, Boston, MA, USA

² Jomo Kenyatta University of Agriculture and Technology, Juja, Kenya

³ Infectious Disease Institute Makerere University, Kampala, Uganda

⁴ Kenya Medical Research Institute, Nairobi, Kenya

⁵ University of Washington, Seattle, WA, USA

⁶ Mbarara University of Science and Technology, Mbarara, Uganda

Background: Prevention-effective adherence describes use of a prevention tool only during risk exposure. Understanding prevention-effective adherence requires knowledge of dynamic risk behaviors and concurrent use of multiple prevention strategies. Given widespread use of mobile phones, SMS surveys are a promising means for collecting this data over short recall periods.

Methods: The Partners Demonstration Project was an open-label study of integrated PrEP and antiretroviral therapy (ART) among high-risk serodiscordant couples in East Africa. HIV-uninfected participants were encouraged to take PrEP until their HIV-infected partner had been taking ART for >6 months. At two study sites, HIV-uninfected participants were enrolled into the Partners Mobile Adherence to PrEP sub-study based on interest, personal cell phone ownership, and ability to use SMS. SMS surveys were sent for ~7 days before and ~7 days after quarterly study visits, asking about PrEP adherence and sexual activity in the prior 24 hours. HIV-infected partner use of ART was obtained through self-report.

Results: 393 participants enrolled; 68% were male and mean age was 31 years. Participants answered 16,512 SMS surveys (mean 47/person), completing 72% of all surveys sent. HIV risk (i.e., condomless sex and partner ART use <6 months) was reported on 21% of survey days, during which time mean PrEP adherence was 85% (SD 28). While partner ART use was <6 months, mean PrEP adherence was lower for survey days not reporting versus reporting sex (78% vs 85%, $p < 0.001$), but similar for survey days reporting condom use or no condom use (87% vs 85%, $p = 0.85$).

Conclusion: SMS surveys allowed for assessment of periodic, daily HIV risk and indicated that prevention-effective adherence was generally high among HIV-uninfected members of serodiscordant couples in East Africa. Future studies should explore other relevant risk factors (e.g., additional sexual partners), as well as PrEP adherence interventions tied to real-time SMS data collection.



79 Use of Unannounced Telephone Pill Counts to Measure Medication Adherence among Perinatally HIV-Infected Young Adults

Moir Kalichman¹, Claude Mellins², Cheng-Shiun Leu², Seth Kalichman¹, Elaine Abrams², Katherine Elkington², Patricia Warne², Curtis Dolezal², Amelia Bucek², **Jeannette Raymond (presenting)**²

¹ University of Connecticut, New Haven, CT, USA

² Columbia University, New York, NY, USA

Background: HIV-infected adolescents and young adults (AYAs) are at high risk for sub-optimal adherence to antiretroviral therapy (ART) and less likely to achieve viral suppression than other age groups. Inadequate adherence measures prevent full understanding of medication-taking behaviors and development of appropriate intervention strategies. Unannounced telephone pill counts are a low-cost adherence assessment shown to be valid with middle-aged HIV-infected adults. This study is the first to examine its feasibility with AYAs (18-27 years).

Methods: At the fifth follow-up (FU5) of a longitudinal study (CASA) of perinatally HIV-infected (PHIV+) youth in NYC, participants taking ART were enrolled in a pill count protocol of four monthly unannounced calls, resulting in three ART adherence scores. We examined acceptability, feasibility, and sociodemographic/psychosocial differences in participation.

Results: Among 114 participants who completed FU5, 102 were eligible (e.g., on ART, phone access, no directly observed therapy); of these, six refused and 27 had incomplete/invalid data. Two-thirds of eligible participants contributed adherence data: 61% female; 61% Black/African American; 75% \geq high-school/GED diploma. Black/African-Americans were less likely than non-Black/African Americans to contribute adherence data ($p < .02$); there were no other differences between eligible AYAs who did and did not provide data. ART regimens included 1-14 pills, taken 1-2 times/day. Average past-month adherence across all calls was 77% (range = 0-100%; SD = 24). Calls revealed adherence barriers at individual (e.g., medication hoarding, disorganization, mental health problems), contextual (e.g., limited support systems), and structural (e.g., no health insurance, sub-optimal pharmacy services) levels.

Conclusion: Although we identified protocol implementation challenges (e.g., unreliable phone service, unpredictable schedules), a high proportion of participants enrolled and contributed data, demonstrating the feasibility of unannounced telephone pill counts with PHIV+ AYAs. Additionally, unlike other adherence measures, this protocol revealed multi-level barriers to adherence important for interventions. Some implementation challenges suggest that other communication technologies should be integrated into adherence assessments.

80 Prevention-Effective Adherence in a Demonstration Project of Pre-Exposure Prophylaxis (PrEP) among HIV Serodiscordant Couples in East Africa

Jessica Haberer (presenting)¹, Lara Kidoguchi², Renee Heffron², Nelly Mugo³, Elizabeth Bukusi³, Elly Katabira⁴, Stephen Asimwe⁵, Connie Celum², Jared Baeten²

¹ Massachusetts General Hospital, Boston, MA, USA

² University of Washington, Seattle, WA, USA

³ Kenya Medical Research Institute, Nairobi, Kenya

⁴ Infectious Disease Institute, Kampala, Uganda

⁵ Kabwohe Clinical Research Center, Kampala, Uganda

Background: Prevention-effective adherence describes to use of a prevention tool only during risk exposure. A detailed understanding of prevention-effective adherence to PrEP for HIV prevention is critical for assessing individual and public health benefits.

Methods: The Partners Demonstration Project was an open-label study of integrated PrEP and antiretroviral therapy (ART) among high-risk serodiscordant couples in East Africa. HIV-uninfected participants were encouraged to take PrEP until their HIV-infected partner had taken ART for >6 months. Adherence was determined by electronic monitoring. For this analysis, sufficient adherence for prevention of HIV acquisition was estimated at an average of 4/7 doses per week (as suggested by prior studies). Risk for HIV was considered probable if sex within the couple was reported before 6 months of ART and high if $<100\%$ condom use was also reported; risk was considered low if no sex was reported. Associations with sufficient adherence were evaluated using multivariable generalized estimating equation models.

Results: 985 HIV-uninfected participants initiated PrEP; 67% were male, median age was 29 years, and 67% of couples reported condomless sex in the month before enrollment. Risk for HIV was considered probable in 87% of participant-months, of which 17% were high risk. PrEP adherence was considered sufficient for HIV prevention in 83% of participant-months with probable or high reported risk and 61% of participant-months with low reported risk ($p < 0.01$). Sufficient adherence was associated with no reported concerns about taking daily PrEP (RR 1.24; $p < 0.001$), pregnancy/pregnancy intention (RR 1.05; $p = 0.03$), follow-up >6 months (RR 0.93; $p < 0.001$), and no longer together with the study partner (RR 0.77; $p = 0.001$).

Conclusion: The majority of participant-months in the Partners Demonstration Project reflected prevention-effective adherence. Individuals taking PrEP may need additional support or other prevention options if they have concerns about daily PrEP use or take PrEP for >6 months.



84 Associations with PrEP Prescribing and Adherence to Clinical Guidelines among New York City Providers, 2015-2016

Paul Salcuni (presenting)¹, Julie Myers¹, Demetre Daskalakis¹, Sarit Golub², Arjee Restar¹, Zoe Edelstein¹

¹ New York City Department of Health and Mental Hygiene, New York, NY, USA

² Hunter College, CUNY, New York, NY, USA

Background: Pre-exposure prophylaxis (PrEP) prevents HIV yet remains under-prescribed. The New York City (NYC) Health Department conducted public health detailing campaigns (10/2014-4/2015) to promote PrEP prescribing, targeting practices diagnosing HIV. In a follow-up survey, we examined PrEP prescribing and adherence to CDC PrEP-related guidelines.

Methods: Detailed providers were recruited for the online survey via email (12/2015-01/2016). Email addresses were obtained during the campaigns or, among a random sample, via Internet search or phone request. The survey assessed two outcomes: ever prescribing PrEP and, among prescribers, adherence to all CDC PrEP guidelines (quarterly HIV testing, adherence/risk reduction counseling, side effect assessment, semi-annual STI and creatinine screening). Questions also addressed provider characteristics (specialty, training, graduation year, sexual identity, ever prescribed PEP, year first prescribed PrEP, number of patients prescribed PrEP, and knowing daily PrEP is $\geq 90\%$ efficacious) and practice characteristics (type, having PrEP protocol). Significance of association ($p < 0.05$) between characteristics and outcomes were examined using logistic regression, controlling for provider specialty and practice type.

Results: The response rate was 32% (191/604). Overall, 59% (100/169) had prescribed PrEP. Prescribing was associated with provider specialty (ORHIV versus primary care = 8.3, 95% CI 2.7-25.0), prescribing PEP (aOR = 6.7, 95% CI 2.9-15.5), and having a PrEP protocol (aOR = 2.4, 95% CI 1.1-5.3). Among PrEP prescribers, 61% (56/92) reported adherence to guidelines, least frequently adhering to quarterly HIV testing (77%). Guideline adherence was associated with prescribing PEP (aOR = 3.7, 95% CI 1.1-12.4), first prescribing PrEP before 2015 (aOR = 4.3, 95% CI 1.5-12.2), prescribing PrEP to >5 patients (aOR = 6.5, 95% CI 2.2-19.3) and knowing daily PrEP is $\geq 90\%$ efficacious (aOR = 4.7, 95% CI 1.6-13.6).

Conclusion: In a sample of NYC providers, most had prescribed PrEP but less than two-thirds followed CDC guidelines. Findings motivate further outreach to primary care providers, greater technical assistance on PrEP protocol development/implementation, and continuing medical education among new prescribers.

86 The Impact of Patient Navigation Services for HIV-Positive Individuals on Retention in HIV Care and Viral Suppression in Virginia

Kate Gilmore, Lauren Yerkes (presenting), Anne Rhodes

Virginia Department of Health, Richmond, VA, USA

Background: Retention in HIV care and viral suppression are critical outcomes for persons living with HIV (PLWH) and for public health. Patient Navigators play an increasingly important role in HIV care. This study examines the impact of patient navigation (PN) for PLWH in Virginia on retention and viral suppression.

Methods: HIV care outcomes from clients served with PN services at six sites across the state from January 1, 2014-December 31, 2014, were analyzed ($n = 572$). Overall retention in care and viral suppression rates in calendar year (CY) 2015 were analyzed and relationships between sociodemographic factors, client type, and geographic location of the PN program on HIV outcomes were examined. Multivariate logistic regression was used to determine the relationship between these factors and outcomes in 2015.

Results: Of the 572 patients enrolled in PN programs in Virginia in 2014 included in this study, 71.9% were retained in care and 68.2% were virally suppressed in 2015. Newly diagnosed clients were 2.4 times more likely to be retained in 2015 compared to clients lost to care, (95% Confidence Interval (CI), 1.3-4.7). Hispanics were 4.3 times more likely to be retained (CI, 1.8-10.4) and 2.2 times more likely to be virally suppressed in 2015 (CI, 1.2-4.3) compared to non-Hispanics. Clients served by rural programs were 1.6 times more likely to be retained (CI, 1.1-2.4) and 2.0 times more likely to be virally suppressed in 2015 than those served at urban programs (CI, 1.4-2.9).

Conclusion: Compared to all PLWH in Virginia, retention and viral suppression rates are much higher among clients served by PN programs. Findings among the newly diagnosed population suggest that PN programs may be particularly useful for initial linkage to HIV care. Further analysis will explore interactions among variables and longer-term outcomes.



88 Integrating the ONE CALL Statewide HIV Call Center: An Innovative Approach to Linkage and Re-Engagement for HIV Care

Tyffany Evans Coleman (presenting), Cynthia Gay, Anna Finestone LeViere, Evelyn Byrd Quinlivan

University of North Carolina at Chapel Hill, NC, USA

Background: Perceived stigma and structural barriers prevent persons living with HIV (PLWH) from accessing HIV care. Nurse-led interventions have been successful in facilitating HIV care.

Methods: From 2013-2015, ONE CALL was implemented as a statewide, toll-free HIV referral line for PLWH and their non-HIV providers for helping to identify HIV care services in North Carolina. Callers received immediate intervention, counseling, barrier assessment, and tailored referrals to HIV care providers and/or state employed case managers from trained nurses. Additionally, we created an updated, comprehensive statewide HIV provider list with detailed clinic information as a resource to address callers' needs.

Results: Of 122 calls received, 85% were patient initiated, compared to 15% from non-HIV medical providers. Call volumes were highest among African Americans ($n = 77$, 63%), and males ($n = 72$, 59%). Nearly half of HIV-infected individuals had no reported barriers to HIV care ($n = 52$, 43%). Among callers who reported barriers to care ($n = 70$), costs and prior mistreatment were the most frequent at 21% and 7%, respectively. Most callers were referred to an HIV medical provider ($n = 68/122$, 56%), State Bridge Counselor (SBC) for additional services ($n = 80/122$, 66%) or to both ($n = 44/122$, 36%). Importantly, 13% ($n = 16$) of callers had never seen an HIV medical provider. Of these callers, 94% accepted referrals to an HIV medical provider and/or SBC, indicating the program's effectiveness in referrals to care. State referral processes implemented during the same time of ONE CALL possibly reduced the number of callers who had never seen an HIV provider and callers needing HIV care re-engagement.

Conclusion: Existing call center infrastructures could be leveraged similarly to ONE CALL's HIV referral line. Incorporating an adaptable survey instrument, online HIV provider directory and continuous marketing, especially in settings without an active linkage process, could increase the uptake of the call line.

89 The Critical Influence of Daily Experiences of Internalized HIV Stigma on Medication Non-Adherence for HIV-Positive Gay and Bisexual Men

H. Jonathon Rendina (presenting)¹, Sitaji Gurung¹, Steven Safren², Jeffrey T. Parsons¹

¹ Center for HIV Educational Studies and Training, Hunter College, CUNY, New York, NY, USA

² University of Miami, FL, USA

Background: Studies have found that individuals who experience more HIV stigma have worse adherence to antiretroviral therapy (ART). However, experiences of stigma can fluctuate across situations, and these situational (state) fluctuations may be a better indicator of daily ART adherence than individual-level (trait) stigma.

Method: We used multilevel modeling to analyze 585 daily reports of 40 HIV-positive GBM collected as part of a three-week prospective online diary study. We utilized multivariable models with an AR(1) covariance structure and random intercept, and adjusted for day of diary cycle, time since HIV diagnosis, race, and age. Measures of HIV-related forms of internalized stigma (e.g., guilt, shame) and social stigma (e.g., wanting to hide, worry about judgement) were given daily. These daily measures were disaggregated into individual-level averages (trait) and situational (state) fluctuations around those averages and used to predict daily ART non-adherence.

Results: The sample was diverse with regard to race/ethnicity (35% Black, 25% Latino, 25% White), employment status (58% unemployed, 30% full-time), and educational background (68% less than college, 32% college or more). Mean age was 38 years (median = 33.5) and mean years since diagnosis was 10 (median = 9). Overall, medication non-adherence was reported on 7.6% of days. Participants had 3.5 times greater odds of non-adherence on days where they experienced a 1-unit increase in situational (state) internalized HIV stigma above their average level (AOR = 3.50, 95%CI[1.04, 11.79]); situational (state) experiences of social stigma and individual-level (trait) measures each (internalized and social) were not associated.

Conclusion: Fluctuating (state) levels of internalized HIV stigma (e.g., guilt, shame) from day-to-day were associated with significantly higher odds of nonadherence to ART, even after adjusting for social stigma and individual-level (trait) measures of both. Mobile interventions that can be designed to recognize increased internalized HIV stigma may provide meaningful improvements in ART adherence for HIV-positive GBM.



90 Adherence to PrEP among HIV-Negative Women Attempting Conception with HIV-Positive Male Partners in the United States

Emily Stinnett Miller¹, Margaret Sullivan², Mari-Lynn Drainoni³, Jenell Coleman⁴, Helen Koenig⁵, Howard Cabral³, Peter Anderson⁶, Ashley Leech³, **Erika Aaron (presenting)**⁷

¹ Northwestern University, Chicago, IL, USA

² Boston Medical Center, Boston, MA, USA

³ Boston University School of Public Health, Boston, MA, USA

⁴ Johns Hopkins Medical School, Baltimore, MD, USA

⁵ Philadelphia FIGHT, Philadelphia, PA, USA

⁶ University of Colorado Denver, CO, USA

⁷ Drexel University College of Medicine, Philadelphia, PA, USA

Background: The efficacy of PrEP is dependent on adherence. Examination of what motivates women to adhere to PrEP in the United States is needed. We conducted a study to assess adherence rates measured by self-report and blood levels among HIV-negative women who used PrEP for conception with HIV-positive men.

Methods: Self-reported (SR) measures were compared to dried blood spot (DBS) for tenofovir levels one month after starting emtricitabine/tenofovir disoproxil fumarate. Steady state dosing adjustment was made based on a 17-day half-life. Spearman correlation was used to assess the association between DBS and SR measured as continuous variables.

Results: 16 HIV-negative women were enrolled at 4 medical centers in the United States and 14 had DBS results at one month. Median age was 32 years, 63% were AA, 68% had some college or above education, and median length of current relationship was 2 years. Mean PrEP use was 29 days and 86% of all women reported < 1 missed dose (IQR = 1). The number of women in each DBS dosing category included: 1/14 (7%) <2 tablets/wk, 0/14 (0%) 2-3 tablets/week, and 13/14 (93%) >4 tablets/week. Mean DBS drug level at steady state was 1,172.96 +/-508.41 (median = 1,096.33; IQR = 683.47). We found a moderate correlation between DBS and SR ($r = 0.42$, $P = 0.13$).

Conclusion: This study is unique in that it compares objective and subjective adherence to PrEP in women trying to conceive in the US. In contrast to published studies in females on PrEP to date this population was adherent and SR was accurate. Future studies are needed to determine the clinical relevance of these adherence categories for PrEP outcomes in women as these categories were developed in studies of men who have sex with men.

92 Costs and Consequences of HIV Linkage-to-Care Strategies Implemented in Urban and Rural South African Settings

Chris Hoffmann¹, David Dowdy², Salome Charalambous³, Griffiths Kubeka³, Tonderai Mobuto³, **Kristen Little (presenting)**²

¹ Johns Hopkins University School of Medicine, Baltimore, MD, USA

² Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

³ Aurum Institute, Johannesburg, South Africa

Background: We evaluated the incremental costs and clinical effectiveness of three linkage-to-care strategies in the Thol'impilo study: point-of-care CD4 count testing (POC CD4), POC CD4 with longitudinal care facilitation (POC CD4 + CF), and POC CD4 with transport assistance (POC CD4 + TA) in urban and rural settings in South Africa.

Methods: We conducted an unmasked individually randomized pragmatic trial among 2,398 adults diagnosed with HIV during mobile HIV counseling and testing (HCT) in South Africa, in which POC CD4 + CF increased 90-day entry-into-care and 180-day ART initiation by 40%. Relative to the standard of care (SoC), we measured the incremental costs of each strategy (in 2014 US dollars) from a health systems perspective using an ingredients based approach. We compared those costs against clinical outcomes of entry into HIV care by 90 days, and ART initiation with 180 days, post-initial HIV diagnosis.

Results: Average per-client costs ranged from \$20.67 in the POC CD4 arm to \$77.30 in the POC CD4 + CF arm. Costs were similar between the urban and the rural study sites. Incremental cost per additional case linked to care ranged from \$905 (POC CD4 + CF) to \$1,967 (POC CD4 + TA). Incremental costs per case initiating ART were lowest in the POC CD4 arm (\$793), versus over \$1,500 in the other two arms.

Conclusion: POC CD4 testing (either alone or in combination with care facilitation or transport reimbursement) improved timely entry into HIV care and initiation of ART in this study, but the incremental costs to implement such interventions need to be considered in the context of alternative strategies. Of the interventions evaluated here, POC CD4 + CF was the most cost-effective approach to improving timely linkage to care, while POC CD4 alone was the most efficient strategy to improve timely initiation of ART.



95 Utilizing Real-Time Adherence Monitoring Devices among HIV-Positive Pregnant and Postpartum Women: Challenges Encountered in the Uganda WiseMama Study

Mary Bachman DeSilva (presenting)¹, Lora Sabin¹, Nafisa Halim¹, Harriet Chemusto², Julia Gasuza², Joseph Kyebuzibwa², Allen L. Gifford³, Davidson H Hamer¹, Rachael Bonawitz¹, Seggane Musisi⁴, Barbara Mukasa², Justin Tepe¹, Kimberly Barrett¹, Jenna Menefee¹, Lisa J. Messersmith¹

¹ Boston University School of Public Health, Boston, MA, USA

² Mildmay Uganda, Kampala, Uganda

³ Veterans Health Administration, Washington, DC, USA

⁴ Makerere University, Kampala, Uganda

Background: HIV-positive pregnant and postpartum women (PPPW) face particular challenges adhering to antiretroviral therapy (ART). The Uganda 'WiseMama' Study is evaluating the potential utility of real-time medication monitors to provide SMS reminders triggered by late dose-taking and data-informed counseling to PPPW initiating ART. While HIV-positive patients in low-resource settings have used such devices successfully, little is known about their use by PPPW. One component of WiseMama assessed the technical feasibility of PPPW's use of real-time monitoring devices.

Methods: ART-naïve pregnant women attending two antenatal clinics in Uganda used a wireless pill container (WPC) to store their ART. We monitored subjects' adherence using WPC for one month and then randomized them to intervention (reminders and counseling) or control (usual care). During this month, we investigated all adherence lapses of 48 hours or more.

Results: 165 women were enrolled; 132 (80%) completed the pre-intervention period. Mean age was 25.1 years (SD 5.6); 40.7% and 51.5% completed primary and secondary school, respectively; and 74.2% were married. This was the first pregnancy for 28.6% of women; multiparous women had on average 2.5 previous pregnancies (range 1-12). Mean adherence was 81.6% (SD 18.4%) measured by WPC. Among enrolled subjects, we identified 179 total signal lapses over the pre-intervention period (mean 1.1 lapse/subject over ~4837 monitoring days), of which 72 (40.2%) were due to behavioral, 58 (32.4%) to technical, and 49 (27.4%) to unknown reasons. Top behavioral reasons included fear of side effects (21/72, 29.2%), inconvenience (14/72, 19.4%), and fear of disclosure (13/72, 18.1%). Signal strength was the primary technical explanation (41/58 lapses, 70.7%).

Conclusion: Among pregnant women attending two Ugandan clinics, behavioral and technical factors represented substantial challenges to real-time, web-linked monitoring of adherence. Concerns about medication side effects and disclosure need further exploration, and before widespread use, technical issues require resolution.

99 A Randomized Controlled Trial of an Intervention to Maintain Suppression of HIV Viremia following Prison Release through Linkage to Community Care: The imPACT Trial

Patrick Flynn¹, Cathie Fogel², Stephen Cole², Sonia Napravnik², Jennifer Groves², Becky White², Michelle Gould¹, Jessica Carda-Auten², Kevin Knight¹, Carol Golin², David Wohl (presenting)²

¹ Texas Christian University, Fort Worth, TX, USA

² University of North Carolina at Chapel Hill, NC, USA

Background: Loss of viral suppression is common among HIV-positive prisoners re-entering the community. In response, we developed imPACT, an intervention designed to enhance motivation and self-efficacy to attend HIV care visits, reduce barriers to care, and maintain adherence to ART following release.

Methods: HIV-positive individuals with a viral load <400 c/ml being released from prison in Texas and North Carolina were randomized to imPACT versus standard of care (SOC). The imPACT arm received 2 motivational interviewing sessions pre-release followed by up to 6 post-release phone sessions, pre-release needs assessment and appointment for community care within 5 days of release, and a cellphone for 12 weeks of text ART reminders. The SOC arm received routine discharge planning and a cellphone for study staff contact. HIV RNA was assessed at weeks 2, 6, 14, and 24, post-release.

Results: 381 participants were randomized: 195 to imPACT, 186 to SOC. Median age was 44 years; 78% were men, 65% African American, 31% reported high/very high psychological distress, and 67% a substance use problem history. At week 24, HIV RNA was available for 253 (65%). Of these, 62% and 63% in imPACT and SOC had HIV RNA <50 copies/ml, respectively (OR = 0.94, 95% CI, 0.56 to 1.56). Results following multiple imputation of missing week 24 data were comparable. By week 6, 138 (86%) in imPACT vs 122 (75%) in SOC attended at least one non-emergency medical clinic outpatient visit (P = 0.02).

Conclusion: A comprehensive intervention designed to motivate HIV-positive prison releasees to access HIV care, facilitate linkage to care, and support adherence significantly increased care engagement but not rates of viral suppression. These results suggest that forces not directly addressed by the intervention challenge viral suppression after prison release. The characterization of these forces is essential to inform policy and other strategic approaches to HIV prevention.



100 “We’re Not Just HIV Infection”: Promoting Antiretroviral Adherence among HIV-Positive Women through a Group Clinical Visit Intervention

Chinazo Cunningham, Robert Grossberg, Alain Litwin, Julia Arnsten,
Rosy Chhabra, Christine Lee, Lorlette Haughton,
Oni Blackstock (presenting)

Montefiore Medical Center, Bronx, NY, USA

Background: HIV-positive women face multiple barriers to antiretroviral (ARV) adherence including lack of positive social support. However, none of the CDC’s evidence-based ARV adherence interventions exclusively target women or leverage the peer-group dynamic to provide social support. To determine feasibility and acceptability, we developed and pilot tested Sisters-GPS, an adherence intervention for HIV-positive women, comprised of seven weekly group clinical visits where the same group of participants meets regularly with a health care provider.

Methods: At an ambulatory HIV clinic, we recruited women with self-reported ARV adherence in the past 4 weeks <100% and detectable viremia in the prior year. We assessed feasibility via recruitment and retention rates and acceptability via brief post-group visit surveys and a focus group discussion post-intervention. We compared mean adherence over the past 4 weeks at baseline and immediately post-intervention.

Results: We screened 51 women and found 8 (15.7%) to be eligible. Seven of the eight (87.5%) women enrolled. Mean age for participants was 52.4±8.4 years. All were non-Latina Black or Latina. All had co-morbid medical and psychiatric conditions and 50% a substance use disorder. Mean attendance for weekly visits was 78% (range: 43%-100%). Overall, participants found Sisters-GPS to be highly acceptable, but desired more time to discuss psychosocial concerns. Participants felt the intervention addressed their pervasive sense of social isolation and provided health care advocacy and holistic care that treated them as “not just HIV infection.” Mean adherence increased from 74% at baseline to 91% post-intervention ($p = 0.009$).

Conclusion: These findings indicate that an intervention adapting the group clinical visit model to improve ARV adherence is feasible and promising for HIV-positive women. Refinement of Sisters-GPS will require leveraging existing clinic resources (e.g., social work, mental health services, etc.) to ensure women’s psychosocial needs are met while balancing time and resource constraints of the intervention.

101 Healthcare Access and PrEP Con- tinuation in San Francisco and Miami Following the US PrEP Demo Project

Erin Andrew¹, Michael Kolber², Gabriel Cardenas², Oliver Bacon³,
Stephanie Cohen⁴, Daniel Feaster², Albert Liu¹,
Susanne Doblecki-Lewis (presenting)²

¹ Bridge HIV, San Francisco, CA, USA

² University of Miami, FL, USA

³ University of California San Francisco, CA, USA

⁴ San Francisco Department of Public Health, San Francisco, CA, USA

Background: Pre-exposure prophylaxis (PrEP) for prevention of HIV infection has demonstrated efficacy in randomized controlled trials as well as in demonstration projects. For PrEP implementation to result in significant reductions in HIV incidence for men who have sex with men in the United States, sufficient access to PrEP care and continued engagement outside of demonstration projects is required.

Methods: Telephone contact was attempted with the 457 former participants from the Miami and San Francisco sites of the U.S. PrEP Demo Project 4-6 months following their scheduled date for study completion. Those participating were asked to complete a 15 minute telephone survey addressing interest in continuing PrEP, PrEP access, healthcare utilization, and HIV/STI testing following completion of the Demo Project. Results were compared by site and by demographic characteristics. Bivariate comparisons were made using Fisher’s Exact Test and with Mantel-Haenszel common odds ratio estimate calculated for comparison across groups.

Results: Survey respondents ($n = 173$) continued to frequently access medical care and had a high incidence of sexually transmitted infections after completion of the Demo Project, indicating ongoing sexual risk behavior. Interest in continuing PrEP was high, with 70.8% indicating they were “very interested” in continuing PrEP. Among respondents, 39.9% reported continuation of PrEP following project completion, largely through their primary care providers and frequently at low or no cost. Variability in access and engagement was seen, with participants from the San Francisco site, those with medical insurance, and those with a primary care provider at the end of the Demo Project more likely to successfully obtain PrEP medication. Two respondents reported HIV seroconversion in the period between study completion and the follow-up survey.

Conclusion: Additional effort to increase equitable access to PrEP outside of demonstration projects is needed to realize the potential impact of this evidence-based prevention intervention.



103 Implementation of Antiretroviral Therapy Improved between 2001 and 2010 in the US: Population-Level Data from the Medicaid Beneficiaries in the 13 States with the Greatest HIV Prevalence

Ira Wilson, Aadia Rana, Omar Galarraga, Theresa Shireman, Yoojin Lee, Bora Youn (presenting)

Brown University, Providence, RI, USA

Background: Limited population-based data are available in the United States on the effectiveness with which individuals on antiretroviral therapy (ART) implement the prescribed regimen, and whether this has improved over time.

Methods: We performed a retrospective observational study using the Medicaid fee-for-service claims data from 2001 to 2010 in 13 geographically dispersed states, which account for 75% of HIV prevalence in the United States. For individuals initiating ART, episode implementation for each calendar month was calculated by dividing the number of days of medication supplied by the number of days in each month during the corresponding period of persistence (duration of use). For crude analysis, we determined the population-level monthly implementation rate by averaging across all persistent patients. The adjusted regression model included age, gender, race, state, regimen type, number of pills per day, and calendar year. The odds of achieving complete implementation ($\geq 90\%$) for each month were estimated using generalized estimating equations.

Results: 1,477,407 months of observation were obtained from 79,826 patients who initiated ART. The mean monthly implementation rate increased from 81.5% in 2001-2003, to 85.4% in 2004-2006 and to 88.0% in 2007-2010. The proportion of complete implementation also increased from 62.0%, 68.4% to 73.9% across the same period. The trend in ART implementation over the three periods was significant in the adjusted model (OR = 1.43 for 2007-2010 vs 2001-2003 and OR = 1.20 for 2004-2006 vs 2001-2003). Non-black vs. black (OR = 1.23) and living in California (OR = 2.30) and New York (OR = 2.25) vs Texas were associated with higher odds of complete implementation (all $p < 0.0001$).

Conclusion: Monthly implementation of ART in the United States improved markedly from 2001 to 2010 even after adjustment for patient and regimen characteristics. Awareness of the importance of adherence with ART and adherence support programs may, in part, be responsible for this improvement. Notwithstanding these improvements, disparities for blacks remain.

104 PrEP Uptake among Cisgender Women at an Urban, Community-Based STI Clinic

Sachin Jain, Cedric Bien, Uri Felsen, Viraj Patel, Oni Blackstock (presenting)

Montefiore Medical Center, Bronx, NY, USA

Background: Little is known about the real-world clinical experience of PrEP uptake among cisgender women in the United States.

Methods: The Oval Center is a community-based specialty clinic within a large integrated health care system in the Bronx, NY that provides biomedical HIV prevention and sexual health care. Referral sources for the Center include the health care system's HIV clinic, its HIV counseling and testing program and emergency department, local community-based organizations as well as individuals tested for sexually transmitted infections at the Center. From 12/1/14 (opening date of the Oval Center) to 2/2/16, 66 cisgender women received care at the Center. During this time period, 20 cisgender women (30%) were evaluated for PrEP. Of these women, 16 women (80%) received ≥ 1 PrEP prescription. Median age was 36 years old (range: 20-56) and all were either Latina or non-Latina Black. The most common indication for PrEP was being in a stable serodiscordant relationship with a male partner (81%). Of these women, all but one (92%) reported their partner was currently taking antiretroviral medications (ARVs) and 23% reported trying to conceive with their partner. Of the nine women with 6 months or more of observation time, only 44.4% continued in care for at least 6 months.

Results: PrEP offered in a clinical setting with multiple diverse referral sources yielded uptake primarily among cisgender women in stable serodiscordant relationships, most of whom reported having ARV-using partners. Additionally, less than half of women continued on PrEP for more than 6 months.

Conclusion: Outreach to women who are at high risk for HIV, but who may not be in stable serodiscordant relationships is needed. Further study is needed to understand the observed drop-off in clinical visits after PrEP initiation.



105 Persistence with Antiretroviral Therapy Improved between 2001 and 2010 in the United States: Population-Level Data from the Medicaid Beneficiaries in the 13 States with the Greatest HIV Prevalence

Ira Wilson, Aadia Rana, Omar Galarraga, Theresa Shireman, Yoojin Lee, Bora Youn (presenting)

Brown University, Providence, RI, USA

Background: Limited population-based data are available in the US on the rates at which individuals who have started anti-retroviral therapy (ART) discontinue therapy (non-persistence), and whether persistence has improved over time.

Methods: We performed a retrospective observational study using Medicaid fee-for-service claims data from 2001 to 2010 in 13 geographically-dispersed states which account for 75% of HIV prevalence. We identified 79,844 HIV-positive patients who initiated ART with at least a 6-month wash-out period. Persistence was measured by the duration of treatment from the first fill date to the last fill date before a 90-day gap (treatment discontinuation). Patients were censored at the end of the study period, death, or disenrollment from Medicaid. Kaplan–Meier curves were used to describe crude persistence. Cox proportional hazard model was adjusted for age, gender, race, state, initial regimen type, single pill use, and treatment initiation year.

Results: The median time from ART initiation to non-persistence increased from 17.3 months in 2001–2003 to 25.0 months in 2004–2006. The median persistence of ART initiated in 2007–2010 was not reached. In the adjusted model, patients who initiated ART in 2007–2010 had a 22% lower hazard of treatment discontinuation than those who initiated in 2001–2003 (HR = 0.78, 95% CI: 0.76–0.81). Black vs non-black (HR = 1.21), female vs male (HR = 1.16), multiple pill use vs single pill use (HR = 1.36), young age (≤ 40 years vs > 40 years, HR = 1.24), older ART regimen, and living in Texas (HR = 1.90) and Virginia (HR = 1.67) vs California were also significantly associated with higher hazards of treatment discontinuation (all $p < 0.001$).

Conclusion: Even after adjustment for person and regimen characteristics, ART persistence has improved markedly over time in this national, population-based sample, perhaps because of increased attention to adherence at care sites. Nevertheless, a significant proportion of patients experienced ART discontinuation within two years of initiation, and disparities persist for Blacks and women.

117 Testing the Health Care Empowerment Model among Persons Living with HIV for Medication Adherence

Parya Saberi¹, Bing Chen², Mallory Johnson¹, Torsten Neillands¹, Jacob van den Berg (presenting)³

¹ University of California, San Francisco, CA, USA

² The University of Rhode Island, Kingston, RI, USA

³ Brown University, Providence, RI, USA

Background: Patient-controlled health care that includes the process and state of being engaged, informed, collaborative, committed, and tolerant of uncertainty refers to health care empowerment. Understanding factors that impact health care empowerment for persons living with HIV is critical for their treatment and care.

Methods: A cross-sectional sample of 1,494 persons living with HIV in the United States recruited through social media sites (e.g., Facebook, Twitter, LinkedIn, Craigslist, and Tumblr) completed an online survey about their demographic characteristics, social support, health care provider relationship, HIV treatment knowledge, perceived stigma, trauma, depression, health care empowerment, and medication adherence. Guided by the health care empowerment framework, structural equation modeling was used to assess the interrelations of these psychosocial factors on adherence.

Results: The mean age of the sample was 45.6 years (SD = 11.4). The majority of participants self-identified as male (93.1%), White (71.1%), and gay/lesbian (86.8%). Most had some experience with college (51.5%) but were not currently enrolled in school (87.6%); 45.9% were working full-time. Analyses of model fit statistics from Mplus indicated statistically significant direct pathways between depression ($p < .001$), health care provider relationship ($p < .001$), trauma ($p < .05$), and adherence. In addition, there were statistically significant direct pathways between health care provider relationship ($p < .001$), social support ($p < .05$), HIV treatment knowledge ($p < .001$), and health care empowerment. The indirect effect of health care provider relationship and HIV treatment knowledge on adherence through health care empowerment ($p < .05$) was also significant.

Conclusion: The study's results highlight a need for more research on the health care empowerment model, and for multi-level interventions to address the effects of the examined psychosocial factors on adherence among persons living with HIV.



118 Why I Quit: A Mixed Methods Examination of the Reasons Gay and Bisexual Men Give for Stopping a PrEP Regimen

Christian Grov, H. Jonathon Rendina, Jeffrey Parsons,
Thomas Whitfield (presenting)

Center for HIV Educational Studies & Training, Hunter College, CUNY,
New York, NY, USA

Background: Not all gay and bisexual men (GBM) who initiate PrEP stay on the medication, and determining reasons for discontinuation will provide valuable information for PrEP treatment.

Method: Data were collected from One Thousand Strong, a longitudinal study of 1,071 HIV-negative GBM from across the United States. Participants who had experience taking PrEP and discontinued answered an open-ended question about why they chose to discontinue taking PrEP. Participants also responded on Likert scales (1 = less likely, 4 = no change, 7 = more likely) to questions about HIV status discussion with sex partners and temptation for condomless anal sex (CAS) post PrEP compared to while taking PrEP.

Results: In total, 14.7% (n = 90) had experience taking PrEP. Of these, 15 (16.6%) had discontinued use. Four said they had discontinued use because they stopped engaging in CAS and two had entered a monogamous relationship (i.e., behavioral risk reduction), four reported insurance coverage issues, and two reported negative side effects. On average, compared to being off PrEP now, participants said that while they were on PrEP they were slightly more likely (M = 4.73) to discuss HIV status, slightly less (M = 3.27) in their likeliness to engage in condomless anal sex with a known HIV-positive partner, and no different in their temptation to have CAS (M = 4.07) now compared to when they were on PrEP.

Conclusion: One in six men who started PrEP discontinued use. The most common reason being a self-reported reduction in HIV risk behavior. Thus, for some, PrEP may be a temporary risk reduction strategy, particularly during so-called "seasons of risk" when their risk behavior increases (e.g., being single). Insurance coverage was the second most common reason for discontinued use, highlighting the need for more PrEP payment assistance options and better and better navigation programs to assist patients in accessing them.

125 The MAX Clinic: A Structural Healthcare Systems Intervention Designed to Engage the Hardest-to-Reach Persons Living with HIV/AIDS

Dawn Spellman¹, Matthew Golden¹, Robert Harrington²,
Shireesha Dhanireddy², Rachel Patrick¹, Allison Moore¹,
Meena Ramchandani², **Julia Dombrowski (presenting)**²

¹ Public Health – Seattle and King County, Seattle, WA, USA

² University of Washington, Seattle, WA, USA

Background: The MAX Clinic is a multi-component, alternative care model for persons in Seattle, Washington who have not successfully engaged in traditional HIV care.

Methods: The Clinic is jointly administered by the health department and the county hospital HIV Clinic. Patients must meet the following eligibility criteria to enroll in the clinic: 1) viral load (VL) >1,000 copies/mL or no VL for ≥12 months and off antiretroviral therapy, 2) failure of public health and clinical outreach to re-engage patient with care, and 3) no history of violence toward clinical staff. Patients have walk-in access to HIV care 5 afternoons/week. Two disease intervention specialists provide outreach support and care coordination. Incentives include cell phones and bus passes renewed upon clinic attendance, and at each visit up to once weekly, snacks and a \$10 meal voucher. Patients receive \$25 for a visit with phlebotomy (every 2 months), \$100 for a suppressed VL (<200 copies/mL); and a one-time \$100 bonus for 3 sequential suppressed VL results. We evaluated the characteristics and HIV care continuum outcomes of patients enrolled during the first year.

Results: We enrolled 50 patients January-December 2015; 23 (46%) referred by their medical provider or case manager; 23 (46%) identified through outreach programs; and 4 (8%) referred by peers. Most were male (74%) and non-Hispanic White (56%) or Black (24%). Upon enrollment, most patients (88%; N = 44) had used illicit stimulants or opiates in the past year. As of 12/31/15 (median enrollment = 5 months), 82% had completed ≥2 visits to the MAX Clinic (N = 41), 78% had initiated ART (N = 39), and 58% had achieved viral suppression (N = 29).

Conclusion: An alternative HIV care model that includes walk-in access, incentives, and intensive outreach support can engage patients with complex barriers to care. A controlled study is needed to definitively assess the intervention's impact.



127 Lessons Learned in the Provision of Technical Assistance to Health Departments on Using HIV Surveillance Data to Improve the HIV Care Continuum

Michele Clark¹, Vasavi Thomas², Rhondette Jones²,
Kathleen Ruth (presenting)²

¹ John Snow, Inc., Boston, MA, USA

² US Centers for Disease Control and Prevention, Atlanta, GA, USA

Background: According to a recent US study, persons living with HIV who are retained in care and are virally suppressed are 94% less likely to transmit HIV compared to persons unaware of their infection. Using HIV surveillance data to identify persons living with HIV who are not in care is a promising tool health departments can use to increase the proportion of people living with HIV who are engaged in each step of the continuum of care.

Method: In April 2014, the Centers for Disease Control and Prevention launched a toolkit – Data to Care (D2C): A Public Health Strategy Using HIV Surveillance Data to Support the HIV Care Continuum. In conjunction with the toolkit launch, seven health departments received six months of intensive technical assistance (TA) on D2C activities. Mandatory confidential name-based reporting of all CD4 T-lymphocyte and HIV viral load tests by laboratories to health departments' HIV surveillance was required. Jurisdictions received TA on D2C activities including, but not limited to, confidentiality and data security, community engagement, HIV surveillance data quality, data sharing, staffing resources, creating “not in care” lists, and data to care evaluation.

Results: We learned there is no one size fits approach to D2C Programs. Jurisdictions were at different stages in development and implementation. TA approach varied greatly among health departments. We considered organizational factors, jurisdiction laws/policies around data confidentiality and data sharing, morbidity, and history of the surveillance program. Participation in this project facilitated, in most cases for the first time, the coming together of staff across HIV surveillance, prevention and care programs.

Conclusion: It is important that TA is flexible and addresses all Data to Care from operational steps from community engagement to data sharing. Additionally, it is essential that TA facilitates collaboration among surveillance, prevention and care programs, which is essential to D2C success.

128 Expanding PrEP Implementation as a Key Initiative of the Getting to Zero (GTZ) Consortium in San Francisco

Hyman Scott¹, Shannon Weber², Brad Hare³, Susan Buchbinder¹, Jen Hecht⁴, Susan Scheer¹, Tracey Packer¹, Stephanie Cohen¹, Stephanie Goss⁵, Pierre Cedric-Crouch⁴, Albert Liu (presenting)⁶

¹ San Francisco Department of Public Health, San Francisco, CA, USA

² University of California, San Francisco, CA, USA

³ Kaiser Permanente San Francisco, CA, USA

⁴ San Francisco AIDS Foundation, San Francisco, CA, USA

⁵ Asian and Pacific Islander Wellness Center, San Francisco, CA, USA

⁶ Bridge HIV, San Francisco, CA, USA

Background: Cities are mobilizing to achieve the UNAIDS vision of “Getting to Zero.” In 2013, San Francisco established a new multisector, independent consortium operating under the principles of “collective impact.” PrEP expansion is a key initiative of GTZ San Francisco, along with immediate ART initiation, bolstering retention in care, and eliminating HIV stigma.

Method: The GTZ PrEP committee formed in 2014 and has diverse representation from community based organizations (CBOs), providers, researchers, government and private-sector, and PrEP users. Sub-committees were established to advance work in three priority areas: expanding access and awareness for PrEP users, building capacity for providers, and measuring PrEP impact. Key accomplishments include launching a PrEP ambassador program to “get the word out” about PrEP and establishing a network of community-based navigators to facilitate PrEP access (PrEP users); conducting PrEP trainings for counselors/front-line workers and developing an academic detailing program to reach a broad range of community providers (PrEP providers); and assessing and integrating multiple data sources to measure PrEP use, knowledge, and stigma (PrEP metrics).

Results: Over the last year, PrEP delivery sites have increased to >30 clinics, >80 clinical providers and >50 HIV test counselors were trained on PrEP delivery and referrals/navigation; 10 PrEP navigators have been funded across clinics and CBOs. Based on community surveys, PrEP knowledge increased from 20% in 2012 to >85% in 2015 among MSM, and PrEP use rose from 15% in 2014 to 23% in 2015. Important gaps and barriers to PrEP access have been identified, particularly for communities of color, youth, transgender individuals, incarcerated populations, and people who inject drugs.

Conclusion: Establishing goals and metrics and regular meetings to share best practices have facilitated coordination and implementation across PrEP subcommittees. City-wide efforts to coordinate PrEP delivery and implementation are feasible and can maximize the potential impact of PrEP.



130 The Important Role of the PrEP Specialist in a Multidisciplinary Team Approach to PrEP at a Community Health Center

Sally Holt

Trillium Health, Rochester, NY, USA

Background: Emtricitabine/tenofovir was FDA approved in July 2012 for HIV pre-exposure prophylaxis (PrEP) to reduce the risk of HIV-1 in high risk individuals. With an increase in marketing, outreach, and public knowledge of PrEP, there has been an increase in demand. With patient growth comes an increase in financial obstacles and a need for supportive services. The role of the PrEP specialist as part of a multidisciplinary PrEP program is a key component in increasing enrollment and delivering comprehensive care to patients.

Method: Prior to hiring a PrEP specialist, 126 people were assessed for PrEP services from August 2012 through March 2015 (Group A). From April 2015 to March 2016, 155 individuals were assessed for these services (Group B). In addition, all individuals in Group B met with the PrEP Specialist at every visit or as needed for PrEP education, HIV testing and counseling, and assessment of financial barriers. The barriers identified were addressed by the PrEP Specialist. Referrals to supportive services were provided as needed.

Results: Ninety-four percent of patients assessed for PrEP in Group A started treatment and 92% started in Group B. Both groups had the same discontinuation rate (13%). There was a 27% increase in patient enrollment between the groups. Limited access to financial assistance was available to Group A for PrEP care while 28% of Group B applied for patient assistance with the PrEP specialist. Seventy-five percent of patients received funding through assistance programs while 25% were referred for insurance assistance. Various referrals were made to assist patients with housing, transportation, and mental health services.

Conclusion: Patients seeking PrEP services are likely to have other needs outside the scope of medical care. The PrEP specialist has been shown to provide comprehensive patient care as part of a multidisciplinary approach to HIV prevention in a community health center setting.

136 Cars, Chaos, and Grief: Women of Color Report Reasons for Missed HIV Care Visits

Anna Finestone LeViere (presenting)¹, Evelyn Byrd Quinlivan¹, Kristen Sullivan², Katya Roytburd¹, Tyffany Evans Coleman¹, Heather Parnell², Miriam Berger², Lynne Messer³

¹ University of North Carolina at Chapel Hill, NC, USA

² Duke University, Durham, NC, USA

³ Portland State University, Portland, OR, USA

Background: US women of color (WOC) experience higher burdens of HIV, including increased infection rates and difficulties remaining in care and on effective treatment. Missed HIV clinic appointments have been associated with poor clinical outcomes, including mortality. The Guide to Healing (G2H) program was a clinic-based initiative to assist WOC accessing care.

Methods: Evaluation interviews comprised of validated psychosocial measures were conducted with WOC attending clinic appointments at 2-week intervals during the study period (2011-2014). Of the women who "no-showed" for an appointment during this time, 51 participated in 57 unique evaluation interviews (some women were interviewed more than once), and were asked two additional open-ended questions regarding their missed appointments. The responses were transcribed verbatim and independently coded for emergent themes by two researchers using NVivo®. Temporally matched WOC with no missed appointments were selected for a comparison group (n = 136). Demographic information, psychosocial scales, and HIV RNA loads were compared between the WOC who no-showed and those who attended clinic appointments.

Results: The no-show WOC were more likely to report unstable housing (6/51 vs 5/136, p = 0.03), and higher self-advocacy (mean score 48.21 vs 45.05, p = 0.003). The groups did not differ in depression, social support, self-determination autonomy, relatedness or HIV RNA at the time of their appointments. Qualitative analysis revealed 18 unique themes for missing appointments, with the most common being: transportation (n = 27/57), death of relative or close friend (n = 13/57), relationship loss (n = 8/57), family issue (n = 8/57) and forgot (n = 8/57). Also importantly, women reported more than one reason for their missed visit in 28 interviews.

Conclusion: Unstable housing, transportation, death, and general life chaos interfere with WOC's retention in HIV care in North Carolina. The widespread reports of major life events suggest that providing appointment flexibility to allow women to respond to these events will facilitate retention in care.



137 Daily Text Message Responses as Compared to Retrospective Self Report of Antiretroviral Adherence among HIV-Infected Methamphetamine Users

Alexandra Rooney, Anya Umlauf, Ben Gouaux, Anne Heaton, Jessica Montoya, **David Moore (presenting)**

University of California, San Diego, CA, USA

Background: Adherence measurement issues continue to hamper our ability to accurately assess whether persons living with HIV are adherent to antiretroviral therapy (ART). In clinical settings, a detectable viral load typically indicates an ART adherence problem; however, this measure does not allow us to recognize adherence difficulties as they are evolving. Retrospective self-report of adherence has similar measurement limitations.

Methods: In the context of an intervention study where personalized daily text messages were sent as adherence prompts among HIV-infected methamphetamine users ($n = 43$), we examined the association between 1) the proportion of 100% adherent days as measured by daily text responses (Text report) and the proportion of 100% adherent days as measured by Medication Event Monitoring System (MEMS), and 2) retrospective self-reported adherence using a Visual Analog Scale (VAS, 0-100%) and MEMS. Statistically, we compared these two correlations and examined a model using Text report and VAS scores as predictors of MEMS adherence.

Results: Both Text report and retrospective self-report were significantly associated with MEMS (Text report: Spearman's $Rho = 0.56$, $p < 0.001$; VAS: Spearman's $Rho = 0.45$, $p = 0.003$). These two correlations were not significantly different from one another ($t = 0.98$, $df = 40$, $p = 0.333$). In a model that used both Text report and VAS score as predictors of MEMS adherence, only Text report was a significant predictor of MEMS (Text report $OR = 1.97$, 95% $CI = 1.47, 2.64$, $p < 0.001$ vs VAS score $OR = 1.02$, $CI = 1, 1.05$, $p = 0.053$).

Conclusion: Although both retrospective self-report and daily text response methods show significant associations with daily medication taking (measured by MEMS), daily text message responses are more strongly associated with objective adherence compared to retrospective self-report. As technologies for daily monitoring of adherence evolve, there are continued opportunities to capture difficulties with ART adherence prior to patients exhibiting detectable viral loads and potentially poor health outcomes.

140 HIV Pre-Exposure Prophylaxis Continuum of Care in Patients Presenting to an Urban STD Clinic

Grace Marx (presenting)¹, Dean McEwen², Cornelius Rietmeijer³, Edward Gardner², Karen Wendel², Judith Shlay², Sarah Rowan²

¹ University of Colorado, Boulder, CO, USA

² Denver Public Health, Denver, CO, USA

³ Denver Prevention Training Center, Denver, CO, USA

Background: Despite being one of the most effective forms of HIV prevention, pre-exposure prophylaxis (PrEP) is underutilized. We sought to describe the continuum of PrEP initiation and care by eligible individuals seeking care at an urban sexually transmitted diseases (STD) clinic.

Methods: The STD clinic electronic medical record (EMR) was queried to identify PrEP-eligible patients seen in the calendar year 2015. PrEP-eligibility was defined as HIV-negative at time of visit with at least one of the following criteria: 1) man reporting sex with other men (MSM) with diagnosis of early syphilis, gonorrhea or chlamydia within the last 12 months, 2) MSM with >1 male sex partner and condomless anal intercourse within the last 3 months, 3) HIV-positive sexual partner within the last 3 months, 4) use of HIV post-exposure prophylaxis in the last 3 months, or 5) exchange of sex for money or drugs within the last 3 months. The EMR of the co-located infectious diseases (ID) clinic was queried for PrEP initiation and follow-up clinic visits.

Results: In 2015, the STD clinic saw 9,497 unique patients; 1701 (18%) were MSM. Of all patients, 1,301 (14%) and 1,095 (64%) of MSM were considered eligible for PrEP while only 83 had an intake for PrEP. Median time from STD clinic visit to ID clinic PrEP intake was 35 days (IQR 23-125 days). Of those who started PrEP, 67 (81%) presented to the required 3-month clinic follow-up visit.

Conclusions: Despite a large number of PrEP-eligible patients in the STD clinic, few initiated PrEP; among initiators, adherence at 3 months was suboptimal. Current referral systems for PrEP services result in barriers and delays to PrEP initiation, increasing risk for avoidable HIV infections. Enhanced and standardized referral systems, centralized PrEP services, or PrEP medication starter packs may improve the PrEP continuum of care.



141 A 5-Item HIV-Affect Management Scale (H-AMS): Evaluating a Novel Theory-Based Construct Situated to HIV Treatment Adherence Contexts

Valerie Earnshaw¹, K. Rivet Amico², Laramie Smith (presenting)³

¹ Harvard Medical School, Boston, MA, USA

² University of Michigan School of Public Health, Ann Arbor, MI, USA

³ University of California San Diego, CA, USA

Background: Initial findings from mixed-methods research evaluating the situated-Information-Motivation-Behavioral Skills (slMB) model suggest that one's perceived ability to manage negative affect related to living with HIV may play a critical role in HIV treatment adherence. We developed the 5-item HIV-Affect Management Scale (H-AMS), administered in the current study, to establish the contributions of this novel construct.

Methods: Urban HIV-positive clients (N = 93) accessing community-based services completed an interviewer-administered survey. The H-AMS assesses how easy/hard it is to manage HIV-related affect (e.g., 'Thinking about being HIV-positive without feeling anger, shame, or sadness') on a 5-point Likert-type scale (1 = very hard, 5 = very easy); scores are computed by averaging a participant's responses ($\alpha = .835$). Bivariate associations assessed potential relationships between the H-AMS and measures of HIV identity (centrality, salience), self-reported ART adherence, and constructs known to influence ART adherence (Depression [CESD-10], Brief COPE, HIV-Stigma Mechanisms Scale, HIV-status disclosure, and social support [mMOS-SS]). Results are used to evaluate the HIV-Affect Management Scale's construct validity.

Results: On average participants found managing HIV-related affect moderately easy (M = 3.60, SD = 0.917). When HIV-related affect was harder to manage, HIV was a more central ($r = -.212$, $p = .045$) and salient ($r = -.265$, $p = .001$) part of one's identity. Better ART adherence was observed when HIV-affect was more easy to manage ($r = -.238$, $p = .022$). Number of depressive symptoms ($r = -.359$, $p = .001$), HIV stigma ($r = -.386$, $p < .001$), and social support ($r = .214$, $p = .045$) were all associated with perceived ability to manage HIV-affect in the predicted directions [convergent validity]. H-AMS scores were not associated with general coping skills ($r = .171$, $p = .105$) or participants' disclosure of their HIV-positive status to others ($r = -.021$, $p = .842$) [discriminant validity].

Conclusion: These patterns of associations support the validity of HIV-affect management as measured by the H-AMS. Future work is needed to rigorously assess this scale's ability to predict HIV treatment adherence behaviors. Behavioral implications of HIV-affect management intervention targets are discussed.

146 Improved Adherence to Care and Treatment for People Living with HIV and Participating in a Comprehensive Nutrition Food Support Program in the San Francisco Bay Area: A Longitudinal Qualitative Study

Lee Lemus Hufstedler (presenting)¹, Sheri D. Weiser¹, Tessa Napoles¹, Loulou Chayama², Nikhil Ranadive³, Fredrick Hecht¹, Edward A. Frongillo⁴, Kimberly Madsen², Simon Pitchford², Kartika Palar¹

¹ University of California, San Francisco, CA, USA

² Project Open Hand, San Francisco, CA, USA

³ Emory University, Atlanta, GA, USA

⁴ Department of Health Promotion, Education, and Behavior, University of South Carolina, Columbia, SC, USA

Background: Food insecurity compromises adherence to treatment and care among people living with HIV (PLHIV), yet few studies have explored how food support may improve adherence in resource-rich settings. We undertook a longitudinal, qualitative study to elucidate mechanisms through which a comprehensive food support program may improve adherence to HIV treatment and care.

Methods: Project Open Hand, a San Francisco Bay Area non-profit, offered the "Food-Medicine" pilot program to PLHIV in 2014. The program provided healthy meals and snacks meeting daily energy requirements, nutritional education, and case management for 6 months. We conducted semi-structured, in-depth interviews with Food-Medicine participants at baseline and 6 months (or study exit). Topics included perceptions of adherence to ART and engagement and retention in HIV care before and after the program. Interviews were audio-recorded, transcribed, and double-coded. Salient themes were identified using an inductive-deductive approach.

Results: We interviewed 38 individuals at baseline and 34 at follow-up or study exit (total participants = 43). Program participants described improvements in ART adherence and engagement in care. Salient mechanisms for improved ART adherence were fewer perceived side effects when taking medications on a full stomach and greater ability to take ART on schedule when eating three structured meals a day. Mechanisms for improved engagement in care were diminished stress related to procuring food which had previously interfered with healthcare appointments and a reduction in competing demands between basic needs and healthcare. Those who reported no changes in adherence described either high adherence at baseline or intractable issues with unstable housing or poor mental health which inhibited adherence.

Conclusion: Comprehensive food support may improve adherence by easing side effects, providing structured meal times, reducing stress, and reducing competing demands between food and healthcare. Policies prioritizing food support initiatives could positively impact HIV health.



151 Identifying MSM and Transgender Women Who have Poor Linkage to HIV Care in Lima, Peru

Ann Duerr¹, Javier Lama², Manuel Villaran²,
Angela Primbas (presenting)³

- ¹ Fred Hutchinson Cancer Research Center, Seattle, WA, USA
² Asociación Civil Impacta Salud y Educación, Lima, Peru
³ University of Washington School of Medicine, Seattle, WA, USA

Background: HIV is a growing public health concern in Peru, especially among men who have sex with men (MSM) and transgender women (TW). The Peruvian Ministry of Health Antiretroviral Therapy (TARGA) program provides free, accessible HIV care at most hospitals. Few studies have evaluated the HIV care cascade and barriers to linkage to care in the Peruvian health care system.

Methods: MSM and TW in Lima, Peru were screened for HIV at enrollment into a treatment as prevention study between 5/2013 and 5/2015. Participants who were HIV-infected at baseline were referred for care. Study data from these participants were linked to TARGA program data. Potential predictors of linkage to care were gathered from enrollment questionnaire data collected prior to diagnosis. We used univariate and multivariate logistic regression to model care linkage within 90 days.

Results: Of 3,394 participants, 487 were newly diagnosed with HIV. 218 participants (45%) linked to care within 90 days. In logistic regression, alcohol use disorder (AUD: hazardous or harmful drinking, or alcohol dependence) was a strong negative predictor of linking to care (OR=0.63, $p = 0.025$). Additional risk factors included history of sex work (OR=0.48, $p = 0.002$) and bisexual identity (OR=0.57, $p = 0.022$). Participants ≥ 25 years old were more likely to link to care (OR=1.9, $p = 0.003$). A trend to lower linkage was seen for TW (OR=0.62, $p = 0.12$). Income and education were not statistically significant in predicting linkage.

Conclusion: Within the MSM population, sex workers, high risk drinkers, youth, and bisexuals were less likely to link to care. AUD is common (5 times more common in MSM and TW than in the general male Peruvian population) and presents an opportunity for intervention during patient referral. Additionally, lower rates of linkage among sex workers, youth and bisexuals warrant further study and intervention development to ensure their linkage to care.

155 Socio-Structural and Psychosocial Factors Associated with Antiretroviral Therapy Adherence by Gender in British Columbia, Canada

Robert Hogg¹, Cari Miller², Angela Kaida², Cathy Puskas (presenting)²

- ¹ British Columbia Centre for Excellence in HIV/AIDS, Vancouver, BC, Canada
² Simon Fraser University, Burnaby, BC, Canada

Background: In high human development countries, a lower proportion of women living with HIV attain optimal ($\geq 95\%$) antiretroviral therapy (ART) adherence relative to men. We examined associations between socio-structural and psychosocial factors (including HIV-related stigma subscales) on optimal ART adherence by gender.

Methods: Using the Longitudinal Investigation into Supportive and Ancillary Services (LISA) cohort, psychosocial, behavioural, and socio-demographic data from people living with HIV (PLWH) was collected through interviewer-administered questionnaires between July 2007 and January 2010, which were then linked with ART pharmacy refill compliance data from the year prior to interview. Stigma components were measured using the shortened Berger stigma scale. Bivariate and multivariable statistics were used to assess differences in optimal ART adherence between men and women.

Results: Of the 753 PLWH (26.3% women), a greater proportion of women were food insecure and living in poverty. Women were also more likely to report depression (71.4% vs 52.0%; $p < 0.001$) and higher median HIV-related stigma (31 vs 27; $p < 0.001$), relative to men. A significantly lower proportion of women attained optimal adherence than men in the year prior to completing the questionnaire (39.2% vs 63.2%; $p < 0.001$). Among women, food insecurity was associated with sub-optimal ART adherence (adjusted odds ratio [AOR]: 2.77; 95% confidence interval [CI]: 1.37 to 5.56). Among men, history of injection drug use was associated with sub-optimal ART adherence (AOR: 2.27; 95% CI: 1.45 to 3.57), while age (AOR per year increase: 0.95; 95% CI: 0.93 to 0.98) was protective. No psychosocial variables examined were associated with adherence.

Conclusion: Disproportionate poverty and other forms of vulnerability observed among women suggest the need to provide a better social safety net for women living with HIV. The implementation of more holistic adherence programs such as ones that support poverty reduction and food security may support women in achieving optimal adherence.



156 Substance Use and the HIV Care Cascade: Findings from an HIV Community-Based Test and Treat Initiative

Anita Raj¹, Jeffrey Samet², John Edmiston³, Sankari Ayyaluru¹, Daniel Triplett¹, Jennifer Yore¹, Lianne Urada¹, Pamela Schwartz³, Laramie Smith (presenting)¹, Alexandra Caraballo³

¹ University of California San Diego, CA, USA

² Boston University School of Medicine, Boston, MA, USA

³ Kaiser Permanente, San Francisco, CA, USA

Background: Clinical cohorts of people living with HIV/AIDS (PLWHA), a group more connected to care, suggest that substance use can impede progress through the HIV care cascade. We sought to understand associations of substance use and cascade outcomes among community-based organization (CBO)-recruited PLWHA.

Methods: Baseline data from 495 PLWHA recruited across 7 CBOs in the United States were obtained as part of a longitudinal multi-site community-based HIV linkage to/retention in care study. Participants were surveyed on demographics, cascade outcomes: [time since last HIV care appointment (indicated by receipt of CD4), ART use, known viral suppression], alcohol (via Audit) and illicit drug (via TCU-DS2, excluding marijuana) use past 12 months, and harmful use (i.e., creating difficulties) past 30 days. Chi Square and Logistic Regression models adjusted for site and demographics tested associations of substance use with cascade outcomes; stratified by time since diagnosis (≥ 12 -months 85%; < 12 -months 15%).

Results: Cascade outcomes: Most (63%) received an HIV care appointment in the past 6-months. Of those in care, 49% were on ART, and among these, 28% reported known viral suppression. Most reported past year use of alcohol (59%) and illicit drugs (54%), with lower proportions reporting past 30 day binge alcohol use (16%) and harmful drug use (19%). Substance use variables were not associated with cascade outcomes, though time since diagnosis was ($\chi^2 = 14.754$, $\chi^2 = 15.493$, $\chi^2 = 32.472$; $p < .001$ respectively). When stratified, drug use ($\chi^2 = 4.090$, $p = .043$) and harmful drug use ($\chi^2 = 4.108$, $p < .043$) were associated with not being in care for those diagnosed > 12 months.

Conclusion: CBOs are reaching vulnerable PLWHA, but drug use may still be a barrier to initial engagement in care. Integrating linkage to drug treatment programs by CBOs is one approach that may strengthen efforts to engage PLWHA in care.

158 Testing and Linkage to Care for People Who Inject Drugs (PWID) in Kenya: Challenges and Successes

Ann Kurth¹, Peter Cherutich², Helgar Musyoki², Charles Cleland³, John Lizcano (presenting)¹

¹ Yale University, New Haven, CT, USA

² Ministry of Health Kenya, Nairobi, Kenya

³ New York University, New York, NY, USA

Background: People who injects drugs (PWID) in sub-Saharan Africa are amongst the most vulnerable key-populations (KP) at risk for HIV and hepatitis C virus (HCV) infection. Because PWID are highly stigmatized, with Kenya law-making drug-use and possession illegal, they represent an underground-subpopulation difficult to seek, test, treat, and retain.

Method: We used respondent-driven-sampling (RDS) to reach PWID for HIV-1 and hepatitis C virus (HCV) prevalence and viral load determination in Nairobi and Coastal Mombasa [SEEK]. We did rapid HIV and HCV testing on all study participants, following the Government of Kenya guidelines [TEST], POC CD4 determination for HIV-positives, and assignment of peer case managers (PCMs) to those with CD4 < 500 cells/ μ L to link to ART with adherence [TREAT]. Both PCMs and PWID received small conditional cash transfer for PWID adherence to HIV care visits [RETAIN].

Results: RDS was effective in recruiting this hidden KP, as the participants were willing to recruit each other. However, some chains within certain social networks got rapidly saturated. We found discordant HIV-status-connected-PWID injecting together within their social network; Phylogenetic specimens were collected to assess relationship of HIV virus among participants. Testing for HIV and HCV was very helpful for uncovering undiagnosed individuals. Participants were willing to be tested and receive their results. POC CD4 and the use of PCMs, for those HIV-infected, were helpful for early ART initiation. Retention of PWID was challenging as they are highly migratory and a significant percentage of them are homeless. In addition, sometimes they did not attend to clinic visits because they were busy "hustling" to sustain their drug needs or they simply forgot to attend.

Conclusion: The combination of RDS and rapid testing is an effective strategy for finding PWID with HIV and HCV infection, including those not previously diagnosed. Linkage to care by PCMs has been very effective for ART initiation and retention, regardless of the challenges of this KP.



159 High Mortality and Low Rates of Long-Term Engagement in Care Following Delivery among HIV-Infected Women in Mississippi

Ira Wilson¹, Debbie Konkle Parker², Caron Zlotnick¹, Gina Wingood³, Leandro Mena², Binford Nash², Chisa Lanier², Kendra Johnson⁴, Aadia Rana (presenting)¹

¹ Brown University, Providence, RI, USA

² University of Mississippi Medical Center, Jackson, MS, USA

³ Columbia University, New York, NY, USA

⁴ Mississippi State Department of Health, Jackson, MS, USA

Background: Postpartum HIV infected women in the deep South may experience greater challenges with care engagement. We seek to describe longitudinal outcomes and the HIV care continuum among postpartum women in Mississippi.

Methods: We conducted a retrospective analysis of demographics and HIV-related health care utilization and medical outcomes among HIV-infected women who delivered in Mississippi from January 1, 2002, to Dec 31, 2014, using clinical data from all 9 federally funded Ryan White CARE Act clinics in Mississippi and the Mississippi Department of Health (MSDH) Enhanced HIV/AIDS Reporting System (eHARS). Using both of these methods allows comprehensive description of state-wide health care utilization by HIV-infected patients.

Results: 556 women delivered during the study period, with 125 women (22.5%) with ≥ 2 deliveries for a total of 681 deliveries. Median age was 22 at HIV diagnosis and 26 at first delivery; 83% (n = 463) were black with a median annual income of \$10,000. Median last available CD4+ count was 386 cells/ μ L (IQR 165-610 cells/ μ L), and 47.8% (n = 266) have an AIDS diagnosis. 141 women (25.4%) were still in care in 2015 as evidenced by either an outpatient clinic visit (n = 35, 24.8%) or a CD4 and/or HIV plasma viral load (PVL) reported in eHARS (n = 106, 75.2%), and only 13.3% (n = 74) had a PVL < 200 copies/mL; 66 of 457 women with known vital status (14.4%) were deceased as of December 31, 2015; median time from last delivery to death was 5.3 years (range 6 months-13.5 years) with 64% (n = 42) of deaths occurring between 2010-2015.

Conclusion: Postpartum HIV infected women in Mississippi experience low rates of retention and viral suppression, and significant morbidity and mortality. Further investigation into cause of death is forthcoming. Innovative interventions initiated during pregnancy to support engagement with care may improve longitudinal treatment adherence and health outcomes.

160 Improvements in HIV-Related Outcomes among Homeless HIV Patients Using an Intensive Trauma-Informed-Care-Based Intervention

Yasmeen Quadri¹, Nancy Miertschin², Siavash Pasalar², Charlene Flash¹, Jessica Davila (presenting)¹, Thomas Giordano¹

¹ Baylor College of Medicine, Houston, TX, USA

² Harris Health System, Houston, TX, USA

Background: Many homeless HIV-positive patients struggle with retention in HIV care because of substance use, untreated mental health disorders, and unmet needs for food, shelter, and other services. As part of a HRSA-funded Special Projects of National Significance demonstration project between September 2013 and October 2015, we studied whether a trauma-informed-care-based intervention that focused on addressing unmet needs, including housing, substance abuse, and mental health could improve HIV-related outcomes.

Methods: At enrollment, patients were assessed for housing, substance use, and mental health. Unmet needs, including substance abuse and mental health treatment, were ascertained through patient survey data collected at baseline, 3-, 6-, and 12-month follow-up. A housing score was assigned to each patient at baseline and an updated score was assigned during subsequent encounters. The trauma-informed-care based intervention consisted of a coordinated approach with direct hand-offs to clinical and social service partners focusing on addressing housing and other unmet needs. Other components of the intervention included providing referrals, accompanying the patients to the providing agencies, and providing services using our in-house resources. Outcomes included retention in care and viral suppression.

Results: 156 patients were enrolled. Improvements in unmet needs at baseline was observed; 93% were able to access mental health services and 94% substance abuse treatment following enrollment in the intervention. The mean housing score also improved by 32%. Thirty-nine percent had a visit in the 6 months before enrollment, which increased to 71% in the 6-months after enrollment. Viral suppression rate improved from 35% to 49% at 12 months. Viral suppression improved comparably for patients whose housing score improved and those whose housing score did not change or worsened. Similar results were observed for substance abuse treatment and mental health.

Conclusion: Using an intensive trauma-based approach to address housing and unmet needs among poorly retained homeless patients with HIV was associated with improved viral suppression and retention in HIV care. Continued efforts are needed to support homeless clients in addressing ongoing unmet needs in conjunction with HIV clinical care.



161 Enhancing PrEP Access for Black and Latino Men who have Sex with Men

Corina Lelutiu-Weinberger (presenting), Sarit Golub

Hunter College of the City University of New York, NY, USA

Background: Reports suggest that Black and Latino men who have sex with men (BLMSM) have been slower to initiate PrEP compared to white MSM, and there are concerns about recapitulating existing HIV disparities. This study examined differences in potential systems-, provider-, and patient-level barriers to PrEP use between BLMSM (n=277) and other MSM (n=214) to better understand points of intervention to enhance access.

Methods: MSM meeting CDC criteria for PrEP use (N=491; ages 18-66; 32% Black, 24% Latino) enrolled in a PrEP messaging study and completed a self-administered survey. Using logistic regression models controlling for socioeconomic status (SES), we compared barriers and facilitators to PrEP use for BLMSM versus others.

Results: At the systems level, BLMSM were less likely to have private insurance (aOR=.45, $p < 0.001$) and more likely to use public clinics (aOR=2.4, $p < 0.01$). BLMSM were less likely to identify as gay (aOR=.45, $p < 0.001$), potentially reducing PrEP accessibility through LGBT-focused settings. At the provider level, BLMSM were more likely to consider talking to their doctor about their sex life a barrier to PrEP uptake (aOR=3.7, $p < 0.001$), and reported lower perceived agency in medical decision-making (aOR=.58, $p < 0.001$). At the individual level, BLMSM reported greater PrEP efficacy concerns, including being more likely to believe they would be putting themselves at HIV risk by taking PrEP (aOR = 2.0, $p < .01$), were less likely to believe PrEP reduces the risk associated with condomless sex (aOR=.51, $p < 0.01$), or that sex with an HIV-positive partner (aOR=.61, $p < 0.01$) is less risky on PrEP.

Conclusion: Despite reports of high PrEP acceptability among BLMSM, significant barriers to access remain at the systems, provider, and patient levels. Focusing on diversifying PrEP programs, improving patient-provider trust, and increasing beliefs in PrEP efficacy among BLMSM may be key to increasing PrEP interest and adoption.

163 A Telemedicine-Delivered Cognitive Behavioral Therapy for Adherence and Depression (CBT-AD) in HIV-Infected Women in the Deep South

Mirjam-Colette Kempf (presenting)¹, Jessica Haberer², Christina Jagielski¹, Andres Azuero¹, Kristi Stringer¹, Robert Savage¹, Karen Cropsey¹, Corilyn Ott¹, Christina Psaros², Steven Safren³

¹ University of Alabama at Birmingham, AL, USA

² Massachusetts General Hospital, Boston, MA, USA

³ University of Miami, FL, USA

Background: Depression, highly prevalent to HIV, is one of the most consistent predictors of non-adherence to antiretroviral therapy (ART), and associated with increased morbidity and mortality. HIV-positive women are disproportionately affected by comorbid depression relative to HIV-positive men. However, interventions addressing the psychosocial needs of HIV-positive women, particularly in the rural Deep South, where access to care is inadequate, are lacking.

Methods: A two arm, randomized controlled pilot-trial comparing a cognitive-behavioral therapy to enhance medication adherence and reduce depression (CBT-AD) (n = 11) to supportive therapy (ISP) (n = 11) was conducted, enrolling women across four clinic sites in Alabama. Participants were scheduled to 10-12 weekly therapy sessions with post-intervention evaluation at 3 and 6 months. Adherence to ART was assessed by Wisepill (real-time adherence monitoring device) and self-report, and depression assessed by blinded structured interview (i.e., Mini International Neuropsychiatric Interview). Feasibility and acceptability were assessed using interviews and validated questionnaires.

Results: All study participants completed the study with an average of 11.4 sessions over 14.8 weeks; one participant was lost to follow-up at 6 months. Sessions lasted for an average of 52min. Baseline CES-D scores (M = 36.4 (SD = 8.9) were significantly reduced at study conclusion for both groups (CES-D = 22.6 (SD = 2.7); (t (41) = 9.44, $p < .0001$); (Cohen's d = 1.26)). No between-group difference in CES-D change was found. Adherence was not an entry criteria for the study but remained high, averaging 90.2% at baseline and 91.4% at 6 months (Wisepill daily adherence adjusted for technical failures and pocket dosing). Mean satisfaction score (CSQ-8) across all participants at post-treatment was 30.7 (SD = 3.8, maximum possible score = 32) with small differences between interventions (CBT-AD = 29.6 vs ISP = 31.8).

Conclusion: Telemedicine-delivered CBT-AD can be delivered to low-income, rural ethnic minority HIV-positive women resulting in significant reductions in depression symptoms with high satisfaction. A well-powered efficacy trial is needed.



168 Higher Levels of Internalized HIV Stigma at Clinic Intake Paradoxically Predict More Successful Linkage to Primary Care

Katerina Christopoulos (presenting), Mallory Johnson, Samantha Dilworth, Monica Gandhi, Torsten Neilands, Elvin Geng

University of California, San Francisco, CA, USA

Background: Existing research in the United States suggests that HIV-related stigma predicts poorer engagement in care, but this work is limited by self-reported care outcomes, small sample sizes, and a lack of longitudinal outcome data.

Methods: Between February 2013 and December 2014, we assessed new patients at a safety-net HIV clinic in San Francisco using the Internalized AIDS-Related Stigma Scale as part of a social work assessment at clinic intake. A multivariate logistic regression model that adjusted for age, gender, race, ethnicity, sexual orientation, time since HIV diagnosis, HIV care history, and prior ART was used to assess the association between stigma and attendance at the first primary care visit.

Results: We evaluated 341 newly enrolling patients, 22% of whom subsequently missed the first primary care visit. The median age was 42 (range 20-73); 92% were male, 79% MSM, 23% black and 23% Latino. Eighty-five percent had been in HIV care previously, 80% were ART-experienced, and 18% were diagnosed in the past year. Median time from HIV diagnosis was 8 years; median CD4 cell count was 495 cells/mm³. Thirty-three percent had moderate to severe depression and on average social support scores were mid-range. Out of a total of 6 points, the median stigma score was 1.0 (IQR 0-3); 42% endorsed no stigma. In the adjusted analysis, each unit increase in stigma decreased the likelihood of no-showing for the first primary care visit by 17% (aOR 0.83, 95% CI 0.70-0.98, $p < 0.05$). Other factors that decreased odds of no-showing were older age (aOR per 10-year increment 0.59, 95% CI 0.40-0.85, $p < 0.01$) and being ART-experienced (aOR 0.37, 95% CI 0.15-0.91, $p < 0.05$).

Conclusion: In a safety-net HIV clinic, patients with higher levels of internalized HIV stigma at intake were less likely to miss their first primary care visit, adjusting for potential confounders. This finding deserves qualitative exploration, and future investigations should assess: 1) the association between stigma and longer-term retention in care, and; 2) whether depression, social support or CD4 count mediate the relationship between stigma and appointment attendance.

169 PrEP and Sexual Health Services for Young Urban Men who have Sex with Men

Michael D'Arata¹, Jessica Horwitz¹, Rebecca Packard², Kristin Kennedy¹, Xavier Erguera², Robert Grant², Jeff Burack¹, Mi-Suk Kang Dufour², Ifeoma Udoh³, Kimberly Koester², **Janet Myers (presenting)**², Remi Frazier²

¹ East Bay AIDS Center, Oakland, CA, USA

² University of California San Francisco, CA, USA

³ Pangea Global AIDS Foundation, Oakland, CA, USA

Background: The CDC estimates that young men who have sex with men (Y/MSM) account for nearly 75% of all new infections among youth in the United States. Improving access to culturally and clinically relevant sexual health services is critical for stemming the tide of new infections, particularly in urban settings such as Oakland, California, where a HIV State of Emergency has existed since 1998. The Connecting Resources for Urban Sexual Health (CRUSH) Project was conceived as a comprehensive approach to HIV prevention where Y/MSM, regardless of serostatus, can access affirming and innovative sexual health services.

Method: The aim of CRUSH is to implement and evaluate the effectiveness of a package of HIV care, treatment and prevention, including routine sexual health services: STI screening and treatment, PrEP and PEP access, for Y/MSM of color. Utilizing a broad range of scientific and community partners, patients can arrive for scheduled or drop-in visits; receive regular HIV testing, be assessed and treated for STIs, access PrEP and PEP, and adherence support for PrEP and ART. To engage Y/MSM, CRUSH embodies a "clinic without walls" structure, supporting retention efforts, allowing youth to access barrier free services.

Results: Since February 2014, CRUSH enrolled a total of 280 HIV negative and 93 HIV positive participants to receive sexual health care; 259 have received PrEP. About 17% ($n = 43$ of 259) of those receiving PrEP were assessed as needing PEP at some point in the course of the study. Just over 26% ($n = 96$ of 373) are Y/MSM of color. Average age of all participants is 24.7. Average amount of time participants stay on PrEP is 36 weeks of a 48-week study period.

Conclusion: Uptake of sexual health services in this setting for Y/MSM of color was higher than anticipated. Providing routine STI treatment is a critical for integrating PrEP into an existing HIV primary care setting. Ensuring flexible clinic access including drop in visits for STI testing and treatment for both HIV positive and negative youth is essential to engage Y/MSM in routine sexual health. Intensified in-reach and outreach and messaging targeting Y/MSM of color are needed for engagement into PrEP.



173 Survival Needs and ART Adherence among Young HIV-Infected MSM of Color in Oakland

Kristin Kennedy¹, Jeff Burack¹, Ifeoma Udoh², Kimberly Koester, Remi Frazier, Mi-Suk Kang Dufour, **Janet Myers (presenting)**³

¹ East Bay AIDS Center, Oakland, CA, USA

² Pangea Global AIDS Foundation, Oakland, CA, USA

³ University of California San Francisco, CA, USA

Background: Compared to adults, young men who have sex with men (MSM) living with HIV have poorer retention in treatment, increased delay in starting antiretroviral therapy and lower viral suppression. Reasons for these differences may include competing needs facing young people, e.g., unmet access to housing and jobs. We examine the prevalence of these factors and their influence on HIV outcomes in a sample of young men participating in a study aiming to improve engagement in HIV care.

Methods: Between February, 2014 and 2016 HIV-infected individuals between 18 and 29 were enrolled in the Connecting Resources for Urban Sexual Health (CRUSH) study at the East Bay AIDS Center in Oakland, California. Participants enrolled to receive HIV and sexual health services, and to participate in four computer-assisted self-interviews over the course of one year. We report baseline demographic characteristics, self-reported adherence and viral load lab results.

Results: Interview and self-reported adherence data were available for 73 individuals. Viral load results were available for a subset of 55. Most were male (95%) gay identified (75%) and either Black (59%) or Hispanic/Latino (28%). Mean age was 25. More than half reported being concerned most or all of the time about being able to live and work in a safe community. Adherence of greater than 90% was associated with being White or Asian and having private insurance; less than 90% adherence was associated with being Black, Hispanic, or mixed race/ethnicity and uninsured. In multivariable logistic regression controlling for race and insurance status, low adherence remained associated with concerns about survival needs OR 0.25 (95%CI 0.07-0.93).

Conclusion: Conditions affecting the ability of young urban MSM to survive affect HIV medication adherence. Clinical programs seeking to improve adherence to ART must consider the environment in which young people live and work, not just their pill-taking behavior.

177 Predictors of Retention in HIV Care and HIV Viral Load Suppression One Year After being Hospitalized while out of HIV Care

Melinda Stanley¹, Michael Kallen², K. Rivet Amico³, Jessica Davila¹, Christine Hartman⁴, **Thomas Giordano (presenting)**¹

¹ Baylor College of Medicine, Houston, TX, USA

² Northwestern University, Chicago, IL, USA

³ University of Michigan School of Public Health, Ann Arbor, MI, USA

⁴ VA Center for Innovations in Quality, Effectiveness and Safety, Houston, TX, USA

Background: Re-engagement in HIV care can be uniquely challenging for out-of-care hospitalized patients. Using participant data from a recently completed negative study of a peer mentoring intervention in Houston, we sought to determine predictors of retention in care (RIC) and viral load suppression (VLS) one year after hospital discharge.

Methods: Participants were recruited when hospitalized and either newly diagnosed with HIV or out of care. Outcomes for this post-hoc analyses were RIC (≥ 2 completed HIV primary care visits over 12 months, ≥ 90 days apart) and VLS (< 400 copies/mL) at 12 months. Missing data were considered failures. Bivariate and multivariable logistic regression analyses examined predictors of the outcomes.

Results: We enrolled 460 participants; 417 were in the modified intent-to-treat analysis. At baseline, median age was 42 years; 73% male; 67% non-Hispanic black; 40% MSM; 11% newly diagnosed with HIV infection; 78% CD4 < 200 cells/mm³; 20% VLS; 47% recent prescription for ART. At 12 months, 65% were retained and 33% had VLS. In univariate analysis, predictors of both outcomes included no recent use of illegal drugs, employed, new diagnosis, and, for retention only, MSM and Spanish speaker. Non-significant factors included age, race, sex, marital status, depression, length of hospitalization, and a linkage visit before discharge to schedule follow-up appointments. Multivariable predictors of RIC were Spanish speaker (OR=6.48, $p < .01$), CD4 ≥ 350 cells/mm³ (OR=1.92, $p = .02$), employed (OR=1.89, $p = .03$), and on ART at enrollment (OR=1.57, $p = .05$). Multivariable predictors of VLS were new diagnosis (OR=5.72, $p < .001$), VLS at enrollment (OR=1.92, $P = .03$), and employed (OR=1.82, $p = .03$).

Conclusion: RIC and VLS one year after being hospitalized while out of care or newly diagnosed are better for persons newly diagnosed, with recent ART use at hospitalization, and with employment. Persons hospitalized with challenging social situations and no recent HIV care appear most in need of interventions to improve engagement with outpatient HIV care.



180 Identifying Out-of-Care Key Populations in Tijuana, Mexico: A Comparison of Data-to-Care and More Traditional Methods

Eileen Pitpitan¹, Rebeca Cazares², Laramie Smith (presenting)¹

¹ University of California San Diego, CA, USA

² Universidad Autónoma de Baja California, Mexicali, Mexico

Background: Engaging key populations in the HIV care continuum is a substantial challenge in resource limited settings, like Tijuana, Mexico. The current study compares the utility of Data-to-Care and more traditional methods for identifying out-of-care key populations (persons who inject drugs [PWID], females engaged in sex work [FSW], and men who have sex with men [MSM]) in this context.

Method: A new community-based promotor (peer-navigator) intervention, *Conexiones Saludables*, works to identify and engage out-of-care key populations in available HIV treatment in Tijuana. Promoters' daily activities were tracked (08/15/2015-02/29/2016) to monitor approved recruitment methods. A Data-to-Care method was used in collaboration with Mexican Federal (CENSIDA) and State (ISESALUD) health officials, where local patients were flagged as out-of-care vis-à-vis Mexico's universal HIV treatment program; contacts were restricted to phone calls as national policy discourages home-based contact of HIV-positive persons. More traditional methods included in-reach at the host organization's programs (needle exchange, HIV testing, free-community-based clinic), outreach (health fairs) within the target communities, and referrals from local agencies and community members. Promotores screened 64 persons, identifying 26 out-of-care persons from key populations (40% eligible), enrolling 18 (69%; 6 PWID, 2 FSW, 10 MSM) in the intervention.

Results: National HIV data flagged 311 out-of-care patients in Tijuana, 30% had phone contacts [none were PWID or FSW]. No out-of-care key populations were identified. In-reach yielded the majority of out-of-care persons from key populations (67% of persons screened, 83% of persons enrolled). Feeling 'too sick,' withdrawal symptoms, and domestic violence concerns accounted for 75% of non-enrollments. Outreach is accepted by the target communities, but only 1 out-of-care PWID was identified. Referrals were slow but consistent; 19% of persons screened were referrals, of whom 25% were eligible and enrolled in the program. Mortality was high (8%) among eligible persons, both cases were female PWID.

Conclusion: Affiliation with community-based programs targeting key populations may identify more out-of-care members than Data-to-Care efforts. Policy and program implications are discussed.

190 New York City's Efforts to make Data to Care More Efficient: Lessons for other Jurisdictions

Shakara Brown (presenting), Chi-Chi Udeagu

New York City Department of Health and Mental Hygiene,
New York, NY, USA

Background: Data to Care (DtC), the utilization of CD4 or VL RNA reports in the HIV surveillance registry to identify out-of-care (OOC) or never-in-care (NIC) persons living with HIV (PLWH) in order to link them to care, has limitations. For example, PLWH presumed to be OOC/NIC in New York City (NYC) may actually be current to care (CTC), or out of jurisdiction (OOJ). Reducing the number of PLWH presumed OOC/NIC who are CTC or OOJ can increase the overall and cost-effectiveness of DtC initiatives.

Method: The NYC health department implemented DtC in 2008. Persons presumed OOC/NIC (no CD4 or VL ≥ 9 months/or within 6 months of HIV diagnosis) are regularly selected for linkage to care. DtC identified 2,563 PLWH presumed OOC/NIC between 2013 and 2015. Among these, 22% were CTC, 13% were OOJ, and 62% were confirmed as OOC/NIC and residing in NYC. To improve out of care status classification, we began systematically matching against the New York State HIV surveillance registry in 2015 to identify and exclude PLWH receiving care in NYS but outside NYC. We also matched to a NYC social services agency database to identify OOC/NIC PLWH likely residing in NYC for outreach.

Results: With the implemented changes in our methodology, 2016 results show that of the 178 OOC/NIC PLWH traced and investigated thus far, 13% were CTC, 3% were OOJ, and 82% were confirmed OOC/NIC, an improvement from previous years. Use of multiple data sources to ascertain current residency and care status reduced the number of presumed OOC/NIC PLWH initiated for LTC who were CTC or OOJ.

Conclusion: Routine cross-jurisdictional data-matching between registries at local and state health departments optimizes DtC investigations. Protocols for reciprocal data-sharing with HIV social services agencies should be implemented and encouraged.



200 Adverse Implications of Heterosexism for PrEP Clinical Decision-Making and Considerations Regarding Provider Education

Sarah Calabrese (presenting)¹, Kenneth Mayer², Douglas Krakower³, Manyu Magnus⁴, Kristen Underhill¹, Valerie Earnshaw⁵, Nathan Hansen⁶, Trace Kershaw¹, Joseph Betancourt⁷, John Dovidio¹

¹ Yale University, New Haven, CT, USA

² Harvard University, Cambridge, MA, USA

³ Beth Israel Deaconess Medical Center, Boston, MA, USA

⁴ George Washington University, Washington, DC, USA

⁵ Boston Children's Hospital, Boston, MA, USA

⁶ University of Georgia, Athens, GA, USA

⁷ Massachusetts General Hospital, Boston, MA, USA

Background: With 1 in 4 MSM in the United States indicated for HIV pre-exposure prophylaxis (PrEP), minimizing the impact of provider bias on PrEP service delivery is essential. This study examined the relationship between heterosexism and PrEP clinical decision-making and the buffering effect of PrEP education.

Methods: US medical students ($n = 115$), surveyed online (2015), were presented with PrEP background information and a clinical vignette about a PrEP-seeking MSM patient. Participants reported clinical judgments (anticipated increased condomless sex, extra-relational sex, and adherence), PrEP prescription willingness, and prior PrEP education. Heterosexism was assessed via a self-report measure of attitudes toward gay men. Clinical judgments were tested as parallel mediators of the relationship between heterosexism and prescription willingness. The moderating effect of PrEP education was examined.

Results: Most participants (85%) had heard of PrEP and 50% reported prior PrEP education in medical school. The majority (90%) perceived some likelihood that the patient would engage in more condomless sex if prescribed PrEP. Though informed of the patient's monogamous relationship, 30% endorsed some likelihood that PrEP would lead to extra-relational sex. Suboptimal adherence was predicted by 53%. In unadjusted analyses, heterosexism indirectly related to lower prescription willingness via all 3 mediational pathways, with the patient judged as more likely to increase condomless sex, engage in extra-relational sex, and adhere poorly. The negative indirect effect via predicted condomless sex remained significant after adjusting for relevant background characteristics [95% bootstrapped CI(-.13, -.01)]. Prior PrEP education did not relate to clinical judgments or prescription willingness or buffer any indirect effects ($p > .05$).

Conclusion: Heterosexism may compromise clinical judgment, ultimately diminishing PrEP prescription. Prior PrEP education failed to affect PrEP clinical decision-making or buffer the adverse impact of heterosexism. Given the marginalized status of MSM and other priority populations, it is imperative that cultural competence training be integrated within medical education surrounding PrEP.

201 Who Will Show? Predicting Missed Visits in the CFAR Network of Integrated Systems (CNICS) Cohort of Patients in HIV Care in the United States

Brian Pence (presenting)¹, Michael Mugavero², Stephen Boswell³, Katerina Christopoulos⁴, Stephen Cole¹, Heidi Crane⁵, Elvin Geng⁴, Jeanne Keruly⁶, Chris Mathews⁷

¹ University of North Carolina at Chapel Hill, NC, USA

² University of Alabama at Birmingham, AL, USA

³ Fenway Health, Boston, MA, USA

⁴ University of California San Francisco, CA, USA

⁵ University of Washington, Seattle, WA, USA

⁶ Johns Hopkins University School of Medicine, Baltimore, MD, USA

⁷ University of California San Diego, CA, USA

Background: Missed HIV medical care visits predict poor clinical outcomes and higher mortality. Identification of patients at risk of missed visits would facilitate proactive, targeted interventions.

Methods: We analyzed data on patients at 6 large US HIV clinics between 2002-2014, separately considering patients in CNICS care <1 vs ≥ 1 year. At each HIV appointment, we predicted the likelihood of missing the next scheduled appointment using demographic, clinical, and patient-reported psychosocial variables. Predictors included site, age, gender, race/ethnicity, time in care, CD4, viral load, depression, anxiety, alcohol use, drug use, and antiretroviral use and adherence. For patients in care ≥ 1 year, we included the past-year missed visit proportion (MVP). We fit logistic regression models with clustering for multiple observations per person, and calculated the area under the receiver operating curve (AUC) and the sensitivity and specificity of "risk scores" derived from predicted probabilities.

Results: Overall, 11,581 participants contributed 61,461 person-years (mean = 5.3, SD = 4.4) and 334,892 HIV visits (mean = 28.9, SD = 25.8). For 16% of visits, the next scheduled appointment was missed. Among those in care ≥ 1 year, the strongest predictor of a future missed visit was past-year MVP. A model with only this predictor had AUC = 0.68; a risk score contrasting those with past-year MVP $\geq 50\%$ vs $<50\%$ had 67% sensitivity/61% specificity. Demographic, clinical, and psychosocial variables improved AUC and yielded higher sensitivity (79%) but lower specificity (50%). For those in care <1 year, a model with demographic, clinical and psychosocial variables (but no MVP) yielded AUC = 0.64, and the best risk score had 69% sensitivity/50% specificity. Cutoffs had high negative predictive value but more moderate positive predictive value.

Conclusion: Past attendance and clinical and psychosocial factors readily available at the point of care can identify those at risk for missed visits, allowing for proactive allocation of resources and tailoring of interventions to those at greatest risk.



204 The Effect of Depression on Missed HIV Medical Visits among Patients in the CFAR Network of Integrated Systems (CNICS) Cohort in the United States

Brian Pence (presenting)¹, Angela Bengtson¹, Stephen Cole¹, Heidi Crane², Bradley Gaynes³, Amy Heine¹, Chris Mathews⁴, Richard Moore⁵, Sonia Napravnik¹, Conall O'Cleirigh⁶, Steven Safren⁷, Michael Mugavero⁸

¹ University of North Carolina at Chapel Hill, NC, USA

² University of Washington, Seattle, WA, USA

³ Duke University, Durham, NC, USA

⁴ University of California San Diego, CA, USA

⁵ Johns Hopkins University School of Medicine, Baltimore, MD, USA

⁶ Harvard Medical School, Boston, MA, USA

⁷ University of Miami, FL, USA

⁸ University of Alabama at Birmingham, AL, USA

Background: Depression is highly prevalent among patients in HIV care. Depression is strongly associated with poor antiretroviral adherence and clinical outcomes. Its relationship with missed HIV visits is less well defined.

Methods: We analyzed data on 9,752 patients in HIV care at 6 large US CNICS sites who completed a depression assessment with the Patient Health Questionnaire-9 (PHQ-9) at least once between 2005 and 2013. We followed patients from their first PHQ-9 until death, loss to care (>12 months without an attended HIV appointment), or administrative censoring (2014). We used inverse probability of treatment and censoring weights and a repeated-measures marginal structural model to estimate the causal effect of depression on the (1) probability of missing vs. attending the next scheduled HIV medical appointment, (2) probability of attending ≥ 2 HIV medical appointments ≥ 90 days apart over the next 12 months (HIV/AIDS Bureau [HAB] in-care criterion), and (3) proportion of scheduled visits that were missed over the next 12 months (missed visit proportion, MVP).

Results: Patients contributed a total of 26,155 person-years of follow-up (mean = 2.7, standard deviation = 1.8). During follow-up, 37% of patients were ever depressed (PHQ-9 score ≥ 10). Depression at a particular visit increased the likelihood of missing the next scheduled appointment by 18% (risk ratio = 1.18, 95% CI = 1.08-1.29) and increased the MVP over the next 12 months by 3 (95% CI = 1-4) percentage points. There was no effect on the likelihood of meeting the HAB in-care criterion. The longer a patient was depressed, the greater the effect of depression on missed appointments and MVP.

Conclusion: These results using robust causal inference methods indicate that patients with depression were equally likely to meet a minimum definition of retention but more likely to miss scheduled visits. As missed visits are independently predictive of poor outcomes, retention efforts may need to address mental health issues for maximum impact.

207 HIV-Related Stigma in Healthcare Settings and Health Outcomes among People Living with HIV

Bulent Turan, Robin Lanzi, Janet Turan, **Whitney Smith (presenting)**

University of Alabama at Birmingham, AL, USA

Background: Experienced stigma in healthcare settings can play a major role in linkage and retention in HIV care. As noted at a White House Meeting on HIV Stigma (March, 2016), "working to ensure that HIV prevention, testing, and care can be delivered in a stigma-free manner is vital to achieving better health outcomes for people living with HIV." In response, this study examined the effects of experiencing stigma in a healthcare setting (HCS) on non-suppressed viral load, depressive symptoms, social support, and physician trust, as well as potential mediating pathways for these effects.

Methods: Participants were patients from an HIV clinic; excluding those not on ART and current substance users (N = 203; 74 women/129 men; 73 white/130 black). Data on depressive symptoms, duration of ART, and viral load were extracted from clinic records. HCS stigma, internalized stigma, anticipated stigma (from community; friends/family; health care workers), social support, trust in physicians were assessed using validated self-report measures. Logistic regression and mediation analyses (using bias-corrected 95% CI for indirect effects) were conducted.

Results: Notably, experiencing stigma in a HCS was significantly associated with non-suppressed viral load, which remained significant when other predictors were added (aOR=4.60, 95% CI [1.03, 20.56]). The indirect effect of HCS stigma on depressive symptoms through internalized stigma was significant, suggesting that experiencing HCS may lead to internalized stigma, which leads to depressive symptoms. The serial mediation effect of HCS stigma through internalized stigma and then through anticipated stigma was significant in predicting social support and physician trust. Anticipated stigma specifically from healthcare workers was particularly important in the pathway from experiencing stigma in a HCS to low physician trust.

Conclusion: Reducing experienced stigma in healthcare settings is critical to improve linkage and retention in care, as well as health outcomes for people living with HIV.



208 Nonadherence and Unsuppressed Viral Load across Stages of Adolescent Development in US Youth with Perinatally Acquired HIV in the Pediatric HIV/AIDS Cohort Study: A Longitudinal Analysis

Deborah Kacane¹ (presenting), Yanling Huo¹, Kathleen Malee², Claude Mellins³, Renee Smith⁴, Patricia Garvie⁵, Katherine Tassiopoulos¹, Sonia Lee⁶, Claire Berman¹, Mary Paul⁷, Ana Puga⁵, Susannah Allison, for the Pediatric HIV/AIDS Cohort Study

¹ Harvard T.H. Chan School of Public Health, Boston, MA, USA

² Northwestern University Feinberg School of Medicine, Chicago, IL, USA

³ Columbia University, New York, NY, USA

⁴ University of Illinois at Chicago, IL, USA

⁵ Children's Diagnostic and Treatment Center, Fort Lauderdale, FL, USA

⁶ National Institutes of Health, Bethesda, MD, USA

⁷ Baylor College of Medicine, Houston, TX, USA

Background: Elevated rates of antiretroviral (ARV) medication nonadherence and unsuppressed viral load (UVL) in young adulthood vs. early adolescence among youth with perinatally-acquired HIV (PHIV) have been observed. We investigated factors associated with these outcomes across stages of adolescence among participants with PHIV in the Pediatric HIV/AIDS Cohort Study Adolescent Master Protocol (AMP).

Methods: At 15 clinical sites across the US, data were obtained from enrolled youth and caregivers via record abstraction and physical/psychosocial evaluations. Self-reported nonadherence (any missed dose, past week) and UVL (HIV RNA >400 copies/mL) were assessed annually. Individual, caregiver, and social factors associated with nonadherence and UVL were identified by age (years): 8-11 ("pre-adolescence"), 12-14 ("early adolescence"), 15-17 ("late adolescence"), and 18-21 ("emerging adulthood"), fitting multivariable generalized linear mixed effects models.

Results: Of 379 youth (1,190 visits: pre-adolescence [14%], early adolescence [32%], late adolescence [36%], and emerging adulthood [17%]), 52% were girls, and 75% were Black. From pre-adolescence to emerging adulthood, prevalence of nonadherence and UVL increased, from 31% to 50% ($p < 0.001$) and 16% to 40% ($p < 0.001$), respectively. In adjusted analyses at all ages, perceived ARV side effects were associated with nonadherence, with the greatest magnitude in pre-adolescence followed by late adolescence. Factors associated with nonadherence included: using a buddy system to promote adherence (pre-adolescence); being Black, buddy system, once daily regimens (early adolescence); indirect exposure to violence, stigma/fear of inadvertent disclosure, CD4% late adolescence. In adjusted models, significant associations with UVL included: youth unawareness of their HIV status (early adolescence); lower income, perceived ARV side effects (late adolescence); perceived ARV side effects (emerging adulthood).

Conclusion: The prevalence of nonadherence and UVL in youth with PHIV increased with age, and associated factors varied by developmental stage. Recognition of age- and stage-specific factors is essential when considering prevention and intervention strategies.

211 Uptake of Pre-Exposure Prophylaxis (PrEP) in Young Men Who Have Sex with Men is Associated with Race, Sexual Risk Behavior, and Network Size

Anna Hotton¹, Lisa Kuhns (presenting)², John Schneider³, Robert Garofalo², Kayo Fujimoto⁴

¹ Hektoen Institute, Chicago, IL, USA

² Lurie Children's Hospital of Chicago, IL, USA

³ University of Chicago, IL, USA

⁴ University of Texas at Houston, TX, USA

Background: While evidence suggests slow uptake of pre-exposure prophylaxis (PrEP) among men who have sex with men (MSM) in the United States, very few studies have described PrEP uptake among young MSM (YMSM): a group at increased risk of HIV infection. The purpose of this analysis was to describe self-reported uptake of PrEP among YMSM outside of a formal PrEP trial, as well as potential correlates of uptake.

Methods: Data for this analysis come from an on-going network study of YMSM, ages 16-29, recruited via respondent-driven sampling (RDS) at three sites in two cities (Chicago and Houston) from 2014-2016. Participants completed HIV testing and self- and interviewer-administered questionnaires at the baseline visit regarding their sociodemographic characteristics, sexual risk behavior, network ties and PrEP-related care engagement. Potential correlates of PrEP uptake were assessed in multivariable logistic regression models, controlling for recruitment chain and RDS weight.

Results: The analytical sample included $N = 394$ (of 553) participants who were HIV-negative (tested) and aged 18 or older. A total of 12.2% reported ever taking PrEP; Black YMSM had the lowest rates of uptake (4.7%) and Whites the highest (29.5%). In the multivariable regression model, Blacks (vs Whites) were significantly less likely to report PrEP uptake, while those with an HIV positive sex partner or reporting group sex in the past 6 months, those with larger YMSM network size, and those from Chicago (vs Houston) were significantly more likely to report use of PrEP. A test of time trend over the enrollment period and interactions of Black race with socioeconomic and insurance status were not significantly associated with PrEP uptake.

Conclusion: Evidence outside of a formal PrEP trial indicates that uptake is low among YMSM and varies by race, sexual risk behavior and network size. Further research is needed to identify potential mechanisms of action and points of intervention.



9 Sexually Transmitted Infection (STI) Treatment Service Utilization by Men who have Sex with Men (MSM) in Lagos, Nigeria

Samuel Nwafor (presenting)¹, Iwuagwu Stella¹, Christy Ekerete-Udofia¹, Tosin Oderinde², Onyekatu Chinedu¹, Oloruntoba Babawarun¹, Grace Hygie-Enwerem³

¹ Centre for the Right to Health, Lagos, Nigeria

² Society for Family Health, Abuja, Nigeria

³ Noghgyie-Enwerem Foundation, Lagos, Nigeria

Background: HIV high risk population including men who have sex with men (MSM) do not appear to access sexually transmitted infection (STI) treatment services as often as would be desirable. This situation is worsened by social discrimination, anti-gay laws recently enacted in many developing countries, including Nigeria. This has led to an increasing prevalence of both STI and among this HIV most at risk population. The aim of this study is to describe the burden of STIs and identify the key factors associated with STI treatment services uptake among MSM in Lagos State, Nigeria.

Methodology: Respondent driven sampling (RDS) technique was used to recruit 195 MSM respondents in 5 selected Local Government Areas (LGAs). Information on socio-demographic characteristics, self-reported STI symptoms and access to health care services was collected using a semi-structured questionnaire. Description analysis was done for categorical variables to identify prevalence while chi square tests were used to test for association between variables. A binary logistic regression analysis was also done to identify factors associated with uptake of STI treatment services.

Results: The mean age of the MSM was 24.94 + 4.7 years old. The proportion of MSM who reported Symptoms of STI was 25.4% respectively, while 49.2% of MSM received treatment for STI in the last six months. Most of the respondents with self-reported STI symptoms obtained treatment from unqualified sources including self-medication (27.5% MSM), patent/road side Stores (20.6% of MSM), with only a few visits to treatment centers/public hospitals (16.9% MSM) and others (34.4%). Only 40.4% of the MSM who received STI treatment reported being satisfied with the services/treatment accessed while 32.1% MSM and believed that the services of Health Facility was friendly. MSM who have lived in a location between 7 to 12 months are 0.253 times more likely to access quality STI treatment than MSM who lives in an area less than 7 months.

Conclusion: MSM access STI treatment care from a wide range of available health facilities and the barriers to accessing treatment of STI by this key population should be taken into consideration while planning for any HIV intervention.

10 Does Housing Stability Affect Adherence to Antiretroviral Therapy in Persons Living with HIV?

Rebecca Harris (presenting), Peter Selwyn, Xiaonan Xue

Albert Einstein College of Medicine, Bronx, New York, USA

Background: Previous research has produced inconsistent evidence of an association between housing stability and medication adherence among HIV-positive individuals in antiretroviral therapy.

Objective: We conducted a meta-analysis of the housing-adherence relationship based on a comprehensive search of observational studies in the PubMed, Embase, and Cochrane databases (January 2000-December 2015).

Methods: A random effects model was used to estimate overall effect size and 95% CI. Robustness of the estimate was determined by sensitivity analysis. Heterogeneity attributable to the quality of the primary studies or to a secular trend in the data was assessed by subgroup and meta-regression analyses. Publication bias was evaluated with a funnel plot and the Egger and Begg tests.

Results: The summary effect for the association between housing stability and medication adherence was positive and significant (standardized mean difference = 0.15; 95% CI=0.02-0.29), but not robust. Results of the subgroup and meta-regression analyses were nonsignificant. Publication bias was not detected.

Conclusions: Antiretroviral medication adherence is an increasing function of housing stability, but the effect is small and not robust.



12 The Relevance of Tools and Social Media Applications in Adherence to Antiretroviral Treatment in Young People in Brazil – Review of “Viva Bem” App

Diego Calixto (presenting)¹, Helena Lima², Daniela Batista³

¹ University of California, Berkeley, CA, USA

² Pontifícia Universidade de São Paulo, Brazil

³ UNESCO, Brasília, Brazil

Introduction: Many scientific studies show that countries, including Brazil, have changed the treatment guidelines for HIV and to promote universal access to antiretroviral treatment to all people diagnosed as HIV-positive, regardless of viral load. But, against all evidence, adolescents and young adults are the segment of the population least adhere to antiretroviral treatment.

Method: The department of STD, AIDS and Viral Hepatitis (DDAHV) of the Ministry of Health launched the tool on 12 May 2015. The app is a strategy that contributes to better adherence of patients to treatment for HIV/AIDS with antiretroviral (ARV) to remind the user when it is necessary to medicate or get your medicine in health services. In addition, the “Viva Bem” works like a diary where patients can record CD4 tests data and viral load and thus follow the progress of their treatment. It is important to remember, also, that the app can be used to register any medications - thus benefiting also patients suffering from other diseases, as well as co-infections and opportunistic infections.

Results: Through the app it was possible to access adolescents and young people living with HIV/AIDS and encourage adherence to antiretroviral treatment. The youth are highly connected to social networks, so it is important for these mechanisms and strategies to work adhesion in these spaces as a way of using language and communication in health that youth requires and needs.

Conclusion: It was assertive and innovative the creation of the app “Viva Bem” by the department of STD, AIDS, and Viral Hepatitis of the Ministry of Health of Brazil, through the Working Group (WG) of Accession, which aims to reflect and discuss mechanisms and innovative strategies to work adherence to antiretroviral treatment. The WG is mixed, composed of representatives of the social movement to combat AIDS, members of the department of STD, AIDS and viral hepatitis (DDAHV) and people linked to universities and research centers related to accession. The creation of the application called “Viva Bem” has emerged as demand WG, because it was the WG consensus that strategies using social networks have an excellent range of adolescents and youth.

14 A Systematic Rapid Review of the Social-Ecological Factors that Affect Adherence to HIV Treatment in Low- and Middle-Income Countries (LMICs), 2004-2015

Gill Green (presenting)¹, Doreen Tembo²

¹ University of Essex, England

² University of Southampton, England

Background: Few reviews of ART adherence have focused on interventions and factors specifically in low- to middle-income countries (LMICs) despite the fact that poor adherence creates substantial increased costs to already overstretched health systems.

Methods: A rapid review was undertaken and organised according to the social ecological model which examines protective and risk factors at multiple levels of intervention including the individual, interpersonal and macro level. A search was carried out by two independent researchers of English peer-reviewed systematic reviews and meta-analysis papers published in journals between 2004 and 2015 in the PubMed, EBSCO host and ISS Web of Science (WoS) databases.

Results: Adherence is higher in LMICs although within these settings higher social economic status is generally linked to higher adherence. Sex workers and intravenous drug users have similar levels of adherence to the general population. Rape victims have lower adherence than those exposed through non-forcible sex. The delivery of treatment has a key impact and regimes, which are simple and reduce treatment burden (e.g., single dose) improve adherence. Electronic messaging appears to be particularly efficacious in resource poor settings, particularly texts that are, short, less frequent and interactive. There is a paucity of reviews on interpersonal and community level interventions and structural factors despite the fact that it is clear that these can have a major impact on adherence probably greater than any individual factor.

Conclusions: This review has identified factors that increase vulnerability for non-adherence in LMICs. It has identified groups at highest risk and interventions that are effective which will support the design of evidence based ART adherence enhancing interventions and policy in LMICs.



17 Women in Support of Health (WISH)

Domenica Personti

Brandywine Counseling and Community Services, Wilmington, DE, USA

Background: Women involved in sex work experience myriad challenges, such as criminal justice involvement, poverty, illiteracy, low social status and gender inequity, lack of access to healthcare.

Method: Through collaborations with criminal justice programs and local commissioners, a program was created that serves as an intervention with the justice system as well as implementation of trauma-informed probation and a gender-specific services explicitly designed for sex workers which also increases the women's access to adequate health-care services. The purpose of this presentation is to examine the effects of the WISH Program's (Women In Support of Health) gender-specific, trauma-informed probation and therapeutic case management, community-based outreach, care coordination, court advocacy, empowerment training, HIV testing and counseling, and trauma counseling on females who engage in sex work. A matched sample of 257 females, age 18 years and older, were recruited in the local area of Wilmington, Delaware. Each participant completed face-to-face baseline and six month follow-up interviews in which criminal justice involvement, sexual behaviors, mental health, and substance abuse were assessed.

Results: After engaging in WISH, according to the Pearson Chi-Square test statistics, there was a significant difference in reports of emotional abuse, $\chi^2(4, n = 243) = 22.58, p < .001$; reports of physical abuse, $\chi^2(4, n = 88) = 12.02, p < .05$; and, reports of sexual abuse $\chi^2(4, n = 35) = 8.60, p < .1$. Independent samples t-test found a decrease in alcohol use at intake ($M = 1.71, SD = 5.27$) compared to 6 month follow-up ($M = 1.05, SD = 4.10$). , illegal substance use (intake: [$M = 11.19, SD = 12.98$]; follow-up [$M = 5.61, SD = 10.50$]), and cigarette use (intake: [$M = 26.27, SD = 9.52$]; follow-up [$M = 27.83, SD = 7.76$]) after six months of involvement in the WISH program.

Conclusions: This work suggests that taking a holistic, intensive approach by aligning the criminal justice, healthcare, and community social services in a systemic process can result in the implementation of effective systems change initiatives that address gender disparities and promote the health of high-risk women.

21 Sustained Viral Suppression in a Cohort of In-Care HIV-Positive Patients in Virginia: The Medical Monitoring Project (MMP), 2009-2013

Jennifer Kienzle (presenting), Lauren Yerkes, Celestine Buyu

Virginia Department of Health, Richmond, VA, USA

Background: Viral suppression of HIV can contribute to better health outcomes among persons living with HIV (PLWH) and can reduce overall probability of transmission. Thus, it is important to monitor viral suppression at the individual and population level. Few studies have explored predictors for sustained viral suppression (SVS) for PLWH at the state level (i.e., viral suppression for at least two years). The aim of this study is to determine if specific sociodemographic variables are associated with SVS in a sample of PLWH in Virginia.

Methods: Data for this analysis included Medical Monitoring Project (MMP) participants in Virginia from 2009-2013, who had durable VS (defined as being virally suppressed during the 12-month period immediately prior to the MMP interview) and a viral load test present in the state HIV surveillance system at least one year after the MMP interview ($N = 515$). Binary logistic regression models were performed for each independent variable to determine inclusion in the multivariate logistic regression model (where $p < .10$). Results for the multivariate regression model are reported where $p < .05$.

Results: Fifty-one percent ($n = 263$) of participants had SVS. Race and daily smoking status met the criterion for inclusion in the final multivariate regression model. For the multivariate model, White participants were approximately two times more likely to have SVS than Black participants [adjusted odds ratio (AOR) 1.8, Confidence Interval (CI), 1.1 –2.9]. In addition, Hispanic participants and participants of other races were six times more likely to have SVS than Black participants (AOR 6.0, CI 2.8-14.3).

Conclusions: Findings suggest there may be differences by race for SVS for in-care, PLWH. Further research is needed to explain why these groups differed on SVS. Addressing these differences in care settings, such as treatment adherence programs, may improve rates of SVS.



23 Housing Stability Patterns among HIV-Positive Persons Enrolling in a Supportive Housing Program: Data for Action from New York City, 2006-2012

Ellen Wiewel (presenting), Tejinder Singh, Sungwoo Lim, Sarah Walters, Gerod Hall, Christopher Beattie, Joanne Hsu, Yaoyu Zhong, Sarah Braunstein, John Rojas

New York City Department of Health and Mental Hygiene, New York, NY, USA

Background: Stably housed persons living with HIV (PLWH) are more likely than homeless PLWH to adhere to HIV treatment and achieve viral suppression. NY/NY III is a joint New York City (NYC) and State (NYS) supportive housing program for populations at risk of homelessness, including PLWH. We investigated housing stability patterns pre- and post-enrollment in NY/NY III among PLWH.

Methods: Pre- and post-enrollment data obtained from NYC/NYS administrative datasets included dates of residence in jails, hospitals, homeless shelters, and government-subsidized housing (also referred to as stable housing; not limited to NY/NY III). Time outside of these was classified as non-institutional. Sequence analysis identified housing patterns one year pre- and two post-enrollment, overall and by NY/NY III placement, among NYC PLWH enrolled in NY/NY III during 2007-2010. More persons enroll in NY/NY III than can be placed. A Chi-square test of association identified differences between placed and unplaced persons.

Results: Of 880 PLWH enrolled in NY/NY III, 72% were male, 91% Black or Hispanic, 85% substance users, 98% mentally ill, and 79% in non-institutional housing pre-enrollment; mean age was 45 years. Post-enrollment housing patterns were non-institutional (33%), housing stability after a half-year (31%), housing stability after one year (20%), and incarceration (16%). The 495 placed persons (56%) were similar to unplaced on most demographic and clinical characteristics and pre-enrollment housing patterns but had different post-enrollment housing patterns ($p < 0.01$), with placed persons more likely than unplaced to be stably housed after a half-year (50% vs. 8%) and less likely to be non-institutionalized (17% vs 53%) or incarcerated (14% vs 18%).

Conclusions: PLWH had greater housing stability after enrolling in NY/NY III, including increased government-subsidized housing and decreased non-institutional residence, particularly for the placed subset. The influence of placement and housing patterns on HIV outcomes among these enrollees should be investigated.

27 Cost, Long-Term Adherence, and Prevention of Transmission from Early Initiation of ART

Richard Grimes (presenting), Deanna Grimes

University of Texas Health Science Center at Houston, TX, USA

Background: The START study demonstrated a reduction in clinically significant events due to early initiation of ART. This has led to changes in guidelines to emphasize that ART should be started at HIV diagnosis without regard to CD4+ count. Before initiating the new guidelines policy makers should consider the medication costs of early treatment, impact of early treatment on long term adherence to ART, whether early treatment will result in lower transmission and will lower costs of treating HIV associated diseases that are prevented.

Methods: The cost of treating the START study's delayed treatment group was estimated using START's published data and 50% of average wholesale prices (AWP) in the USA (\$18,500/year) of five recommended ART regimens. These data were then used to estimate the costs at other patient volumes and ART prices. The literature was examined to estimate long term adherence to ART, cost prevented by early treatment, and potential reduction in HIV transmissions.

Results: The cost of treating the START's delayed group for the 3 years of the study using 50% of AWP would have been \$99,511,500. The 3 year cost/100 patients of treating at medication \$18,500, \$10,000, \$5000, \$2500, \$1000 and \$139 (Doctors without Borders cost) were \$4,218,376, \$2,280,203, \$1,140,102, \$570,051, \$228,020, \$31,695 respectively. The literature suggests that adherence to ART declines over time but the studies are short term and may not predict lifelong adherence. There are no published data on the impact of early treatment on transmission at high CD4+ counts. The numbers of prevented conditions in the START study are too small to validly predict the prevented costs.

Conclusions: Medication costs of early ART are significant. More research is needed on long term adherence to medication, the level of transmission prevented and cost of clinical events prevented.



28 Barriers to HIV Care for Older Adults in Rural Communities

Katherine Quinn (presenting)¹, Chris Sanders², Andrew Petroll¹

¹ Medical College of Wisconsin, Milwaukee, WI, USA

² Lakehead University, Thunder Bay, ON, Canada

Background: Older adults with HIV/AIDS living in rural areas face unique challenges to accessing HIV care and medications, and suffer from greater mortality than non-rural HIV-infected individuals. This study examined the factors that affect engagement in care, medication adherence, and quality of life among this understudied population.

Methods: HIV-positive adults over the age of 50 living in rural areas were recruited through partnerships with AIDS Service Organizations in 4 states. Qualitative interviews were conducted by phone. Audio files were transcribed verbatim and analyzed using MAXQDA.

Results: We interviewed 29 participants, the majority of whom were White (n = 21), male (n = 23), and heterosexual (n = 16). Living in resource-constrained settings, participants' narratives were dominated by challenges to maintaining good health. Participants had complex medical needs in addition to HIV and noted difficulty discerning whether symptoms were associated with HIV, other medical conditions, medication side effects, or aging. All participants were currently receiving medical care for their HIV but noted access to care was a challenge. Participants faced significant transportation barriers and for many, the closest HIV specialists were nearly 2 hours away. Care was complicated by significant mental health concerns including stress, depression, and anxiety, along with significant isolation and loneliness. Although reported medication adherence rates were high, participants cited several barriers to maintaining adherence including the cost burden of taking numerous medications, long distances to pharmacies, and managing multiple HIV and non-HIV related medications and their side effects.

Conclusions: Given the increase in rural individuals living with HIV, coupled with an aging population of HIV-infected individuals, interventions are needed to address the complex intersection of aging and HIV, especially for those in rural environments. Findings suggest there are opportunities to increase access to care for HIV-infected older adults in rural communities including telehealth interventions, minimizing transportation barriers and increasing social support.

30 Behavioral and Clinical Characteristics of HIV-Infected Adults who Exchange Sex – United States, 2009-2013

Oluwatosin Olaiya (presenting), Christine Mattson, Lina Nerlander, Linda Beer

US Centers for Disease Control and Prevention, Atlanta, GA, USA

Background: Persons who exchange sex may engage in risk behaviors associated with HIV acquisition; however, little is known about HIV-infected persons who exchange sex.

Methods: The Medical Monitoring Project (MMP) is a national surveillance system of HIV-infected adults in medical care in the United States. We used weighted MMP data from 2009-2013 to compare the behavioral and clinical characteristics of sexually active persons who exchanged sex for money, drugs, food, shelter or transportation in the past 12 months to sexually active persons who did not exchange sex.

Results: Among sexually active HIV patients, exchange sex prevalence was 3.6% (95% confidence interval [CI] 3.3-4.0) overall; 3.3% (CI 2.9-3.7) among men who have sex with men, 4.8% (CI 4.0-5.6) among heterosexual men, 2.7% (CI 2.2-3.4) among heterosexual women, and 14.7% (CI 9.7-21.5) among transgender persons. Persons who exchanged sex had a higher median number of sexual partners than those who did not [3.0 (interquartile range, 1.4-9.8) vs 1.00 (interquartile range, 1.0-1.9)] and were more likely to report condomless sex (53.6% vs 38.2%) and condomless sex with an HIV-negative/unknown status partner while not sustainably virally suppressed (at least one HIV viral load test above 200 in the last 12 months) (16.5% vs 10.9%) (p < 0.001). Compared to those who did not exchange sex, those who did were less likely to be on antiretroviral therapy (ART) (85.6% vs 92.0%), be 100% adherent to ART (74.2% vs 87.0%), and have sustained viral suppression (56.4% vs 68.0%); all p < 0.05.

Conclusions: HIV-infected patients who exchanged sex had higher prevalence of HIV transmission risk behaviors and were less likely to be virally suppressed. To reduce potential for onward HIV transmission, providers should consider asking HIV-infected patients about exchange sex, provide risk-reduction strategies accordingly, and explore barriers to ART use and adherence among this population.



31 Utility of Patient Navigators to Improve Care Continuum Outcomes among HIV-Infected People who Use Drugs

Michael Saccoccio¹, Susan Ramsey², Kate Guthrie²,
Kasey Claborn (presenting)¹

¹ Rhode Island Hospital, Providence, RI, USA

² Brown University, Providence, RI, USA

Background: Challenges in linkage and retention to care are often a consequence of multiple syndemics experienced by HIV-infected people who use drugs (HPWUD) which impede ability to navigate the healthcare system. The aim of this qualitative study was to assess: (a) provider experiences with HPWUD; (b) referral processes; (c) challenges to care coordination; and (d) perceived gaps in training among HIV and substance use (SU) providers.

Methods: Individual in-depth interviews (IDIs) were conducted with N = 29 providers (n = 16 HIV; n = 13 SU) in 2015. Participants were included if they were employed within a local HIV or SU facility, had a relevant position title, and had a minimum of one year relevant experience. IDIs were 45-90 minutes, and followed a semi-structured guide. Data analysis is occurring iteratively. Formal thematic analysis will be conducted to confirm preliminary findings.

Results: Analyses highlight challenges among HIV/SU providers in linkage and care coordination for HPWUD. Both provider types indicated the need for additional support within organizational structures to adequately treat and retain high-risk patients. Providers noted that the confluence of psychiatric and medical comorbidities among PWUD is taxing on provider and organizational resources. Providers indicated multiple methods for improving care coordination and treatment adherence among HPWUD; however, patient navigators emerged as a theme deemed relevant within both disciplines. Both provider types reported having an "advocate" or a "sponsor" for the patient who serves as a bridge across HIV/SU care may improve care coordination and re-engagement in services.

Conclusions: HPWUD continue to experience significant disparities across the care continuum. Both HIV and SU providers lack an understanding of different discipline's treatment modalities, communication processes, and providers' roles outside their discipline. System and provider-level interventions that facilitate linkage to and retention in dual care services are discussed. Recommendations for content and structure of a patient navigator intervention are noted.

33 Coordination of Care for the HIV-Positive Pregnant Patient to Prevent Perinatal Transmission

Corrine Lehmann¹, Carolyn Yorio², Lois Bull³, Krista Andrews³,
Pamposh Kaul³, Jan Stockton³, Jennifer Sparks (presenting)³

¹ Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA

² Caracole, Inc., Cincinnati, OH, USA

³ University of Cincinnati Medical Center, Cincinnati, OH, USA

Background: Coordination of care for pregnant women who are infected with Human Immunodeficiency Virus (HIV) followed in multiple health networks, with the goal of zero perinatal transmissions. Whereas previously, nearly all HIV pregnancy care was delivered through an academic medical center, Affordable Care Act implementation provided options for care through a wider range of health care networks where providers had variable HIV expertise.

Methodology: A formalized process of care coordination was designed to prevent HIV transmission from the mother to infant. This process includes communication and coordination of services across multiple settings, including community clinics, physicians' offices, and rural hospitals, to improve access to expert care and consultation for the HIV-positive pregnant woman. Strategies employed to meet this goal include multidisciplinary monthly meetings to review known cases and identify patients at risk for perinatal transmission and educating health-care providers through face to face trainings and telephone consultation.

Results: Over the past 16 years, 257 pregnancies have been monitored, with 212 live births, 23 unknown outcomes and only 2 cases of perinatal transmission. A detailed summary of the past six years is included for review. Of note, of 140 pregnant women followed between 2010 and 2015, 37 (26%) were diagnosed with HIV infection when they initiated prenatal care. Unknown outcomes resulted from mother moving out of the area before delivering and mother/baby lost to follow up.

Conclusion: With systematic collaboration and planning, it is possible to retain pregnant patients from getting lost in the health care delivery system and to prevent perinatal transmission of HIV infection. Future strategies will focus on furthering collaboration and communication with hospitals newly opening maternity units and where staff may be less prepared to assure proper care is given to the HIV-infected pregnant woman and her newborn during the labor and delivery processes.



34 Antiretroviral Treatment (ART) Administered as Directly Observed Therapy (DOT) for Non-Adherent Pregnant Women with HIV Infection

Carolyn Yorio¹, Pamposh Kaul², **Jennifer Sparks (presenting)**², Jan Stockton²

¹ Caracole, Inc., Cincinnati, OH, USA

² University of Cincinnati Medical Center Cincinnati, OH, USA

Background: Prevention of mother-to child HIV transmission (PMTCT) through routine prenatal HIV testing and prompt ART initiation represents a significant public health success. Implementation of guidelines developed by United States Department of Health and Human Services has reduced the rate of perinatal HIV transmission from approximately 30% to

Methodology: Clinic attendance monitoring among HIV-infected pregnant patients revealed two cases at risk for perinatal transmission: one developmentally-disabled, the other with bipolar disorder. Both had episodes of non-adherence with ART and clinic visits prior to pregnancy and since becoming pregnant, each one experienced intermittent elevations in HIV viral load measurements. Interventions to increase adherence included referral to health department home care services for DOT and reinforcement of teaching done in clinic; more frequent contacts and visits by HIV case managers; and regular communication between Infectious Disease and Perinatal Clinics staff regarding patient status.

Results: Both mothers achieved and maintained HIV virologic suppression. One mother gave birth to an HIV-negative infant and the other is beginning her third trimester.

Conclusion: This poster describes each clinical case, details targeted interventions used and presents clinical outcomes. Recommendations for coordination of care for HIV-infected pregnant women between clinical care teams, service organizations and local health departments are discussed.

35 It's Complicated: The Role of Primary Romantic Relationships in HIV Care Engagement Outcomes among Young HIV-Positive Black Men who have Sex with Men

David Huebner¹, John Peterson², Susan Kegeles³, Lance Pollack³, Greg Rebchook³, **Judy Tan (presenting)**³

¹ University of Utah, Salt Lake City, UT, USA

² Georgia State University, Atlanta, GA, USA

³ University of California, San Francisco, CA, USA

Background: Relational factors play a fundamental role in health maintenance, but little is known about their role in HIV care engagement among young HIV-positive Black men who have sex with men (MSM). The primary romantic relationship is a unit of social networks that remains under-studied even as a good proportion of HIV transmissions among MSM occurs within primary relationships.

Methods: Using simple and multiple logistic regressions, we examined how HIV care engagement outcomes (i.e., having a primary care provider, receiving HIV treatment, taking antiretroviral medication, and medication adherence) vary by relationship status (single vs. in a relationship) and partner HIV serostatus (concordant-positive vs. discordant) in a sample of young HIV-positive Black MSM. Survey data were collected as part of a larger community-level HIV prevention intervention trial of young Black MSM in Dallas and Houston, TX, between 2009 and 2014.

Results: Of the 350 men who reported their relationship status, 51.1% (179) reported being in a primary relationship, and of these men, 40.8% (73) reported that their partner was HIV-negative or of unknown HIV status. Results showed mixed findings. Relationship status was significantly associated with HIV care engagement, even after adjusting for individual, social, and structural factors. While partnered men were consistently more likely than their single counterparts to have a regular provider, to receive recent treatment, and to have taken antiretroviral medication, they were less likely to report current antiretroviral therapy. Moreover, men with a discordant partner reported better adherence compared to men with a concordant or no partner.

Conclusions: The association between having a partner and improved outcomes was not consistent across the stages of HIV care and treatment, highlighting the complexity in how and why young HIV-positive Black men may engage in HIV care. Given the social context of HIV disease management, more research is needed to explicate underlying mechanisms involved in HIV care and treatment that differ by relational factors for young HIV-positive Black MSM.



36 Challenges to Engagement and Retention of Transwomen of Color in HIV Care: Baseline Findings from the Brandy Martell Project

Tiffany Woods¹, Janet Halfin¹, Terry Washington (presenting)¹, Sean Arayasirikul², Erin C. Wilson²

¹ Tri City Health Center, Fremont, CA, USA

² San Francisco Department of Public Health, San Francisco, CA, USA

Background: Transwomen of color are disproportionately impacted by HIV, have low HIV care engagement and low survival rates compared to other populations living with HIV. However, little is known about the circumstances within which transwomen living with HIV exist and what their level of HIV care engagement is currently. We will discuss novel findings on the life circumstances and HIV health outcomes of transwomen of color from an HIV care, linkage and retention demonstration project in the East San Francisco Bay Area.

Methodology: The Brandy Martell project is an intervention to engage and retain transwomen of color previously out of HIV care via workshop programming and a legal clinic. At baseline, African American and Latina transwomen were enrolled and patient surveys were administered.

Results: At baseline, there were 45 participants in the program. Almost all participants identified as female/women (91%). The majority (42%) of participants were aged 40 or older. 31% identified as Latina and 76% identified as African American. Only 60% graduated high school and 73% of the sample lived on less than \$1,000 per month of income. Most reported having health insurance (96%). In the past 6 months, 11% were incarcerated and 69% ran out of money to meet basic necessities. Almost all participants had ever received HIV care (89%), but only 55% of those who had ever received care did so in the last six months. While most reported an undetectable viral load, 28% reported not being virally suppressed.

Conclusion: Despite having access to health insurance and health care, transwomen living with HIV have competing needs far beyond those related to health that impact their HIV care engagement. Services and care sites are needed that address instrumental needs for economic opportunities, education and legal services are a start for improving HIV care outcomes among transwomen of color.

37 Examining the Implications of Intersectional Stigma for HIV Treatment Adherence among Women Living with HIV

Whitney Smith (presenting)¹, Janet Turan¹, Bulent Turan¹, Tessa Napoles², Melonie Walcott¹, Abigail Batchelder², Mirjam-Colette Kempf¹, Gina Wingood³, Debbie Konkle Parker⁴, Carmen Logie⁵, Mallory Johnson², Sheri Weiser²

¹ University of Alabama at Birmingham, AL, USA

² University of California, San Francisco, CA, USA

³ Emory University, Atlanta, GA, USA

⁴ University of Mississippi Medical Center, Jackson, MI, USA

⁵ University of Toronto, ON, Canada

Background: Engagement in HIV care, including adherence to antiretroviral therapy (ART), is inadequate in vulnerable populations, including women living with HIV. HIV-related stigma may be exacerbated by other intersecting forms of stigma and discrimination (i.e., racism, poverty), and these may contribute to reduced adherence to HIV care. However, few studies have examined the role of intersectional stigma in HIV treatment adherence.

Methods: From June to December 2015, we conducted 75 qualitative interviews with HIV-infected women of diverse racial/ethnic and socioeconomic backgrounds who were enrolled in the Women's Interagency HIV Study in Birmingham, Jackson, Atlanta, and San Francisco. Interview guides were used to facilitate discussions around barriers and facilitators to HIV treatment adherence, including experiences of stigma and discrimination involving multiple interrelated identities (e.g., gender, HIV status, race). Interviews were audio-recorded, transcribed verbatim, and coded using a theme-based approach.

Results: Participants across settings shared perceptions and experiences of stigma and discrimination based on their HIV status in conjunction with other identities; most commonly related to their gender, race, and poverty, but also incarceration, age, and body image. For example, some participants discussed fears and experiences of HIV-related stigma in the workplace, which converged with sexism experienced in the same setting, where participants described being undervalued as women. Participants reported that these stigmas negatively affected their interpersonal relationships, mood, self-esteem, and motivation for self-care; which contributed to sub-optimal HIV treatment adherence for some women. Respondents also reported using strategies for coping with these stigmas, including prayer and optimism; which helped them to remain engaged in HIV care.

Conclusions: Experiences of intersectional stigma compromise HIV treatment adherence for diverse women living with HIV. These findings can guide the development of interventions to reduce stigma, improve ART adherence and engagement in care, and mitigate HIV-related health disparities among women living with HIV.



38 The Impact of HIV-Associated Disorders (HAND) on cART Adherence

Susan Kamal (presenting), Isabella Locatelli, Asemaneh Sehhat, Olivier Bugnon, Renaud Du Pasquier, Matthias Cavassini, Marie Paule Schneider

University of Lausanne, Switzerland

Background: HIV associated neurocognitive disorders (HAND) are defined according to their diagnostic degrees as: asymptomatic neurocognitive impairment (ANI), mild neurocognitive disorder (MND) and HIV-associated dementia (HAD). As a high adherence rate to cART is required to maintain viral suppression among HIV positive patients, it is important to investigate the impact of HAND on medication adherence. Our study hypothesis is that HIV-positive patients with HAND have a lower medication adherence than those that are without a deficit.

Methods: This was an observational, exploratory, retrospective one centre study of 43 patients with adherence collected routinely in care over a long period of time. Adherence was measured with electronic monitors (EMs). Patients' socio-demographic characteristics and clinical data were collected by reviewing the Swiss HIV Cohort Study (SHCS) database. Repeated adherence measures were available through EMs stating whether or not a patient was taking the medication as prescribed at any time t. Implementation was computed as the proportion of patients taking medication as prescribed at that time. A generalized estimating equation (GEE) model adjusted for neurocognitive diagnosis was used to estimate implementation patterns across time.

Results: 43 HIV positive patients, with age 50 (29-80) years median (IQR), 25 (58%) male and median (IQR) CD4 count 646 (309-1,328) cells/ μ l were studied. Out of 43 patients, 11 patients (25%) were normal, 7 (16%) had ANI, 4 (9%) had MND, 3 (7%) had HAD and 18 (42%) had non-HIV-related neurocognitive disorders (e.g. depression). Implementation over 3.5 years showed a significant decline in medication adherence among patients diagnosed with ANI, MND, HAD (implementation dropped to 50% after around 3 years of follow-up) in comparison with patients who had a normal diagnosis or a non-HIV-related cognitive deficit (implementation stayed approximately stable around 90% during follow-up).

Conclusion: Our findings support the hypothesis that HAND decreases cART adherence.

39 Assessing the Cascade of HIV Diagnosis, Care, and Treatment in a Rural South African Setting

George Gachara (presenting)¹, Lufuno Mavhandu¹, Cecile Manhaeve², Pascal Bessong¹

¹ University of Venda, South Africa

² HIV/AIDS Prevention Group Wellness and Health Clinic, Bela-Bela, South Africa

Background: The maximum benefits of antiretroviral therapy (ART) rely on successful HIV testing programmes and engagement of infected individuals in the HIV care continuum. Gaps in this continuum threaten the effectiveness of ART to achieve optimal health outcomes and reduce HIV transmission.

Methods: This study aimed to describe the cumulative retention from HIV diagnosis to achievement of virologic suppression after ART initiation in patients at the HIV/AIDS Prevention Group Wellness Clinic in Bela-Bela, South Africa. Kaplan-Meier survival estimates for calculating cumulative incidences of mortality for each stage of care was used, while independent t test was used to compare mean CD4 cell counts and viral loads.

Results: In step 1, among 1,209 patients diagnosed with HIV, 82.5% (n = 998) had a CD4 cell count within three months. In step 2, 8.9% (n = 15) of the 169 patients ineligible for ART had a CD4 cell count in the last six months. Of the ART eligible patients for step 3 analysis, 89.4% (n = 705) initiated ART within three months while in step 4 analysis, 21.5% (n = 160) of patients who initiated ART died or were lost to follow up. In step 5, 81.4% (n = 355) of patients on ART achieved virologic suppression at their last viral load determination. Patients who achieved virologic suppression had lower mortality than patients who didn't (p = 0.022). Patients who died had less than half the number of CD4 cells and more than double the viral load of those who did not (p < 0.001).

Conclusions: Most attrition occurred among patients ineligible for ART. It is thus imperative to consider placing stronger emphasis on developing interventions to improve retention in pre-ART care. This is because these patients are more likely to seek care later and initiate ART with low CD4 counts increasing their risk of mortality.



43 Sustained Viral Suppression among East African HIV-Infected Members of Serodiscordant Couples Initiating ART with High CD4 Counts and During Pregnancy

Andrew Mujugira (presenting)¹, Jared M. Baeten¹, Lara Kidoguchi¹, Nelly Mugo², Kenneth Ngunjiri³, Elizabeth A. Bukusi², Josephine Odoyo², Elly Katabira⁴, Nulu Bulya⁴, Stephen Asiimwe⁵, Edna Tindimwebwa⁵, Jessica Haberer⁶, Deborah Donnell⁷, Connie Celum¹, Renee Heffron¹

¹ University of Washington, Seattle, WA, USA

² Kenya Medical Research Institute, Nairobi, Kenya

³ Jomo Kenyatta University of Agriculture and Technology, Juja, Kenya

⁴ Makerere University, Kampala, Uganda

⁵ Kabwohe Clinical Research Center, Kabwohe, Uganda

⁶ Massachusetts General Hospital, Boston, MA, USA

⁷ Fred Hutchinson Cancer Research Center, Seattle, WA, USA

Background: Adherence to antiretroviral therapy (ART) is a primary determinant of viral suppression. Motivation for high adherence may wane in people who are asymptomatic and healthy at ART initiation, including women who initiate ART during pregnancy. We assessed whether ART initiation, and viral suppression 6 and 12-months later, was lower in HIV-infected members of heterosexual serodiscordant couples who initiated during pregnancy or with higher CD4 counts.

Methods: We used data from the Partners Demonstration Project, an open-label, prospective study of integrated ART and PrEP for HIV prevention among high-risk HIV serodiscordant couples in Kenya and Uganda. Differences in viral suppression (plasma HIV RNA <400 copies/ml) among people initiating ART at different CD4 count levels (≤ 350 vs >350 cells/mm³) and during pregnancy were estimated using Poisson regression.

Results: Of 1,010 ART-naïve HIV-infected partners, 677 (67%) were women and the median age was 28 years (IQR 23-35). At study entry, median CD4 count was 462 cells/mm³ (IQR 272-638) and plasma HIV RNA concentration was 4.6 log₁₀ copies/ml (IQR 3.9-5.0). 1007 (99%) HIV-infected participants became ART-eligible during the 2-year study period and 896 (93%) initiated ART in a median of 24 days (IQR 1-84) after ART eligibility. Viral suppression at 12-months after ART initiation was comparable among those initiating ART at CD4 counts >350 cells/mm³ and CD4 ≤ 350 (93.2% vs 89.1%; relative risk [RR] 1.03; 95% CI: 0.98-1.09). Women initiating ART due to pregnancy were more likely to be virally suppressed at 12-months than women initiating for other reasons (95.8% vs 87.0%; RR 1.09; 95% CI: 1.01-1.18).

Conclusions: Nearly all HIV-infected partners initiating ART were virally suppressed after one year, irrespective of CD4 count or pregnancy status at initiation. These findings suggest that people eligible for ART with high CD4 counts or due to pregnancy can adhere to ART as well as those with a clinical indication for ART.

45 “Responsible” PrEP Use: A Qualitative Analysis of PrEP Adherence in Ugandan HIV-Uninfected Partners in Serodiscordant Relationships

Melanie Tam (presenting)¹, Monique Wyatt¹, Emily Pisarski¹, Timothy Muwonge², Jessica Haberer³, Norma Ware¹

¹ Harvard Medical School, Boston, MA, USA

² Makerere University, Kampala, Uganda

³ Massachusetts General Hospital, Boston, MA, USA

Background: Pre-exposure prophylaxis (PrEP) is an effective tool for reducing the risk of HIV acquisition. As countries consider implementing PrEP, research is needed to assess the ability of healthy, uninfected individuals to adhere to PrEP and combine it effectively with other risk reduction methods in real-world settings. This qualitative analysis examines how HIV-uninfected partners in serodiscordant relationships in Uganda describe their adherence to PrEP.

Methods: The Partners Demonstration Project delivered PrEP to HIV-uninfected individuals in serodiscordant relationships to prevent HIV acquisition until their HIV-infected partners had been taking ART at least six months. Counseling messages emphasized adherence to a daily PrEP regimen and risk management through concurrent use of condoms and avoidance of multiple sexual partners. Individual in-depth interviews were conducted with a subset of seventy-one HIV-uninfected partners to explore experiences of PrEP initiation and discontinuation, feelings about PrEP use, and adherence. Transcribed interviews were inductively analyzed to identify themes pertaining to PrEP adherence behavior.

Results: PrEP users report trying to carefully adhere to clinic instructions about how to take PrEP. They understood from counseling messages that they were expected to take PrEP at the same time every day, avoid missing doses, and combine PrEP with condom use. As a result, they strived to meet expectations by following regular dosing schedules and missing doses infrequently. Some PrEP users also made concerted efforts to adopt risk reduction strategies, including condom use and avoiding multiple sexual partners. PrEP users felt a sense of responsibility to take PrEP as instructed and did not want to break the “rules” for PrEP use or “dishonor” clinic instructions.

Conclusions: In a PrEP delivery strategy emphasizing adherence counseling, HIV-uninfected individuals in serodiscordant relationships demonstrated a commitment to taking PrEP “responsibly.” Roll-out of PrEP in sub-Saharan Africa need not be impeded by concerns about users’ commitment to adherence.



49 A Computer-Based Program to Promote Mental Health, ART Adherence, and Treatment Engagement among PLWHA in China: Development and Initial Acceptability

Jane Simoni (presenting)¹, Bryan Kutner¹, Keith Horvath², Joyce Yang¹, Wei-ti Chen³, Chengshi-Shiu¹, Frances Aunon¹, Xianhong Li⁴, Hongzhou Lu⁵, Mi Hu⁶, Yu Yu⁷, Honghong Wang⁴

¹ University of Washington, Seattle, WA, USA

² University of Minnesota, Minneapolis, MN, USA

³ Yale University, New Haven, CT, USA

⁴ Central Southern University, Hunan, China

⁵ Fudan University, Shanghai, China

⁶ School of Public Health, Central South University in Changsha, China

⁷ UNESCO, Yangon, Myanmar

Background: Persons living with HIV/AIDS (PLWHA) are at disproportionate risk for mental health (MH) problems, which can worsen adherence behavior as well as clinical outcomes. Evidence-based treatments are available to address their distress, and these can lead to improved quality of life and medical outcomes. However, most PLWHA live in settings, like China, with limited MH infrastructure and no access to qualified MH personnel who could deliver these treatments.

Methodology: We developed a preliminary version of a computer-based program that addresses (a) psychological distress and (b) adherence to both antiretroviral therapy and HIV primary care as important components in the cascade of care. The intervention modules draw from behavioral therapy, behavioral activation, and problem-solving strategies, guided by Safran's evidence-based CBT-AD program (see <http://tinyurl.com/turningsunshine>).

Results: In China, we captured qualitative and quantitative usability data from 6 HIV providers; 5 non-HIV nurses; 6 PLWHA who were MSM (and 2 of their family members); and 5 CAB members on an early version of the program. Findings indicated a strong consensus on the (1) clear need for the program given the psychological distress of PLWHA and the lack of services for them and (2) its potential to be effective. Participants agreed it would be appropriate for recently diagnosed PLWHA experiencing distress (our target group), but that family members and providers could benefit from the program as a learning tool as well. Equally consistent was the impression that users would need to be educated, comfortable with computers (i.e., not older), and patient because the program was long, required some navigation, and included descriptions of psychological concepts that could be complicated for some.

Conclusion: Developing and evaluating scalable HIV treatment interventions in settings with few MH resources is urgently needed to improve the quality of life for PLWHA; computer-based programs may be one possible approach.

51 Inflammation and Lower ART Adherence in HIV-Infected Women with Viral Suppression

Amie Medtitz¹, Peter Anderson², Lane Bushman², Julie Predhomme², Patricia Caraway², Edward Gardner³, Jia-Hua Zheng², Kristina Searls², Jose Castillo-Mancilla (presenting)²

¹ Beacon Center for Infectious Diseases, Boulder, CO, USA

² University of Colorado Denver, CO, USA

³ Denver Public Health, Denver, CO, USA

Background: Less than 100% adherence to antiretroviral therapy (ART) can lead to HIV suppression. However, it is unknown whether it contributes to persistent inflammation. We aimed to evaluate if suboptimal ART adherence is associated with biomarkers of inflammation in HIV therapy.

Methods: Cumulative ART adherence was measured using tenofovir diphosphate (TFV-DP) in dried blood spots, which were collected from virologically-suppressed (<20 copies/ml), HIV-infected women on chronic ART enrolled in a study of daily TFV disoproxil fumarate/emtricitabine (TDF/FTC) and either atazanavir/ritonavir or raltegravir. Plasma levels of interleukins-1b, 6, 8, 10, 12p70, tumor necrosis-alpha and interferon-gamma (IFN-g), in addition to CD4+ and CD8+ T-cell activation (%HLA-DR/CD38 co-expression), were measured at the same study visit. Data were analyzed according to ≥85% vs <85% adherence (25th percentile for 85% adherence estimated at TFV-DP ≥1,060 fmol/punch) using unpaired t tests. The correlation between TFV-DP, cytokine levels and CD4+ and CD8+ T-cell activation was assessed using the Pearson correlation coefficient. A Bonferroni-corrected p <0.0071 (0.05/7) was considered significant. Data are mean±SD.

Results: Data from 31 women (10 Black/African American; 10 Hispanic; 13 on raltegravir) were analyzed. No differences in cytokine levels according to ART regimen were identified. The plasma level of IFN-g in women who were <85% adherent was 8.3±12.8 vs. 1.5±0.6 pg/mL in women who were ≥85% adherent (p =0.0064). No significant differences among the remaining cytokines or in CD4+ and CD8+ T-cell activation were observed. No correlation was identified between TFV-DP and plasma cytokine levels or CD4+ and CD8+ T-cell activation (p>0.09).

Conclusions: Low cumulative ART adherence was associated with high levels of IFN-g in women with HIV suppression. This suggests that suboptimal ART adherence, despite virologic suppression, could contribute to the heightened inflammation observed in some individuals. Further investigation on the relationship between adherence variations and inflammation in the setting of complete viral suppression is warranted.



52 Development of a Measure Assessing Barriers to Antiretroviral Adherence in a Resource-Limited Country in Sub-Saharan Africa

Natasha Croome (presenting), Lyndsay Hughes, Melanie Abas

King's College London, England

Background: Many barriers exist which prevent patients from adhering to antiretroviral (ART) medication. Systematically identifying these encourages disclosure of non-adherence and starts the process of supporting the taking of medication by addressing the barriers. Nearly 25 million people live with HIV in Sub-Saharan Africa (SSA). Zimbabwe is one of the most affected SSA countries with nearly 15% of adults infected; yet currently no measure has been developed and validated to assess barriers to ART adherence for Zimbabwe.

Methods: The measure items were devised from two sources: a systematic review was conducted that assessed barriers to ART adherence in SSA, supplemented with analysis of 42 in-depth interviews of non-adherent Zimbabwean patients. Fifty-one barriers were identified. The item pool was generated by amending existing measures or creating a new item. At least one item was selected for each identified barrier to guarantee all were initially included. Seven Zimbabwean HIV experts reviewed the items to assess content validity, cultural relevance and clarity. Based upon their suggestions items were removed, adapted and finalised in English. The measure was then translated into the local language Shona and back-translated into English. The two translations were reviewed and some items were adapted in Shona before being finalised.

Results: The measure currently has 40 items. Each one is designed to assess a distinct barrier to ART adherence relevant to Zimbabwe and SSA. Barriers include items relating to financial constraints, inter-personal relationships, health systems, health and well-being and beliefs about HIV and treatment.

Conclusions: This measure is a first step to assisting patients to adhere to their medication in Zimbabwe. Many of the items are relevant across SSA and other resource-limited countries so the measure can be adapted and validated for other populations. This measure will also be able to provide information that can help develop ART adherence interventions.

53 Inconsistent HIV Care among Latino Immigrants: Patient and Provider Perspectives on Interventions

Steven Safren¹, Margarita Alegria², Hortensia Amaro³, Dianna Mejia², Iman Khan², Laura Bogart⁴, Julie Levison (presenting)²

¹ University of Miami, FL, USA

² Massachusetts General Hospital, Boston, MA, USA

³ University of Southern California, Los Angeles, CA, USA

⁴ RAND Corporation, Santa Monica, CA, USA

Background: Interventions to improve retention (consistent attendance) in primary HIV care have not been adequately studied in Latino immigrants.

Methods: Our objective was to identify strategies to improve retention in HIV care for Latino immigrants. Bi-lingual Spanish-speaking staff conducted qualitative semi-structured interviews with 51 individuals, including 37 HIV-infected Latinos (aged ≥ 18 years and born in Puerto Rico or a Latin American Spanish-speaking country) and 14 HIV care providers in a metropolitan area. We explored participants' views on barriers to retention in HIV care and suggestions for improving clinic attendance. Interviews were recorded, transcribed, and translated. We developed and applied a coding scheme based on barriers and facilitators from the Andersen Model of Health Care Utilization. Data were analyzed using thematic analysis.

Results: Patients suggested three major themes to improve retention in HIV care: 1) interpersonal skills for patients to manage HIV disclosure and stigma; 2) self-care through linguistically and culturally acceptable HIV education that emphasizes HIV disease trajectory, medication side effects, and prevention of HIV transmission; and 3) referrals to community services (transportation, housing, immigration assistance). Younger patients (≤ 25 years old) were less familiar with community programming and perceived less need for attendance in HIV care. Providers uniformly highlighted the need for a multi-disciplinary healthcare team, including HIV physician/provider, case manager, mental health and substance abuse providers, and Spanish-speaking community health workers. Patients, more so than providers, were able to detail the complexity of barriers to care and the cultural elements that could be integrated to improve retention in care (e.g. family-oriented themes and cultivation of patient trust).

Conclusions: Interventions to improve inconsistent attendance in primary HIV care in Latino immigrants should emphasize an individualized assessment to appropriately address variable barriers to HIV care. Patient input will be a critical component to assure relevance and acceptability of these interventions.



55 Facilitators and Barriers to Medication Adherence among Black Women Living with HIV in the United States

Sannisha Dale (presenting)¹, Catherine Pierre-Louis¹, Laura Bogart², Conall O'Cleirigh¹, Steven Safren³

¹ Massachusetts General Hospital, Boston, MA, USA

² RAND Corporation, Santa Monica, CA, USA

³ University of Miami, FL, USA

Background: Black women living with HIV (BWLWH) in the US often report lower adherence to antiretroviral therapy (ART) and have lower rates of viral suppression compared to other racial/ethnic groups. This study used qualitative methods to shape an intervention to address trauma and adherence and enhance adaptive coping among BWLWH.

Method: In-depth interviews were conducted with BWLWH (N = 30, age range 30 - 65) in greater Boston to obtain information on facilitators and barriers that affect women's ART adherence. Women's interviews were audiorecorded, transcribed, and coded using grounded theory.

Results: The most commonly reported facilitators for adherence among the women were (a) having family members (e.g. children, siblings) who provided social support and reminders to take their medications, (b) having a set routine/schedule for taking their medications (e.g. meal-time), (c) viewing their health and well-being as a priority, and (d) convenient/organized pill storage. Common factors that served as barriers to women's adherence included (a) being busy, (b) feeling tired from completing daily tasks, (c) feelings of anger and distress often related to HIV stigma, (d) being tired of or simply not wanting to take the medications, and (e) substance use. Examples of themes are below:

Family reminders: "My mom and my sister. Did you take your meds today? Yes I did....Cause she knew about the breaks. The med vacations."

Set routine/schedule: "I just know when I eat supper I take it."

Not wanting to take medications: "I'm tired of being little Miss pill popper."

Anger/Distress: "I get upset sometimes and then I'll forget to take them."

Conclusion: Interviews with BWLWH highlight the potential benefit of promoting noted facilitators (e.g., activation of social support from family) to improve medication adherence for this group as well as providing tools to address barriers (e.g., HIV stigma) that may interfere with medication adherence.

59 Does Marijuana Use Have a Positive Effect on Antiretroviral Adherence in Persons Living with HIV Entering Jail?

Dorothy Murphy-Swallow¹, Jeannette Bailey-Webb¹, Jeremy Young¹, Chad Zawitz², Mary Ellen Mackey-Amiti¹, Lawrence Ouellet (presenting)¹

¹ University of Illinois at Chicago, Chicago, IL, USA

² Cermak Health Services, Chicago, IL, USA

Background: Incarcerated persons living with HIV (PLWH) are at high risk for substance use upon returning to the community. Substance use has been associated with lapsed antiretroviral therapy (ART), but recent attention has focused on whether cannabinoid use may have a beneficial effect on adherence. This study examines associations between ART adherence and the use of marijuana and other substances in a sample of PLWH detained in a large urban jail.

Methods: Persons who self-identified or tested positive for HIV were interviewed in Cook County Jail, Chicago, Illinois between 2013 and 2015. Interviews included questions about substance use and its severity (TCU screen) and ART adherence during the 3 months before arrest. We conducted logistic regression analyses to examine the relationship between marijuana and other substance use and having discontinued ART during the 7 days before arrest. We also examined the effects of demographic and socioeconomic characteristics on these relationships.

Results: Of 410 persons interviewed, 371 (90%) had engaged in ART; of those, 32% reported no ART in the 7 days before being arrested. Recent use of illicit substances was common, with 42% reporting marijuana, 37% cocaine/stimulants, and 33% heroin/opioids. In an unadjusted analysis, frequent cocaine/stimulant use and any heroin/opioid use predicted lapsed adherence at time of arrest, while marijuana use had no effect. After adjusting for substance use disorder severity, cocaine/stimulant and heroin/opioid use were no longer associated with lapsed adherence, while marijuana use appeared to be protective (OR=0.55, 95%CI=0.30-0.99, p <0.05).

Conclusions: Severity of substance use disorder better predicted ART lapsed adherence than did the use or even frequent use of illicit stimulants or heroin/opioids. The effect may be exacerbated by associated conditions such as unstable housing and lack of health insurance. Marijuana use appears to moderate the effect of substance use disorder severity on lapses in ART.



63 Lack of HIV Treatment Self-Efficacy and Concerns about Being Seen Taking HIV Medication as Parallel Mediators in the Association between Internalized HIV Stigma and Medication Adherence

Bulent Turan, Janet Turan, Whitney Smith, Heather Dark, Victoria Seghatol (presenting)

University of Alabama at Birmingham, AL, USA

Background: Adherence to antiretroviral therapy (ART) is crucial for people living with HIV (PLWH) to achieve optimal health outcomes. Internalized HIV stigma occurs when PLWH accept negative beliefs about themselves because of their HIV infection, and predicts sub-optimal ART adherence. However, mechanisms through which internalized HIV stigma affects ART adherence remain elusive. We examined the independent mediating roles of two factors in the association between internalized HIV stigma and sub-optimal ART adherence: HIV treatment self-efficacy (confidence to adhere to ART—an intrapersonal mechanism) and concerns about being seen while taking HIV medication (an interpersonal mechanism).

Methods: Using validated measures, 180 PLWH (65 women, 115 men) in Birmingham, AL, self-reported internalized HIV stigma, HIV treatment self-efficacy, concerns about being seen while taking HIV medication, and ART adherence. We calculated bias-corrected 95% confidence intervals (CIs) for indirect effects using bootstrapping to test the hypothesis that self-efficacy and concern about being seen taking HIV medication simultaneously mediate in a parallel fashion the relationship between internalized stigma and ART adherence (controlling for gender, age, race, SES, and time on ART).

Results: Lack of treatment self-efficacy and concern about being seen taking HIV medication were parallel mediating mechanisms in the association between internalized stigma and ART adherence (with significant overall indirect effects of stigma on adherence; $B = -.16$, $SE = .13$, $CI [-.48, -.01]$ and $B = -.41$, $SE = .23$, $CI [-.88, -.02]$, respectively for self-efficacy and concern about being seen taking HIV medication). That is, internalized HIV stigma predicted lower self-efficacy and increased concerns about being seen taking HIV medication, and both mediators predicted sub-optimal ART adherence (in paths that are independent of each other).

Conclusions: Adherence interventions may need to target interpersonal as well as intrapersonal mechanisms, since both types of mechanisms appear to operate simultaneously and independent of one another.

64 The Effective Use of Gay-Oriented Social Networking Applications in Recruiting High-Risk Latino MSM for HIV Testing and Linkage to Prevention and Treatment: Preliminary Analyses

Ronald Brooks¹, Ying-Tung Chen², Frank Galvan (presenting)², Honghu Liu¹, Jesus Duran²

¹ University of California, Los Angeles, CA, USA

² Bienestar Human Services, Inc., Los Angeles, CA, USA

Background: Many Latino men who have sex with men (MSM) delay accessing HIV testing, prevention services and medical care (if positive) and are in need of innovative interventions to facilitate earlier engagement with these services. Gay-oriented social networking applications (“apps”) provide a unique platform for identifying high-risk Latino MSM. This study is testing the efficacy of using these apps to identify high-risk Latino MSM and engage them in HIV testing and linkage to HIV prevention services and medical care (if positive).

Methods: Latino MSM are being recruited through apps using a variety of modes, including banner advertisements, pop-up messages, and direct messaging. Using chi-square tests, we compared the effectiveness of the different modes of outreach for enrolling eligible individuals to the study.

Results: To date, 687 individuals were eligible for enrollment, and 55 enrolled in the study. We found significant differences in the proportion of individuals enrolled by mode of outreach (51% direct messages; 36% pop-up messages in English; 13% pop-up messages in Spanish; 0% banner advertisements). We also found significant differences in the proportion of younger individuals 18-35 years of age enrolled compared to older individuals 36+ years of age (85% and 15%, respectively). Among enrolled individuals, 85% reported unprotected anal intercourse in the past 12 months, and 5 individuals tested HIV positive, yielding a 9.1% positivity rate for the intervention.

Conclusion: One challenge in using apps for recruitment of Latino MSM for HIV testing is the very low number of eligible individuals who actually enrolled in the study. Nonetheless, our findings of high-risk sexual behavior and our high HIV positivity rate among enrolled participants suggest that high rates of high-risk HIV-positive Latino MSM can be found through this approach. Our next steps are to consider ways to increase the number of eligible individuals who enroll in the study.



65 Longitudinal Analysis of Retention in Care and Viral Suppression among HIV-1-Infected Patients in Care at the Vanderbilt Comprehensive Care Clinic

Anna Person, Stephen Raffanti, Sally Bebawy, William Rodgers, April Pettit, Megan Turner, Peter Rebeiro, **Michael Ghiam (presenting)**

Vanderbilt University, Nashville, TN, USA

Background: Retention in Care (RIC) and viral suppression (VS) are indicators of effective HIV care. Prior analyses have utilized cross-sectional designs or described RIC based only on dates of laboratory measures.

Methods: HIV-infected adults with ≥ 1 medical visit in the Vanderbilt Comprehensive Care Clinic (VCCC) cohort from 2004 to 2013 were included. RIC was ≥ 2 encounters in the year of interest, ≥ 90 days apart, using CD4+ lymphocyte count or HIV-1 viral load (VL) laboratory dates and visit dates. VS was a VL of ≤ 200 copies/mL at the last measurement in the year of interest. Modified Poisson regression estimated relative risks (RR) of RIC and VS, adjusting for age, race (White, African American [AA], Hispanic, Other), sex, HIV transmission risk factor (injection drug use [IDU], men who have sex with men [MSM], heterosexual contact [Hetero], Other), and insurance status (Ryan White [RW], Non-Ryan White [NRW]).

Results: Among 4,641 patients, median baseline age was 38; 75.7% were male; 38.1% were AA; 8.8% reported IDU and 52.3% were MSM; 76.8% were RIC and 70.2% VS. RIC and VS increased from 2004 to 2013 ($p < 0.01$). For lack of RIC, younger patients ($RR=1.3$ and $RR=1.2$ for 18-24 and 25-34- vs. 35-44-year-olds, respectively); AA ($RR=1.3$ vs. Whites); IDU ($RR=1.2$ vs Hetero); and those with RW ($RR=1.1$ vs NRW) fared worse ($p < 0.05$ each). MSM fared better ($RR=0.8$ vs. Hetero, $p < 0.05$). For lack of VS, younger patients ($RR=1.4$ and $RR=1.2$ for 18-24 and 25-34 vs 35-44-year-olds, respectively); AA ($RR 1.3$ vs Whites); Females ($RR=1.1$ vs males); IDU ($RR 1.3$ vs Hetero); and those with RW ($RR=1.1$ vs NRW) fared worse ($p < 0.05$ each).

Conclusions: RIC and VS increased over time, suggesting efforts to improve RIC and VS at the VCCC have been effective. However, disparities persist among subgroups and resources should focus on groups most at risk.

68 Self-Rated Health and Substance Use among Individuals in HIV Care in Rio de Janeiro, Brazil

Beatriz Grinsztejn¹, Valdilea Veloso¹, Jesse Clark², Rodolfo Castro¹, Luciane Velasque³, Jordan Lake², Raquel de Boni¹, Paula Luz¹, **Iona Machado (presenting)**²

¹ Oswaldo Cruz Foundation, Rio de Janeiro, Brazil

² University of California, Los Angeles, CA, USA

³ Federal University of Rio de Janeiro, Brazil

Background: Self-rated health (SRH) is a well-established indicator of morbidity and mortality in HIV-uninfected populations but is understudied in HIV. Alcohol and drug use may be important modifiers of SRH in addition to their deleterious impact on HIV disease burden. This analysis aimed to estimate SRH, determine the prevalence of substance use and evaluate factors associated with poor SRH among individuals in HIV care in Rio de Janeiro, Brazil.

Methods: A convenience sample of HIV-infected adults in care at INI FIOCRUZ was interviewed between August 2013 and December 2015. Participants completed an instrument including one item of SRH, the World Health Organization's Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and the Patient Health Questionnaire-2 (PHQ-2). Multivariable logistic regression analyses identified factors significantly ($p < 0.05$) associated with poor SRH.

Results: Of 1050 HIV-infected participants interviewed, 1029 were included due to data completeness. The median age was 42.9 years, 35.8% were female and 54.4% were non-white. Poor SRH was reported by 19.5% of participants. The prevalence of 90-day recall of alcohol, tobacco, marijuana and crack/cocaine use was 30.1%, 19.5%, 3.9%, and 3.5% respectively. Less than high-school education (adjusted odds ratio (aOR) 1.54, 95% confidence interval (CI): 1.08-2.20), lack of sexual activity in the last 12 months (aOR 1.53, 95% CI: 1.01-2.30), positive 90-day recall of cocaine use (aOR 3.82, 95% CI: 1.80-8.09), positive PHQ-2 screen (aOR 3.43, 95% CI: 2.09-5.62), and HIV-1 RNA ≥ 40 copies/mL (aOR 2.51, 95% CI: 1.57-4.02) were significantly associated with poor SRH.

Conclusion: Poor SRH was associated with lower education, positive depression screening, and substance use in addition to detectable HIV-1 viral load, emphasizing the need for substance use and mental health screening and treatment in this population. Further research may elucidate the consequences of poor SRH on treatment adherence, morbidity, and mortality in HIV-infected individuals.



69 Exploiting Partnerships for Increased HIV Care Service Enrolment among Key Populations: Harnessing Referral and Linkages for Combination Prevention in Kampala City, Uganda

Alege G. Stephen (presenting), Moses Sendija, Thomson Ngabirano, Denis Ahairwe

Uganda Health Marketing Group, Kampala, Uganda

Background: In Uganda there is high incidence of stigma against sex workers (FSWs) and men who have sex with men (MSM). This is driven by negative perceptions among the general population and health workers coupled by the ambiguous legal status of these populations. This negatively impacts the success of linkages and referrals for these populations to other HIV care services and timely enrollment into appropriate HIV care.

Description: Uganda Health Marketing Group (UHMG) implemented a three year project to provide HCT services and link HIV positive key populations to HIV Care services. The project worked with government and other partners to accredit twenty one private clinics to provide integrated HIV care services. A team of linkage facilitators were recruited and trained to facilitate effective referrals and linkage into HIV care.

Results: Integration of other HIV care services in an HCT project reduces the lead time to access services referred for by eliminating, transport cost and burden of navigating a new health care system in addition to harnessing the rapport built with the health care provider during the initial point of contact. Use of trained and experienced key population peers as linkages facilitators is critical in enhancing the rate of linkage and referral completion rates. Forging partnerships with government disease umbrella organizations and NGOs providing complimentary HIV services for MSM and FSWs enhance the scope of services provided by a project increases referrals and linkage success rates.

Conclusion: HIV counseling and testing projects targeting MSM and FSWs in an environment of high stigma and ambiguous legislation around such populations should partner with government and other implementing partners to provide other HIV care service and invest in developing a robust referral and linkage systems to eliminates traditional barriers to accessing such HIV care services.

70 Alcohol Interactivity Toxicity Beliefs and the PrEP Scale-Up: Impacts on Poor Uptake and Threats to Adherence

Lisa Eaton, Seth Kalichman (presenting)

University of Connecticut, Storrs, CT, USA

Background: Antiretroviral therapies (ART) are now at the forefront of HIV prevention; pre-exposure prophylaxis (PrEP) has the potential to offer greater than 90% protection against HIV transmission. However, like any medication, the effectiveness of PrEP depends on uptake and adherence of even intermittent dosing. Alcohol use itself can undermine ART uptake and drinking is a robust barrier to adherence. Along with cognitive impairments that lead to unintentional non-adherence, beliefs that mixing alcohol with pharmaceuticals is harmful (i.e., interactive toxicity beliefs) are known to impede ART adherence in the treatment arena. This is the first study to examine alcohol interactive toxicity beliefs in the context of PrEP.

Method: 272 sexually active men who have sex with men (MSM) who had not tested HIV-positive completed anonymous intercept surveys at Atlanta's 2015 Gay Pride Event assessing demographic characteristics, sexual behaviors, alcohol use, and PrEP-related alcohol interactive toxicity beliefs.

Results: We found 118 (43%) men surveyed met CDC criteria for PrEP candidacy, having had two or more male sex partners and condomless anal sex in the previous 6-months. Current alcohol use was reported by over 90% of men. Beliefs that mixing alcohol and ART is a toxic hazard were common, with 75% endorsing at least one interactive toxicity belief. Of the 24 men taking PrEP, 1 in 3 stated that alcohol and PrEP should never be mixed. Among men who were PrEP candidates, 1 in 3 stated that they were not interested in PrEP and these men were significantly more likely to binge drink and hold interactive toxicity beliefs.

Conclusions: Results mirror those that find interactive toxicity beliefs are a potent predictor of intentional ART-treatment non-adherence and suggest these beliefs are impeding PrEP uptake and adherence. Interventions are needed to counter erroneous beliefs about mixing alcohol with ART in the context of PrEP.



72 Use of an Outreach Coordinator to Reengage and Retain Patients with HIV in Care

Madelyne Ann Bean, Linda Scott, Lauren Richey (presenting)

Medical University of South Carolina

Background: Retention in care is a large problem in our population. The purpose of the project was to use an outreach coordinator to both re-engage and improve retention in care for patients who had fallen out of care.

Methods: We identified patients who attended our multidisciplinary HIV clinic in the past five years and did not meet the HRSA definition of retention in care in 2014 (2 visits to an HIV provider 90 days apart) and determined if patients had moved, died, been incarcerated, or fallen out of care. The outreach coordinator used phone calls, letters, and home visits to reengage patients who had fallen out of care. Patients, with whom contact was made, were called for appointment reminders and to reschedule missed appointments. Data collection continued through the end of 2015. Visit constancy was defined as a visit in the first and second six month interval of 2015.

Results: For the 2014 population, 233 patients did not meet the HRSA definition of retention in care. Of them 77 (33%) moved, 14 (6%) died, 14 (6%) were incarcerated, and 128 (55%) had fallen out of care. Intervention occurred in most patients, 127 (99%). Continued outreach in 2015 resulted in 55 (43%) patients attending at least one visit in 2015 and 5 (4%) scheduling but never attending a visit. Of the remaining 68 patients, 3(2%) attended a visit in early 2016, 3 (2%) died, 3 (2%) were incarcerated, and 3 (2%) moved. In 2015, of patients who reengaged in care, 27 (49%) were retained in care and 25 (45%) met visit constancy. There was an overall response to the intervention in 63 out of 119 (53%), after adjusting the denominator for reclassification.

Conclusion: An outreach coordinator is an effective intervention to reengage patients in HIV care, but retention remained low, possibly reflecting this difficult to engage population and unaddressed barriers to care.

74 Text-Enhanced Emotion Regulation Pilot to Improve HIV Self-Care among Active Substance Users

Abigail Batchelder (presenting)¹, Jennifer Jain¹, Michael Cohn¹, Judith Moskowitz², Adam Carrico¹

¹ University of California, San Francisco, CA, USA

² Northwestern University, Chicago, IL, USA

Background: Internalized stigma and shame are barriers to HIV-related self-care and are often inadequately addressed, particularly among people living with HIV who use substances. Innovative approaches are needed to optimize ART adherence and engagement in HIV care among this population.

Methodology: We developed and open-piloted a low-cost transdiagnostic emotion regulation intervention to improve ART adherence and engagement in care among HIV-positive polysubstance users in San Francisco. The intervention included 5 individual sessions focused on pursuing a personalized HIV self-care goal while using nonjudgmental acceptance, self-compassion, and self-reappraisal to develop compassionate self-statements. All participants received texts querying emotion daily and ART adherence and substance use weekly. After the individual sessions, we employed an innovative bi-directional text component. Participants paired their self-statements (e.g., "Everyone falls down to learn to how to get up" or "I am more than just a junkie.") with emotion text-response-options, which they then received via text after endorsing the paired emotion for 2 months. We have enrolled 9 HIV-positive polysubstance users who completed 84% of interventions sessions and responded to an average of 68% (SD=28%) of the bidirectional text messages. Follow up interviews will be completed in March 2016.

Results: Providers and stakeholders reported a need for an intervention to address psychological barriers to ART adherence, such as shame and internalized stigma. By developing an SMS text-component, rather than an app, we were able to enroll participants with government subsidized cell phones, including homeless and marginally housed individuals. All participants reported finding the sessions and personalized text messages helpful and the majority reported finding their self-statements helpful.

Conclusion: This pilot was determined to be feasible and acceptable among people living with HIV who met criteria for active polysubstance use, a hard-to-reach and underserved population. Preliminary results indicate this intervention was associated with improved ART adherence and engagement in care.



75 Factors Associated with Post-Partum Retention in HIV Care and Virologic Suppression among Pregnant Women in Prenatal Care

April Pettit, Sally Bebawy, Megan Turner, William Rodgers, Jessica Castilho, Peter Rebeiro, Kate Clouse, Lavenia Carpenter, Bev Byram, **Mary Hopkins (presenting)**

Vanderbilt University Medical Center, Nashville, TN, USA

Background: Studies addressing post-partum retention in care (RIC) and virologic suppression (VS) in the southeastern United States are limited by available data and small sample sizes. We evaluated pregnancies occurring over 15 years at a multidisciplinary HIV clinic in Tennessee to identify factors associated with lack of RIC and VS at 1-year post-partum.

Methods: HIV-infected pregnant women with ≥ 1 prenatal care (PNC) visit at Vanderbilt's Obstetric Comprehensive Care Clinic in Nashville, TN, from 1999–2014 were included. RIC was defined as 1 visit at ≤ 90 days and at 12 ± 3 months post-partum. VS was defined as a viral load < 200 copies/mL at 12 ± 3 months post-partum. Modified Poisson regression estimated relative risk (RR) for failure of RIC and VS, adjusted for maternal age, race, foreign-born, marital status, number of other children, education, employment, substance use, psychiatric illness, year of delivery, and gestational week at enrollment in PNC.

Results: 305 deliveries among 248 women were included; median age was 29, 58.1% were Black, median number of other children was 1, and median gestational week of entry into PNC was 16. Overall, 28.2% of women failed to be RIC and 63.6% failed to be VS at 1 year post-partum. Lack of RIC and VS were both associated with later gestational age at PNC enrollment, younger maternal age, and having a greater number of other children (aRRs for lack of RIC and lack of VS respectively: 1.16, 1.06 per gestational month; 0.61, 0.73 per 10-year increase in maternal age; and 1.27, 1.09 per other child, $p < 0.05$ for all). VS improved over time ($p < 0.001$), but RIC did not.

Conclusions: In this population of HIV-infected women in PNC, resources to improve post-partum HIV outcomes should focus on women who enroll late in PNC, who are younger, and who have other children.

81 Utilizing Peers to Deliver Engagement and Retention Strategies with At-Risk Individuals to Reduce Risk of New HIV Infection and Transmission

Jillian Gosselin

Brandywine Counseling and Community Services, Wilmington, DE, USA

Background: Through the program, Women in Support of Health (WISH), Brandywine Counseling and Community Services (BCCS) has expanded and enhanced access to medical and behavioral health care and community supports for women who engage in sex work and other women at high risk for HIV and sexually transmitted diseases (STIs) in Wilmington, Delaware, and surrounding New Castle County.

Methodology: A quasi-experimental comparison group study utilizing a pre-test (intake) post-test (6 months after intake) design assessed the effectiveness of WISH in decreasing identified high risk substance use and/or high risk sexual behaviors among participants compared to a similar group of at-risk women who were receiving substance abuse treatment and related community services as usual (TAU).

Results: For the Intervention group, there was a strong statistically significant decrease in injection drug use from intake to follow-up, X^2 (2, $n = 798$) = 26.55, $p < .001$. For the Comparison group, there was a statistically significant decrease in injection drug use from intake to follow-up, X^2 (1, $n = 338$) = 7.68, $p < .01$. The Intervention group and Comparison group had statistically significant decreases in means for alcohol use. Statistically significant decreases in means for illegal substance use were found from intake to follow-up for both the Intervention and Comparison group, with the Intervention group having a greater difference in means both in terms of magnitude and significance level. The Comparison group had no other statistically significant changes in means. For the Intervention group, cigarette use had a statistically significant, but slight, increase in means. For the Intervention group, there was no statistically significant change in sexual contact from intake to follow-up, X^2 (1, $n = 799$) = 2.66, $p = .10$. For the Comparison group, there was also no statistically significant change in sexual contact from intake to follow-up, X^2 (1, $n = 343$) = 1.48, $p = .22$. For the Comparison group, there was also no statistically significant change from intake to follow-up, X^2 (2, $n = 243$) = 1.53, $p = .47$. Independent samples t-tests were conducted to compare Intake versus 6 Month data for unprotected sexual contact and associated high risk sexual behaviors. There were no statistically significant differences in means in the Intervention group. For the Comparison group, there was a statistically significant increase in unprotected sexual contact from intake to 6 month. For the Intervention group, there was a slight statistically significant difference in respondents awaiting trial or sentencing from intake to follow-up, X^2 (3, $n = 794$) = 7.35, $p < .1$. There was a slight statistically significant difference in the number of participants with children from intake to follow-up, X^2 (1, $n = 797$) = 3.52, $p < .1$.



82 Addressing Intravaginal Practices in Women at Risk or Infected with HIV in the United States

Deborah Jones, Margaret Fischl, Violeta Rodriguez,
Maria Alcaide (presenting)

University of Miami Miller School of Medicine, Miami, FL, USA

Background: Intravaginal practices (IVP), cleansing the inside of the vagina, are associated with the development of bacterial vaginosis and increase risk of acquisition of STIs and HIV. Miami is a city in the South-eastern United States with high prevalence of STIs and HIV. This study explores beliefs and practices regarding IVP in women with HIV infection (HIV positive) or at risk for HIV (HIV negative) in Miami.

Methods: The study design was a cross-sectional study, utilizing a mixed-methods approach. Qualitative data was obtained from focus group discussions (FGDs) with HIV-positive and HIV-negative women. Data obtained in the FGD was used to develop IVP questionnaires. Questionnaires were completed by HIV-positive and HIV-negative women not participating in the FGD. Qualitative data was recorded and analyzed using NVIVO8. Quantitative data was analyzed using descriptive statistics. Demographics, risk factors and IVP were compared in HIV-positive vs HIV-negative women.

Results: Twenty women participated in 3 FGD. Qualitative data revealed that IVP were common, and HIV-positive women were more aware of the potential harm associated with IVP. 72 women completed questionnaires (45 HIV positive and 27 HIV-negative, age 34 years). There were no differences in demographic characteristics and risk factors by HIV status. Most women (61, 84%) reported having engaged in IVP, and the primary reason was hygiene. Participants reported use of different products for IVP in the prior month: water alone (27% HIV positive vs 55% HIV negative, $p = 0.02$), soap or soap with water (45% HIV positive vs 54% HIV negative, $p = 0.04$), clothes, wipes or rags (22% HIV positive vs 29% HIV negative, $p = 0.58$), commercial douches (18% HIV positive vs 22% HIV negative, $p = 0.76$).

Conclusions: Despite their health risks, IVP are common; and more common in HIV-negative than in HIV-positive women. Interventions to decrease IVP could have important health implications among populations with high rates of IVP, STI, and HIV.

83 Considering a Technology Intervention Strategy to Improve Adherence for Youth with HIV in Puerto Rico: "We want a Smartphone Application"

Janet Rodriguez

University of Puerto Rico, Medical Sciences Campus, School of Nursing, San Juan, PR, USA

Background: In Puerto Rico, despite all the efforts, adherence is still an issue in youth with HIV. Youth are exposed to technology that provides innovative ways to communicate and access information. There is evidence that youth search the Internet for health information. It is important to know, among youth with HIV, what type of technology they use, if they access internet for health information, and what type of information they want for a computer tailored intervention program. The purpose of this study was to understand, among a group of youth with HIV in Puerto Rico, the use of the technology, internet access, health information access and identify topics for a computer tailored intervention program.

Methods: Ten youth with HIV, ages 18-24, were interviewed. After interviews were transcript, a thematic framework was develop, with the study's topics. Transcripts were coded and the information was summarized with three verbatim quotes included.

Results: Participants expressed their preference to receive the information of HIV through a smartphone application instead of a computerized program. This was because of the issue of privacy, and access. Participants emphasize the importance that the information should be updated with the latest results in research. They also want a blog where only they can enter, communicated with each other, and it should be manage by a healthcare provider.

Conclusions: Participants want to have a smartphone application where they can access serious, updated and truthfully information of HIV. It is expected that this type of intervention, an application to enhance the knowledge in HIV, including cultural appropriate determinants of adherence, result in the improvement of disease management and adherence, therefore, quality of life.



85 Preference of Oral PrEP versus Rectal Tenofovir Microbicide Gel Regimens Among Men Who Have Sex With Men (MSM) and Transgender Women (TGW) Who Engage in Receptive Anal Intercourse (RAI)

Alex Carballo-Díéguez (presenting)¹, Rebecca Giguere¹, Curtis Dolezal¹, Cheng-Shiun Leu¹, Iván C. Balán¹, William Brown III¹, Javier R. Lama², Barbra Richardson³, Ian McGowan⁴, Ross D. Cranston⁴

¹ Columbia University, New York, NY, USA

² Impacta Peru, Lima, Peru

³ University of Washington, Seattle, WA, USA

⁴ University of Pittsburgh, PA, USA

Background: Oral PrEP can prevent HIV transmission. Yet, people-at-risk may reject taking medication daily.

Methods: MTN-017 studied likes and dislikes related to taking oral FTC/TDF daily (oral), using rectal TFV gel daily (daily gel), or using TFV gel before and after RAI (RAI gel) among MSM and TGW randomized to one of six sequences of the three regimens. At end of follow-up participants indicated which regimen they liked the most and the least and related preferences. A Generalized Estimating Equation model was used to compare the ease of product use from first few times used to last few times used. This analysis adjusted for period effect to account for the cross-over design of the study.

Results: Of the 187 participants included in analyses, the proportions who liked the oral, daily gel and RAI gel most were 73%, 8%, and 19%, and least were 28%, 43%, and 28%. Participants' ratings on ease of gel use improved significantly from the first few times used to the last few times used for both daily gel (adjusted mean difference (amd) = 0.29 on a 4-point scale, $p < .001$) and RAI gel (amd = 0.31, $p < .001$) regimens. Seventy eight percent of respondents felt no need to change the viscosity of the gel; those who wanted a change preferred it thicker (18% in daily gel, 19% in RAI gel); 75% of respondents did not favor volume changes from the 4 mL delivered by the applicator; among those who wanted change, there was a tendency to prefer more volume.

Conclusions: Although most participants preferred oral PrEP, a non-negligible 28% reported this was the regimen they liked the least. For them, a rectal gel that could be used before and after RAI may constitute an attractive alternative. Experience with product use may increase acceptability.

87 Are Participants Concerned about Privacy and Security when Using SMS to Report Product Adherence in a Rectal Microbicide Trial?

Rebecca Giguere (presenting)¹, William Brown III¹, Iván Balán¹, Curtis Dolezal¹, Titcha Ho¹, Alan Sheinfil¹, Mobolaji Ibitoye¹, Javier R. Lama², Ian McGowan³, Ross D. Cranston³, Alex Carballo-Díéguez¹

¹ Columbia University, New York, NY, USA

² Impacta Peru, Lima, Peru

³ University of Pittsburgh, PA, USA

Background: During MTN-017, a phase 2 study of Truvada and a rectal microbicide gel, men and transgender women (N = 187) in four countries (Peru, South Africa, Thailand, US) were instructed to report product use daily by responding to an SMS-based survey. Concerns about disclosure of sexual orientation or study participation may be increased in cases of phone sharing or needing to respond to SMS in public. This may influence participants' interactions with an adherence monitoring SMS system. We evaluated participants' perceptions of privacy and reactions to privacy/security enhancing design elements of an SMS system in MTN-017.

Methods: To protect participants' privacy, the system: 1) asked if the participant was available to text; 2) required receipt of a pre-assigned password before sending survey; 3) used text that did not reveal product name or study participation; and 4) ended every survey with a reminder for participants to lock phone/delete study-related messages. Upon finishing the study, 180 participants completed a web-based CASI to report burden of privacy enhancing design elements and SMS-related privacy concerns. A sub-sample of 33 underwent an in-depth interview.

Results: Based on CASI, 85% were not concerned about privacy, with only 5% very concerned. Most were not bothered by using a password (73%) or being instructed to erase the SMS session from their phone (82%). Based on IDI, reasons for low privacy concerns included: sending SMS in private or feeling that texting behavior was ubiquitous and would not draw others' attention. A few felt the password was unnecessary and over half did not delete the study-related messages.

Conclusions: Privacy and security enhancing features of the SMS system were effective and not burdensome. Given low level of concern about privacy while texting, future systems may use a more streamlined survey design to gather data more quickly and cost-efficiently.



91 Substance Use and Syndemics among Men who have Sex with Men and Transgender Women in the PrEP Brasil Study – Preliminary Findings.

Beatriz Grinsztejn¹, Valdilea Veloso¹, Silvia Goulart¹, Ronaldo Moreira¹, Ricardo Vasconcelos², Paula Luz¹, Nilo Fernandez¹, José Madruga¹, Esper Kallas², Mauricio de Vasconcellos³, Brenda Hoagland¹, **Raquel de Boni (presenting)**¹

¹ Oswaldo Cruz Foundation, Rio de Janeiro, Brazil

² São Paulo University, São Paulo, Brazil

³ Brazilian Institute of Geography and Statistics, Rio de Janeiro, Brazil

Background: Co-occurrence of psychosocial problems may act synergistically to increase HIV risk (syndemics). As men who have sex with men (MSM) and transgender women (TRANS) are disproportionately vulnerable to HIV infection, understanding behaviors prone to modification/treatment is crucial for developing appropriate interventions. We aimed to 1) describe the prevalence of substance use (SU) and syndemics; and 2) evaluate factors associated with syndemics among MSM/TRANS enrolled to the PrEP Brasil Study.

Methods: PrEP Brasil is a demonstration study on pre-exposure prophylaxis for HIV prevention in Rio de Janeiro and Sao Paulo, Brazil. A questionnaire was performed at the screening visit including OMS ASSIST (substance use), binge drinking, PHQ-2 (depression screening), CSB scale (compulsive sexual behavior) and history of intimate partner violence (IPV). Syndemic was defined as occurrence of ≥ 2 conditions and its associated factors were analyzed using logistic regression.

Results: 398 MSM/TRANS were included in this analysis, median age was 29.5 years (IQR 24-35). Any illicit SU (last 3 months) was reported by 42.9%: marijuana (30.9%) and cocaine/crack (13.3%) were the most common. Prevalence of binge drinking was 50.5%, positive depression screening was 5.5%, sexual compulsive behavior was 11.3% and IPV was 7.2%. Syndemic prevalence was 36.2%, its associated factors were: 18-24 years vs ≥ 36 years and 25-29 years vs ≥ 36 years (adjusted Odds Ratio - aOR 2.12; CI95% 1.13-3.98 and aOR 2.07; CI95% 1.01-3.88, respectively), not having vs having a steady partner (aOR 2.13; CI95% 1.39-3.27) and \geq College education vs < College (aOR 1.71; CI95% 1.02-2.87).

Conclusion: Illicit SU among MSM/TRANS in PrEP Brasil was high compared to Brazilian general population. More than one third presented concurrent psychosocial problems indicating that PrEP delivery offers an opportunity to diagnose and intervene in mental well-being. The lack of appropriate services and training may be a challenge to achieve this goal in resource limited settings.

93 Internal Locus of Control in Overcoming Individual- and Structural-Level Barriers to HIV Outpatient Care: A Qualitative Study

Kira Villamizar¹, Kathleen Mercogliano², Alice Long², Morgan Metsch², Anindita Chakrabarti², Jane Park³, Alexa Parra², Allan Rodriguez², Anthony Falcon⁴, **Andrew Wawrzyniak (presenting)**²

¹ Florida Department of Health in Miami-Dade County, Miami, FL, USA

² University of Miami, FL, USA

³ Jackson Memorial Hospital, Sunrise, FL, USA

⁴ Eastern Virginia Medical School, Norfolk, VA, USA

Background: Retention is integral to better health outcomes in people living with HIV/AIDS (PLWHA), but various factors can adversely impact retention. The present study sought to characterize barriers to routine HIV care through a qualitative analysis of patients' responses to open-ended questions addressing factors impacting clinic attendance at an adult outpatient HIV clinic in Miami-Dade County, Florida.

Methods: Patients (n = 444) were asked open-ended questions about barriers and facilitators to clinic attendance (Why missed/did not miss appointments; life factors impeding attendance; what is liked/disliked about the clinic; what can be done to help patients keep appointments) and responses were coded into themes. Patients were grouped by historical attendance; responses to open-ended questions were compared between attendance groups.

Results: Thematic analysis revealed that regular attenders' cited factors that reflected an internal locus of control (taking ownership of their health, understanding the importance of appointment attendance, being organized, maintaining a good patient-provider relationship). Non-attenders reported external reasons for missed appointments (work conflicts, wait time, financial reasons, inconvenient appointment times, not knowing of their appointment, transportation issues, family obligations). Comorbidities, such as depressive symptoms and substance use, were more often cited by non-attenders. Among all patients, poor health, lack of coping skills, denial, depressive symptoms, work conflicts, and lack of reliable transportation were cited as individual-level barriers; structural barriers included administrative difficulties, insurance issues, and appointment availability.

Conclusions: Qualitatively, patients with better attendance attributed their higher rates of retention to factors associated with a higher internal locus of control. All patients identified both individual- and structural-level barriers, but regular attenders were more successful in overcoming those barriers primarily by taking ownership of their health and understanding the importance of clinic attendance. These findings underscore the need for treatment plans to incorporate patients' perspectives on living with HIV and to identify individual- and structural-level barriers to optimal retention.



94 Reducing Stigma among Re-Engaging HIV-Positive Patients and the Role of a Community Social Work Intervention: A Randomized Controlled Study

Ashutosh Tamhane¹, Karen Musgrove², James Raper¹, Michael Mugavero¹, David Batey¹, **Fatimah Bello (presenting)**¹

¹ University of Alabama at Birmingham, AL, USA

² Birmingham AIDS Outreach, Birmingham, AL, USA

Background: The negative impact of stigma on HIV treatment engagement is well-known. We examined effect a Community Social Work (CSW) re-engagement intervention to reduce stigma in people living with HIV (PLWH).

Methods: This randomized interventional study was conducted (Jul'13-Feb'16) in PLWH accessing care at a tertiary urban HIV clinic. Patients fallen out of medical care were assigned to the intervention (N=86) or "standard care" control arms (N=84). In addition to clinical characteristics, the study explored social and emotional aspects of HIV-related stigma (including Sowell stigma scale) which were measured at baseline (BL), 6-months (T1), and 12-months (T2). For this analysis, we examined four stigma measures related to: 1. whether patients felt they are being avoided by other people; 2. whether they would lose friends; 3. whether other people were uncomfortable being around them; and 4. whether they avoided treatment due to their HIV status. Those responding as "sometimes" or "often" were grouped as perceiving stigma while those responding as "not at all" or "rarely" as not perceiving stigma.

Results: Overall, 66% were male, 78% African-American, and 54% aged 30-49 years. When stigma at BL and T2 were compared, decreasing trends were observed in the intervention arm: Measure 1: 38% to 30% (p = 0.29), Measure 2: 50% to 46% (p = 0.56), Measure 3: 44% vs 38% (p = 0.44), and Measure 4: 23% vs 12% (p = 0.01). In the "control" arm, stigma remained the same/increased a little: Measure 1: 47% vs 51% (p = 0.64), Measure 2: 51% vs 53% (p = 0.80), Measure 3: 54% vs 58% (p = 0.62), and Measure 4: 7% vs 9%; (p = 0.71).

Conclusions: It is plausible that CSW could positively impact perceived stigma among individuals re-engaging into HIV primary care. However, in view of our small sample size and the short follow-up period, further research is needed to assess the efficacy of this intervention.

96 Outcomes from the "NC LINK" Program: A Statewide Approach to HIV Linkage and Re-Engagement to Care in North Carolina

Arlene C. Seña (presenting)¹, Jenna Donovan¹, Anna Finestone LeViere², Heidi Swygard², Jacquelyn Clymore¹, Victoria Mobley¹, Kristen Sullivan³, Sarah Willis³, Amy Heine², Evelyn Byrd Quinlivan³

¹ North Carolina Department of Health and Human Services, Raleigh, NC, USA

² University of North Carolina at Chapel Hill, NC, USA

³ Duke University, Durham, NC, USA

Background: The Southern US is especially affected by the HIV epidemic. In 2013, North Carolina (NC) had over 28,000 persons living with HIV (PLWH), including 26% without evidence of care (i.e. HIV RNA test) in the prior 12 months. As part of the Systems Linkages Initiative, the NC LINK Project developed approaches to address unmet needs for PLWH, including the development of a State Bridge Counselor (SBC) team to provide linkage and re-engagement services to newly diagnosed and lost-to-care populations.

Methods: We analyzed SBC project data to determine service population characteristics, the proportion that were engaged in care and had reported viral load suppression (VLs). Multivariate models were used to evaluate associations between population characteristics and these outcomes and estimate odds ratios (OR).

Results: SBCs provided linkage services (n = 764, e.g., medical appointments, transportation) to 180 newly diagnosed HIV-infected persons and re-engagement services (n = 2400) to 482 PLWH lost-to-care. Median time spent was 60 minutes (interquartile range [IQR] 25-113) for linkage and 92 minutes (IQR 40-170) for re-engagement. For newly-diagnosed persons, 113 (63%) had evidence of care within 90 days of referral and 118 (66%) had reported VLs within a year. For those receiving re-engagement services, 235 (49%) had evidence of care within 90 days and 252 (52%) showed VLs. Compared with PLWH younger than 30, older age was associated with VLs in both linkage (30-39y, OR=2.6, 95%CI: 1.1-6.2) and re-engagement groups (40-49y, OR=2.1, 95%CI: 1.3-3.6). Fewer MSM achieved VLs (linkage, OR=0.7, 95%CI: 0.4-1.4; re-engagement, OR=0.6, 95%CI: 0.4-0.97) than those with heterosexual exposure.

Conclusions: The SBC program successfully provided services to newly diagnosed and lost-to-care populations. Younger persons and MSM were harder to reach, indicating their need for additional services. SBCs spent more time working with PLWH lost-to-care who were less likely to have evidence of care, suggesting greater challenges in this population.



97 Perceptions of Medication Purpose and Physiological Function among Patients Living with Multiple Chronic Comorbidities: A Qualitative Inquiry

Donald Patrick¹, Heidi Crane¹, Paul Crane¹, Chris Mathews², Kenneth Mayer³, Michael Mugavero⁴, Anna Church¹, Mary Grace Asiro¹, Laurie Smith¹, Emma Fitzsimmons¹, Alex Wang⁵, Monica Godfrey⁶, Kari Alperovitz-Bichell⁶, Sharon Brown¹, Cristina Gutierrez³, Stephanie Loo³, Melonie Walcott⁴, Lydia Dant³, Edgar Paez², Laura Gibbons¹, Frances Yang⁷, Todd Edwards¹, **Rob Fredericksen (presenting)**¹

¹ University of Washington, Seattle, WA, USA

² University of California San Diego, CA, USA

³ Fenway Health, Boston, MA, USA

⁴ University of Alabama at Birmingham, AL, USA

⁵ Chase Brexton Health Services, Columbia, MD, USA

⁶ Beaufort Jasper Hampton Comprehensive Health Services, Ridgeland, SC, USA

⁷ Georgia Regents University, Augusta, GA, USA

Background: Evidence suggests that low health literacy impacts patients' ability to understand medications' purpose and function, which may impede adherence. Among patients with multiple chronic conditions for which a high level of adherence is required in order to avoid illness or death, we assessed understanding of their prescribed medications' purpose, and understanding of how their medications function in the body.

Methods: We conducted 1:1 semi-structured interviews in English and Spanish with patients across 6 US clinics prescribed 3 or more medication classes: antiretrovirals, antihypertensives, lipid-lowering medications, diabetes medications, antidepressants, and medication for cardiovascular disease. After coding interview transcripts for statements of purpose and function, we open-coded statements to identify within-class themes.

Results: Participants (n = 57) were a mean age of 53 years, 60% living with HIV; 37% female, 33% African American, and 25% Latino, 86% of which were Spanish speakers. Over one-fifth of patients did not know and could not guess the purpose of 1+ of their medications. There was no significant difference in ability to state medication purpose between patients using medi-sets, pre-packaged rolls, or blister packs, and patients that stored pills in their original containers. Sixty-one percent of patients expressed at least some uncertainty regarding how one or more of their prescribed medications functioned in the body. Among patients that attempted explanations of function, those prescribed antihypertensive medications had the most difficulty. We observed richer articulation among patients describing function of medications prescribed for historically stigmatizing conditions (HIV, depression). Patients commonly expressed that medication-related knowledge was the province of their physician and not their own.

Conclusion: Patients with chronic comorbidities often demonstrated low understanding and/or low confidence in knowledge of the purpose and/or function of their prescribed medications. Periodic review of each medication's purpose and function may translate into fewer adherence errors and more meaningful patient engagement in care.

98 Psychological Barriers to Antiretroviral Adherence: A Qualitative Inquiry

Donald Patrick¹, Heidi Crane¹, Paul Crane¹, Chris Mathews², Kenneth Mayer³, Michael Mugavero⁴, Anna Church¹, Mary Grace Asiro¹, Laurie Smith¹, Emma Fitzsimmons¹, Alex Wang⁵, Monica Godfrey⁶, Kari Alperovitz-Bichell⁶, Sharon Brown¹, Cristina Gutierrez³, Stephanie Loo³, Melonie Walcott⁴, Lydia Dant³, Edgar Paez², Frances Yang⁷, Todd Edwards¹, **Rob Fredericksen (presenting)**¹

¹ University of Washington, Seattle, WA, USA

² University of California San Diego, CA, USA

³ Fenway Health, Boston, MA, USA

⁴ University of Alabama at Birmingham, AL, USA

⁵ Chase Brexton Health Services, Columbia, MD, USA

⁶ Beaufort Jasper Hampton Comprehensive Health Services, Ridgeland, SC, USA

⁷ Georgia Regents University, Augusta, GA, USA

Background: Psychological barriers to antiretroviral adherence are common among patients living with HIV. We sought to understand the dynamics by which patients' mental health, attitudes, and beliefs about HIV and antiretroviral regimens demotivate adherence.

Methods: We conducted 1:1 semi-structured interviews in English and Spanish with patients reporting ever missing doses of antiretrovirals across 6 geographically diverse U.S. clinics. Interviews queried patients' experience of multiple adherence barriers. Two coders independently coded transcripts to identify a fixed set of themes including psychological barriers and attitudes/beliefs about medications; a third coder reconciled differences in interpretation of themes as necessary. Two coders identified sub-themes using codes derived from a comprehensive literature review of validated adherence measures that included attitude/belief and psychological barrier items; a third coder reconciled differences in interpretation.

Results: Patients (n = 113) were a mean age of 42, 26% female, 35% African-American, 33% Latino (76% Spanish speakers), and 27% Caucasian; mean time since diagnosis of HIV infection 11 years. Thirty-six percent identified ≥1 psychological barriers; 22% identified two or more. Most common were: feeling depressed (39%); anxiety/concern over perceptions of others (31%), not wanting to be reminded of HIV (24%); and stress (12%). Half of patients who endorsed depression as a barrier described lack of adherence in terms of wanting to end their life. Patients citing anxiety/concern over perceptions of others described difficulty finding private time and space to take their medications, concern over unwanted HIV status disclosure, and subsequent anticipated stigmatization. Patients citing "not wanting to be reminded of HIV" as a barrier described feelings that included shame, fear of mortality, and difficulty adjusting to life with HIV.

Conclusion: The abundance and interplay of psychological barriers to adherence present a major challenge to patients living with HIV. Identification and coordinated clinical response to patients' mental health needs is paramount in promoting adherence.



106 Product Preferences among PrEP-Experienced Men Who Have Sex with Men

Douglas Krakower (presenting)¹, Kevin Maloney¹, Ken Levine², Chris Grasso², Kenneth Mayer²

¹ Beth Israel Deaconess Medical Center, Boston, MA, USA

² Fenway Institute, Boston, MA, USA

Background: Daily oral preexposure prophylaxis (daily-PrEP) use is increasing among men who have sex with men (MSM). However, alternative formulations of PrEP (e.g., episodic oral PrEP [epi-PrEP], long-acting injections [LAI-PrEP]) are being studied. Product preferences among PrEP-experienced MSM are unknown.

Methods: Between July and November 2015, individuals who had been prescribed daily-PrEP during 2011-2014 (n = 663) at a Boston clinic specializing in LGBT healthcare were selected to complete online surveys about sexual behaviors, experiences when using PrEP, and hypothetical product preferences. Analyses were restricted to MSM. Exploded-logit regression models were fit to identify factors associated with rank-ordered product preferences.

Results: Of 324 respondents (response rate = 49%), 311 identified as MSM. Their median age was 36; 78% were white. Respondents had a median of 5 anal sex partners in the prior 3 months; 37% had ≥ 1 bacterial STD in the prior year. Typical intervals of time between planning for and having sex included minutes (20%), hours (53%), and days/weeks (17%). Most respondents (87%) were currently using daily-PrEP, and 71% of active users intended to use daily-PrEP for ≥ 5 years or indefinitely (54%). Sixty percent of participants indicated they would prefer LAI-PrEP every 2-3 months if available compared to other modalities, 22% preferred epi-PrEP, 15% daily-PrEP, and 2% rectal gels, if all were equally effective. The most common reasons for preferring LAI-PrEP or epi-PrEP over daily-PrEP were ease of adherence and having non-daily sex, respectively. In adjusted models, factors associated with preferring LAI-PrEP over daily-PrEP included age < 30 (adjusted odds ratio [aOR] 4.90; 95% confidence intervals [CI] 2.66-9.03), > 10 sexual partners in the prior 3 months (aOR 5.07; CI 2.52-10.2), and planning sex minutes in advance (aOR 4.62; CI 2.52-8.46).

Conclusions: Most MSM who are currently using daily-PrEP report intentions for long-term use. However, 84% of these men would prefer alternative regimens, if these become available.

107 Comprehensive Food Support May Improve ART Adherence and HIV Outcomes: A Pilot Study

Sheri Weiser¹, Simon Pitchford², Kimberly Madsen², Hilary Seligman¹, Edward Frongillo³, Lee Lemus Hufstедler¹, Tessa Napoles¹, Kartika Palar (presenting)¹

¹ University of California, San Francisco, CA, USA

² Project Open Hand, San Francisco, CA, USA

³ University of South Carolina, Columbia, SC, USA

Background: Food insecurity is associated with multiple negative HIV outcomes, yet few studies have examined how providing food assistance may improve HIV health outcomes in resource-rich settings. We evaluated a food support pilot for people living with HIV (PLHIV) in San Francisco and Oakland, provided by a community-based non-profit, Project Open Hand. We hypothesized that the intervention would be associated with improved nutrition, mental health, ART adherence and healthcare utilization.

Methods: The 6-month pilot program provided meals and snacks designed to comprise 100% of daily energy requirements and meet nutritional guidelines for a healthy diet (e.g. low in fat and sugar). We assessed paired outcomes at baseline and 5 months using validated measures. Paired t-tests and McNemar exact tests were used with continuous and dichotomous outcomes, respectively, to compare pre-post changes.

Results: Thirty PLHIV (out of 45 initiators) had both baseline and follow-up assessments. Most participants (83%) were over 50 years old, male (73%), and non-white (63%). Median annual income was \$16,667 and 20% were marginally housed. Comparing baseline to follow-up, food insecurity decreased from 77% to 30% ($p < 0.001$), frequency of eating fatty foods decreased from 3.63 to 2.52 times/day ($p = 0.02$), deferring food purchases in order to fill pharmacy prescriptions decreased from 33% to 13% ($p = 0.035$), and 95% ART adherence improved from 47% to 70% ($p = 0.046$). Additional outcomes showed positive trends that were not statistically significant at $\alpha = 0.05$: severity of depressive symptoms and internalized HIV stigma decreased ($p = 0.137$ and $p = 0.209$, respectively), frequency of consuming sugary food or drink decreased from 2.74 to 1.75 times/day ($p = 0.09$), and hospitalizations in the previous 3 months decreased from 10% to 3% ($p = 0.31$).

Conclusions: Comprehensive, healthy food support may improve multiple health outcomes for PLHIV, including ART adherence. A randomized-controlled trial of this pilot program is currently underway to assess the causal impact of food support on HIV-related health.



108 HIV Status Disclosure to Male Partners, Adherence and Viral Suppression in Pregnant Women Initiating Lifelong ART in Cape Town, South Africa

Kirsty Brittain¹, Tamsin Phillips (presenting)¹, Claude Mellins², Robert Remien², Allison Zerbe², Elaine Abrams², Landon Myer¹

¹ University of Cape Town, South Africa

² Columbia University, New York, NY, USA

Background: HIV status disclosure may be an important determinant of adherence to antiretroviral therapy (ART), but there are limited data exploring associations between disclosure and HIV viral load (VL). We examined HIV status disclosure to a male partner, non-adherence and non-suppressed VL among pregnant women initiating lifelong ART in Cape Town, South Africa.

Methods: ART-eligible women entering antenatal care were recruited for the MCH-ART study and attended up to three antenatal and one early postpartum study visit. This analysis focussed on women on ART >12 weeks at delivery. Disclosure to a male partner and self-reported adherence were assessed at all study visits; VL testing (Abbott RealTime HIV-1) was conducted. We used Poisson regression with robust error variance to explore associations among disclosure (reported as yes/no) and non-adherence (missed ART doses on ≥ 2 days during the preceding 30 days) and non-suppressed VL (VL >50 copies/mL), both measured within 30 days of delivery, respectively.

Results: Among 191 women previously diagnosed with HIV and 215 women diagnosed during this pregnancy (mean age overall: 28.4 years), 74% and 57% reported disclosing to a male partner by early postpartum. Overall, 17% had non-suppressed VL at delivery; and 8% reported non-adherence. No associations were observed between disclosure and non-adherence; and between disclosure and non-suppressed VL among previously-diagnosed women. Among newly-diagnosed women, disclosure was associated with a reduced risk of non-suppressed VL (RR: 0.55; 95% CI: 0.38-0.80) after adjusting for age, socioeconomic status, VL at enrolment and duration of ART use. In a sub-analysis of women on ART >16 weeks at delivery, a similar association was observed (RR: 0.57; 95% CI: 0.27-1.23).

Conclusions: Among newly-diagnosed women initiating lifelong ART during pregnancy, disclosure to a male partner appears to be associated with a reduced risk of non-suppressed VL at delivery. Further research to explore causality and the mechanisms of these unique findings is needed.

109 Together, Online: A Virtual Support Group for People Living with HIV

Rebecca Dillingham¹, Karen Ingersoll¹, Wendy Cohn¹, George Reynolds², Ava Lena Waldman¹, Claire DeBolt¹, Tabor Flickinger (presenting)¹

¹ University of Virginia, Charlottesville, VA, USA

² Health Decision Technologies, San Francisco, CA, USA

Background: Social support can improve outcomes for people living with HIV (PLWH) and could be provided virtually, particularly for rural and disadvantaged populations challenged in accessing in-person support. The Positive Links smartphone application (PL) includes access to an anonymous, online community message board (CMB). We aimed to evaluate the types of support and perceptions of this clinic-affiliated online support group for PLWH.

Methods: Participants were adults living with HIV, new to care or at risk of falling out of care, and recruited by provider referral. Posts to the CMB were analyzed using an adaptation of the social support behavior code (SSBC). Participants completed interviews 3 weeks after enrollment to assess their experience. CMB posts and interview content was analyzed by 2 independent coders and codebooks refined until kappas of 0.90 and 0.84 were reached (respectively).

Results: Of 55 participants, mean age was 39 years; 69% were male and 33% were white; 60% had unsuppressed HIV viral loads. Of 840 CMB posts over 8 months, 115 (14%) were coded as eliciting social support and 433 (52%) providing social support. For each message seeking support, there was an average of three responses providing support. Messages providing support were predominantly emotional (40%), network (27%), esteem (17%), and informational support (13%). Participants perceived connection and support as key benefits of the app. Several of those who did not post on the CMB still perceived benefit from reading posts. Technical issues and interpersonal barriers were limitations reported by participants in using the app.

Conclusions: The PL app allowed users to seek and provide social support through an online community. This technology has the potential to reach populations with barriers to in-person support and to improve health and quality of life for PLWH.



110 “It Was Easy”: A Qualitative Analysis of Participant Experiences Responding to Short Message Service (SMS) Surveys on Pre-Exposure Prophylaxis (PrEP) Adherence and Sexual Behavior in East Africa

Kenneth Ngunjiri (presenting)¹, Jessica Haberer², Jared Baeten³, Renee Heffron³, Elly Katabira⁴, Nelly Mugo⁵, Bridget Burns², Betty Nankya⁴, Grace Kimemia⁶, Timothy Muwonge⁴

¹ Jomo Kenyatta University of Agriculture and Technology, Juja, Kenya

² Massachusetts General Hospital, Boston, MA, USA

³ University of Washington, Seattle, WA, USA

⁴ Infectious Diseases Institute, Makerere University, Kampala, Uganda

⁵ Kenya Medical Research Institute, Nairobi, Kenya

⁶ Partners in Health and Research Development, Nairobi, Kenya

Background: Widespread availability of cellular phones globally makes SMS a potential tool for socio-behavioral data collection; however, participant acceptability and experience with text message surveys for PrEP adherence and sexual behavior are poorly understood.

Methods: The Partners Mobile Adherence to PrEP (PMAP) Study, a substudy within the Partners Demonstration Project, involved periodic daily SMS surveys on PrEP adherence and sexual behavior in Kenya and Uganda. We conducted semi-structured, in-depth interviews (IDIs) among HIV-uninfected individuals enrolled in the PMAP Study. Thematic analysis identified concepts related to experiences and perceptions of the text message surveys.

Results: We conducted 26 in-depth interviews with 17 HIV-uninfected men and 9 women in HIV serodiscordant relationships. Many of the participants reported that it was easy to respond to the questions through SMS because of the initial training and follow-up support they received at the clinic. Some participants reported sharing the responses with their study sexual partners. Although the surveys were meant as data collection tools, participants also reported that responding to questions related to adherence and condom use reminded them to adhere to the PrEP and to use condoms. Because the messages came close to their next clinic appointment, they served as clinic reminders as well. Challenges included insufficient time to answer questions, especially when messages came while the participant was away from home. Issues related to the battery charge of participant phones made responding to SMS difficult. A few participants found the daily questions related to sexual behavior too repetitive.

Conclusions: Most participants reported positive experiences with SMS surveys to answer questions related PrEP adherence and sexual behavior. Collecting data through SMS may promote adherence and safer sexual behaviors. The challenges reported should be addressed in order to optimize SMS as a data collection method.

112 Past Care Predicts Future Care in Out-of-Care PLWH in North Carolina: Results of a Clinic-Based Retention-in-Care Intervention

Jenna Donovan (presenting)¹, Kristen Sullivan², Aimee Wilkin³, Nada Fadul⁴, Amy Heine⁵, Jennifer Keller³, Anna Firestone LeViere⁵, Evelyn Byrd Quinlivan⁵

¹ North Carolina Department of Health and Human Services, Raleigh, NC, USA

² Duke University, Durham, NC, USA

³ Wake Forest University School of Medicine, Winston-Salem, NC, USA

⁴ East Carolina University, Greenville, NC, USA

⁵ University of North Carolina at Chapel Hill, NC, USA

Background: As part of the Systems Linkages Initiative, the NC LINK Project developed a clinic-based protocol used by 5 Ryan-White clinics to retain people living with HIV (PLWH) in care.

Methods: Electronic medical records were used to identify PLWH without care for over 6 or 9 months and contact was attempted to schedule a clinic visit. If contacted, PLWH were categorized as either returning to the same clinic (not relocating) or transferring care (relocating). Service and surveillance data were used to evaluate associations between clinical/demographic characteristics and HIV RNA (VL) outcomes using prevalence ratios with 95% confidence intervals (aPR) adjusted for insurance, relocation, prior care evidence, and prior VL suppression (VLs). Missing VL results were classified as not in care and not suppressed.

Results: Younger age, no care in the previous year, prior detectable VL and care in a smaller clinic were associated with not being contacted. If contacted, 58% of PLWH resumed care within 90d, 75% within 180d. 55% had two VL tests >90d apart in the follow-up year. 51% had evidence of VLs within 180d. Age 40-49y (aPR=1.22, 1.03-1.44), longer time since HIV diagnosis (10y vs. 7.5y, $p = 0.0018$), having any insurance (aPR=1.27, 1.09-1.48), prior VLs (aPR=2.58, 2.02-3.39), and care in the year prior (aPR=1.41, 1.09-1.83) were all associated with VLs within 180d. PLWH who were contacted but did not relocate were more likely to have care within 90d (66% vs. 48%; aPR=1.43, 1.22-1.67) and VLs within 180d (58% vs. 42%; aPR=1.4, 1.21-1.62).

Conclusions: Past use of care strongly predicts future use, suggesting that additional strategies for supporting patients during long-term care should be developed. Despite using statewide surveillance data, care and VLs remained associated with relocation which is likely explained, at least partially, by missing data. Wider data-sharing agreements are necessary to fully identify PLWH needing retention assistance.



113 Integrating Hepatitis C and HIV Data Improved the Evaluation of Persons Living with HIV and Hepatitis C Virus Coinfection in New York City

Fabienne Laraque, Miranda Moore, Shakara Brown, Chi-Chi Udeagu (presenting)

New York City Department of Health and Mental Hygiene, New York, NY, USA

Background: Persons coinfecting with HIV and HCV are at increased risk of rapid progression to liver cirrhosis and failure. Current HCV treatments are highly effective in people living with HIV (PLWH), making diagnosis and treatment of HCV in PLWH critical.

Methods: In 2008, the New York City Health Department began using CD4 or RNA viral load results reported to the HIV surveillance registry as proxies for engagement in care to identify PLWH presumed to be out-of-care (OOC) (no laboratory reports for ≥ 9 months). Once identified, OOC clients were assigned to public health workers for return-to-care (RTC). In 2013, the Health Department began matching the names of OOC-PLWH with the HCV surveillance registry to prioritize OOC-PLWH co-infected with HCV for RTC. We used HCV RNA test results from the HCV surveillance registry after RTC to assess receipt of HCV evaluation.

Results: During February 2013-June 2015, 730 OOC-PLWH were identified and returned to care, including 124 with a positive HCV RNA or antibody test and 606 with unknown or negative HCV status. Compared with OOC-PLWH with unknown or negative HCV status, those with a positive HCV test were significantly older (69% vs 36% ≥ 50 years, $P < 0.001$) and more likely to have a history of injection drug use (IDU) (54% vs 20%, $P < 0.001$). At least 70% of the 730 RTC-PLWH received laboratory evaluation for HCV within one month of RTC. Post-RTC, 46/606 (8%) of those with HCV-unknown status were newly found to be RNA-positive.

Conclusions: Integrating HCV surveillance data in the selection of OOC-PLWH for RTC facilitated re-evaluation or new HCV diagnoses among persons at high risk for liver failure. Further prioritization of IDU for RTC can be used if resources are limited.

115 Factors Associated with Differential Antiretroviral Therapy (ART) Adherence Rates Using Self-Report and Electronic Drug Monitoring Measures

Ira Wilson, Yoojin Lee, Yordanos Tiruneh (presenting)

Brown University, Providence, RI, USA

Background: Few studies have examined factors associated with differential adherence rates using different measures. This study assessed differences in antiretroviral therapy (ART) adherence using self-report (SR) and electronic drug monitoring (EDM) measures and identified factors associated with the observed differences in adherence rates.

Methods: We conducted an observational study among 81 HIV-infected adults (18 years and older) with detectable viral loads, who were receiving ART at a hospital-based HIV care practice. A baseline survey was conducted to collect socio-demographic, behavioral, and treatment related information including SR adherence using a 3-item validated scale. After the survey, participants were given a cellular wedge-bottom MedSignals[®] electronic medication-monitoring device with training on its use. The MedSignals device captured each event of bin opening and wirelessly transferred the event data for analysis. SR and EDM adherence rates were assessed at monthly follow-up study visits after the baseline (3 follow-up visits). EDM adherence was measured based on the MedSignal data for the 30 days prior to each visit and SR adherence was assessed using the 3-item scale. Mean SR and EDM adherence scores were calculated as a continuous variable for 63 patients over 344 bins. Differential adherence rate was defined as the difference between SR and EDM adherence scores for each medication/bin. A generalized linear mixed model was used to identify factors associated with differential adherence rates using SR and EDM measures, adjusting for repeated measures. Sociodemographic and behavioral variables were tested, including social desirability bias (using the Social Desirability scale).

Results: Age was strongly associated with differential antiretroviral adherence rates using SR and EDM measures. For every 10 years of increase in age, there was a 5-point ($\beta = 4.8$, $p = 0.0004$) difference in the SR and EDM adherence scores. Alcohol use measured by AUDIT-score was positively associated with differences between SR and EDM measures. For each 1-point increase on the 27-point AUDIT score, there was a 1-point ($\beta = 0.99$, $p < 0.0001$) increase in the differences between SR and EDM scores. People who abuse substance (measured by SAMISS score) had a 7-point ($\beta = 6.5$, $p = 0.054$) increase in the difference between their SR and EDM scores. Social desirability bias was not significantly associated with SR-EDM differences. These analyses controlled for race, gender, and depression, which were not statistically significant in the model.

Conclusions: Age, alcohol and drug use, but not social desirability bias or other sociodemographic or behavioral factors, were associated with statistically significant positive bias for adherence self-reports. Clinicians may want to keep these factors in mind when interpreting self-reports.



116 Self-Efficacy is a Strong and Consistent Predictor of Adherence to HIV Medications using both Self-Report and Electronic Drug Monitoring Measures

Ira Wilson, Yoojin Lee, **Yordanos Tiruneh (presenting)**

Brown University, Providence, RI, USA

Background: Identifying factors influencing medication adherence in HIV-infected adults is a critical first step for any feasible adherence intervention. We examined psychosocial and behavioral predictors of adherence to HIV medication using self-report (SR) and electronic drug monitoring (EDM) measures.

Methods: This observational study was conducted among HIV infected adults receiving care in a hospital-based HIV care practice. Participants for this study were 81 patients (18 years and over) on antiretroviral therapy, having had a detectable viral load at one of the last two viral load tests, and who were also being treated for at least one other chronic condition. A baseline survey was conducted to collect information on socio-demographic, economic, and behavioral characteristics, HIV risk factors, and self-reported adherence. Participants were given MedSignals® electronic medication-monitoring device and were trained on its use at baseline visit. The MedSignals device captured each event of bin opening and transmits the records wirelessly to the server for download and analysis. A follow up study visit was held after a month to assess adherence to medication using both SR and EDM measures. SR adherence was assessed using a three 30-day recall items scale and EDM adherence was assessed based on the MedSignals data for the 30 days prior to the follow-up visit. Adherence score was calculated on a 100-point scale. Mean SR and EDM adherence scores were calculated for 60 patients over 136 bins. A generalized linear mixed model was used to identify factors influencing medication adherence assessed by SR and EDM measures, accounting for clustering.

Results: Self-efficacy (assessed using 14-item ACTG self-efficacy scale) was the most significant predictor of follow-up medication adherence in both SR and EDM multivariable models. For each 1-point increase on a 5-point self-efficacy score, there is a 9-point increase on a 100-point SR adherence scale ($\beta = 9.1$, $P < 0.0001$) and a 10-point increase on EDM adherence scale ($\beta = 9.9$, $P < 0.0001$). In our sample, black patients (compared to whites) had 8-points higher SR ($\beta = 7.6$, $P = 0.038$) and 14-points higher EDM adherence scores ($\beta = 14.182$, $P = 0.003$). Substance abuse (measured by SAMISS score) was associated with an 8-points decrease on EDM adherence scale ($\beta = -7.6$, $P = 0.047$) but there was no significant association with the SR adherence. Depression, patient rating of HIV care provider, social desirability bias, and busyness were not predictive of both SR and EDM medication adherence after controlling for race, gender, self-efficacy, and substance use.

Conclusions: Self-efficacy is a consistent, significant predictor of antiretroviral adherence in HIV-infected adults, supporting interventions that target this factor as a potentially modifiable risk factor for poor adherence.

119 Using Social Media and Online Posts to Identify Barriers to and Facilitators of PrEP among MSM: Comparison to the Peer-Reviewed Literature

Joanna Starrels¹, Jessica Rizzuto², Phillip Cohen², Julia Arnsten¹, Viraj Patel¹, Madeleine Lipshie-Williams¹, **Alisse Hannaford (presenting)**²

¹ Albert Einstein College of Medicine, Bronx, NY, USA

² Icahn School of Medicine at Mount Sinai, New York, NY, USA

Background: Pre-exposure Prophylaxis (PrEP) remains an under-utilized HIV prevention tool among men who have sex with men (MSM). To more comprehensively elucidate barriers and facilitators to PrEP use among US MSM, we conducted a systematic review of the peer-reviewed literature (PRL) and content analysis of social media posts about PrEP.

Methods: We searched PRL databases (Medline, Web of Science, Google Scholar) using MESH headings and keywords about PrEP and/or HIV prevention. We included original studies among MSM in the US reporting on barriers, facilitators, or other factors related to PrEP use. We also searched a wide range of online postings and their reader comments (e.g. news articles, opinion pieces, blogs and other social media posts) from diverse 'venues' (e.g., Facebook, Slate Outward, Huffington Post Gay Voices, Queerty, and My PrEP Experience blog) to identify postings about PrEP. We used content analysis to identify themes and compare potential differences between the PRL and online postings.

Results: We identified 26 peer-reviewed articles and 42 online postings meeting inclusion criteria. We identified 48 unique barriers and 46 facilitators to using PrEP. In the PRL, the most commonly reported barriers were cost, lack of PrEP awareness, and side-effects, compared to online postings which identified stigma about using PrEP, poorly-informed providers, and inability to adhere to PrEP. The most important facilitators identified in the PRL were access to support services, and being on a daily routine, compared to online postings, which indicated having decreased anxiety about HIV during sex, and gaining extra protection with condoms.

Conclusions: We identified different barriers and facilitators to PrEP in online postings that were not prominent or found in a systematic review of the PRL. Traditional research approaches may not comprehensively capture current factors important for designing and implementing PrEP-related interventions.



120 Social Marketing Condoms for Female Sex Workers (FSWs) and Men who have Sex (MSM) with Men in Hard to Reach Communities in Uganda

Alege G. Stephen (presenting), Denis Ahairwe, Thomson Ngabirano

Uganda Health Marketing Group, Kampala, Uganda

Background: Male condoms offer dual protection against HIV and other sexually transmitted infections (STIs), and unplanned pregnancy making them critical in achieving national HIV prevention targets especially among men who have sex with men (MSM) and female sex workers (FSWs). Uganda Health Marketing Group (UHMG) implemented a one year USAID supported project to increase availability of male condoms through social marketing. The UHMG conducted a brand tracking survey to establish client perceptions about quality, packaging, pricing, and availability of socially marketed condoms.

Methods: The brand tracking survey used mixed method approach using quantitative and qualitative approaches. A total of 691 household respondents (beneficiaries) were selected for the study. The survey team used a multi-cluster stratified random sampling method for quantitative data. T Focus group discussions were conducted with; i) Primary care-givers/mothers of children 0-59 months; ii) Women in reproductive age group and sexually active (those who have ever used good life products); and iii) Sexually active Men in reproductive age group. Key informant interviews were also conducted.

Results: The socially marketed condoms have the highest top of the mind share and are the most known brands among the fisher folk and Female sex workers. MSMs were the most likely to mention the socially marketed condom brand compared to the FSWs. MSMs were more knowledgeable about the socially marketed condoms than women while the males (59%) and females (38%) reported having ever used/were used a socially marketed condom. Protection against HIV/AIDS 67% males and 46% females was the key reason for buying and using the socially marketed condoms. Of the respondents interviewed 21% said the socially marketed brand has a bad smell and that it is hard to open but acknowledged that it is soft; it fits well, is easy to use, and is readily available in many in the Good life clinics.

Conclusions: Social marketing of condoms plays a big role in HIV prevention among key populations by increasing availability and access to quality condoms however, generic myths and misconceptions continue to hamper the use of these condoms and efforts should be made to address them.

121 Comparison of Retention in Care Outcomes for HIV-infected Patients who Received a Clinic-based Intervention vs. Those who Required Referral to State Bridge Counselors

LaWanda Todd¹, Abigail Boyer¹, Amy Heine², Jenna Donovan³, Aimee Wilkin⁴, Diane Campbell¹, Sarah Willis⁵,
Nada Fadul (presenting)¹, Anna Finestone LeViere²

¹ East Carolina University, Greenville, NC, USA

² University of North Carolina at Chapel Hill, NC, USA

³ North Carolina Department of Health and Human Services, Raleigh, NC, USA

⁴ Wake Forest University School of Medicine, Winston-Salem, NC, USA

⁵ Duke Global Health Institute, Durham, NC, USA

Background: Retention in care is a significant predictor of health care outcomes in HIV patients. As part of the Systems Linkages Initiative, the NC-LINK Project initiated a clinic-based retention protocol along with a statewide system of State Bridge Counselors (SBCs) to retain and re-engage PLWH in care. We compared outcomes of HIV-infected patients who received only the clinic-based intervention with those who received the clinic-based intervention without re-engagement and were subsequently referred to the SBCs.

Methods: Electronic medical record systems (EMRs) were used to generate lists of HIV patients who were last seen greater than 6-9 months ago. PLWH were removed from the list if they had moved, died or became incarcerated. Retention staff then attempted to locate, contact and reschedule the out-of-care patients. Those who were not found were referred to the SBC. Demographic and clinical outcomes were compared using multivariable models for the two groups.

Results: Between 2013 and 2014, 1121 patients were identified as out-of-care, 264 received a referral to SBC and 857 did not require referral to SBC. Patients referred to the SBC were more likely to be uninsured (OR 1.33, 95% CI 1.00, 1.78) and less likely to have recent viral load suppression (VLs) (OR 2.04, 95% CI 1.53, 2.72). Patients in the SBC group were less likely to re-engage in care within 180 days (OR 0.29, 95% CI 0.21, 0.41), and less likely to achieve subsequent VLs within 1 year (OR 0.33, 95% CI 0.25-0.44).

Conclusions: Patients who were not returned to care by clinic retention efforts and were referred to the SBC were more likely to have had detectable VL at the time of referral and less likely to re-engage in care or achieve VLs. Focused efforts to support these patients to remain in care and on effective antiretroviral therapy are required.



122 Retention in Care and Viral Suppression among Homeless People Diagnosed with Human Immunodeficiency Virus Infection, 2004-2013, Florida

Karalee Poschman¹, Lorene Maddox¹, Diana Sheehan², Kristopher Fennie², Soumyadeep Mukherjee², Mary Jo Trepka (presenting)²

¹ Florida Department of Health, Tallahassee, FL, USA

² Florida International University, Miami, FL, USA

Background: Homelessness creates significant barriers to the care and treatment of people living with human immunodeficiency virus (HIV) infection. The objective of this study was to compare retention in HIV care and viral suppression between people who were homeless and non-homeless at the time of HIV diagnosis.

Methods: De-identified data for people diagnosed with HIV from the years 2004-2013 were obtained from the Florida Enhanced HIV/AIDS Surveillance System. People younger than 13 years at diagnosis were excluded. Retention in care was defined as evidence of at least 2 medical visits at least 3 months apart during 2014. Viral suppression was defined as having a viral load result with the last one <200 copies/mL during 2014. Multivariate logistic regression was conducted to control for covariates.

Results: Of the 54,980 people diagnosed with HIV 2004-2013, 611 (1.1%) were homeless at diagnosis. By the end of 2014, 47,669 (86.7%) people were still alive including 491 (80.4% of 611) of the initially homeless. Of these, 66.0% of the initially homeless were not retained in care compared with 38.5% of the non-homeless ($P < 0.0001$), and 70.3% were not virally suppressed compared with 43.2% of the non-homeless ($P < 0.0001$). Controlling for age range, birth sex, mode of HIV transmission, year diagnosed, birth country, and race/ethnicity, homelessness at diagnosis was associated with non-retention in care (adjusted odds ratio 2.91; 95% confidence interval 2.40–3.52). In the viral suppression model, homelessness also had a significant odds ratio (adjusted odds ratio 2.94; 95% confidence interval 2.41–3.59). In both models homelessness had the largest odds ratio among all variables.

Conclusions: Homelessness at HIV diagnosis was associated with non-retention in care and lack of viral suppression up to 10 years after HIV diagnosis. Programs addressing the needs of homeless individuals will be needed to improve HIV outcomes in this group.

123 Housing and Clinical HIV Outcomes in the Ryan White HIV/AIDS Program

Amy Griffin, John Milberg, Rupali Doshi (presenting)

Health Resources and Services Administration, Bethesda, MD, USA

Background: Lack of stable housing places people living with HIV (PLWH) at risk of poor retention in care and death. The Ryan White HIV/AIDS Program (RWHAP) provides clinical and support services to un- and underinsured PLWH. Understanding demographics, retention and viral load suppression (VLS) by housing status and receipt of support services will help the RWHAP with planning resource allocation and service delivery.

Methods: RWHAP-funded providers of medical care, medical and non-medical case management (CM), or housing services report the housing status of their clients annually to HRSA. Among clients who received at least one of these services in 2014, we compared demographics, retention, and VLS by housing status. Among unstably housed clients, we further compared retention and VLS by receipt of CM, housing, and treatment for substance use disorders (SUDTX) and mental illness (MHTX).

Results: Of the 440,349 HIV-positive clients who received RWHAP-funded medical care, case management and/or housing in 2014, housing status distribution was 83.5% stable, 11.9% temporary, and 4.7% unstable. Black / African Americans, transgender people, clients with income at or below 100% federal poverty level, and clients with Medicaid were disproportionately represented in the unstable housing group. Retention and VLS were lowest among unstable (retention 72.9%, VLS 67.1%) vs temporary (retention 77.2%, VLS 77.0%) and stable (retention 81.7%, VLS 82.8%) (all Chi-square $p < .0001$). Among unstably-housed clients, higher retention was found among those who received housing, medical CM, SUDTX and MHTX (all Chi-square $p < .0001$), but not among those who received non-medical CM. Among unstably housed clients, VLS did not differ significantly between those who received housing, medical CM, non-medical CM, SUDTX and/or MHTX.

Conclusion: Unstably-housed PLWH had lower retention and VLS. Among unstably-housed clients, we found higher retention for those who received medical CM, SUDTX, and/or MHTX. Unstably-housed clients who received housing services had higher retention but not VLS.



124 Psychological Distress and Recent HIV Diagnosis in Oromia, Ethiopia

Denis Nash¹, Batya Elul², Zenebe Melaku², Susie Hoffman², Sarah Gorrell Kulkarni¹, Tsigereda Gadisa², Robert Remien², Olga Tymeczyk¹, **Angela Parcesepe (presenting)**²

¹ City University of New York School of Public Health, New York, NY, USA

² Columbia University, New York, NY, USA

Background: HIV diagnosis may be a source of psychological distress, and advanced HIV disease at diagnosis may intensify psychological distress among those recently diagnosed. This analysis describes the prevalence of significant psychological distress among PLWH at ART initiation, and examines the joint effects of recent HIV diagnosis and low CD4+ cell count on psychological distress.

Methods: The sample includes 1177 PLWH aged 18 or older initiating ART between 2012 and 2013 at six HIV clinics in Oromia, Ethiopia. Psychological distress was assessed with Kessler Psychological Distress Scale (K10). Scores ≥ 29 were categorized as significant psychological distress. Individuals who received their first HIV diagnosis in the past 90 days were categorized as recently diagnosed. Multivariate logistic regression modeled the association of recent diagnosis, with and without low CD4 cell count (100 cells/ μ l) on psychological distress, controlling for age, sex, education, area of residence, and relationship status.

Results: Among respondents, 29.5% reported significant psychological distress, 30.9% were recently diagnosed, and 20.2% initiated ART with low CD4 counts. In multivariable models, relative to those with longer time since diagnosis and higher CD4 counts at ART initiation, odds of significant psychological distress was highest among those with recent diagnosis and low CD4 count (adjusted OR [aOR]: 2.0 [95% CI 1.4, 3.0]); followed by those with longer time since diagnosis and low CD4 counts (aOR=1.62 (0.95, 2.76) and those with more recent diagnosis and higher CD4 counts (aOR: 1.5 [1.1, 2.0]).

Conclusion: Significant psychological distress was highly prevalent, particularly among those recently diagnosed with low CD4 count at ART initiation. Greater understanding of the relationship between psychological distress, recent diagnosis, and late ART initiation can inform interventions to reduce psychological distress among this high risk population. Mental health screening and interventions should be incorporated into routine HIV clinical care from diagnosis through treatment.

126 Utilizing HIV Surveillance Data to Facilitate Linkage and Re-Engagement among Persons Living With HIV: The Virginia Data to Care Project

Amanda Saia, **Lauren Yerkes (presenting)**, Fatima Elamin, Celestine Buyu, Susan Carr, Kimberly Scott, Mary Browder, Anne Rhodes

Virginia Department of Health, Richmond, VA, USA

Background: Persons living with HIV disease (PLWH) who are disengaged from HIV medical care have a greater risk for adverse health outcomes. The Virginia Department of Health (VDH) developed the Data to Care (DtC) Project which utilizes HIV surveillance data to identify clients who are out of care (OOC) to facilitate linkage and reengagement efforts of OOC clients and improve health outcomes among PLWH in Virginia.

Methodology: The DtC project utilizes the Care Markers Database, which incorporates HIV surveillance, care and prevention data to generate a statewide OOC list for clients who had evidence of care through a CD4 or viral load lab test, HIV medical care visit or antiretroviral therapy prescription in calendar year (CY) 2013 but no evidence of care in CY 2014 or CY 2015. VDH disseminated lists to linkage personnel at local health departments, medical facilities and community-based organizations to re-engage OOC clients back into HIV medical care.

Results: Preliminary results from the project's first year of implementation demonstrate lower numbers of PLWH who were truly "out of care." Of the 117 clients investigated, 54% were in care, 21% relocated out of state, 15% were unable to be located, 5% were not in care, 4% were deceased, and 1% were incarcerated. Of those clients not in care, two reengaged in care as a result of DtC efforts.

Conclusion: Programs implementing DtC initiatives should consider routinely assessing HIV surveillance data to improve identification of OOC clients and employing resources statewide for successful linkage and reengagement in HIV care. Further, engaging community stakeholders in program planning can facilitate jurisdiction or statewide support in DtC implementation. Overall, implementing DtC programs strengthen linkage and reengagement efforts for OOC clients, thus improving health outcomes for all PLWH along the HIV care continuum.



129 Evaluation of a Motivational Interviewing-Informed, mHealth-Supported CHW Training Program to Promote HIV Treatment and Prevention in an HIV Hotspot Ugandan Fishing Community

Larry Chang¹, Gertrude Nakigozi¹, Maria Wawer¹, Ronald Gray¹, Fred Nalugoda¹, K. Rivet Amico², Jeremiah Mulamba¹, Eva Bugos¹, Alvin Thomas¹, Ismail Mbabali¹, Heidi Hutton¹, Amanda Long (presenting)¹

¹ Johns Hopkins University, Baltimore, MD, USA

² University of Michigan School of Public Health, Ann Arbor, MI, USA

Background: Intensive, yet economical approaches, are needed to increase HIV treatment and prevention uptake and adherence in HIV hotspots. As part of a cluster-randomized trial, we implemented and evaluated a community health worker (CHW) training program which incorporated motivational interviewing (MI) concepts and mHealth to promote uptake and adherence to HIV services.

Methods: A multidisciplinary team used a situated Information, Motivation, and Behavior Skills (siMB)-based intervention to outline a training program. A curriculum incorporating MI concepts and a mHealth smartphone application designed to expedite and structure counseling sessions was developed and implemented through residential and field-based activities. A post-training evaluation was performed using a modified Motivational Interviewing Treatment Integrity (MITI) scale to assess CHW competency.

Results: The study community has an adolescent/adult population of ~4400; the HIV seroprevalence is ~36%. 10 CHWs, who were community residents selected by community leaders, participated in a 5-day training on MI-informed counseling and use of the mHealth tool. Depending on CHW competence, 2-4 follow-up trainings were conducted on application use and counseling approaches. Following training, the CHWs successfully counseled a total of 892 residents (mean 89.2 clients/CHW, range 48-185) over 4 months. 2 CHWs were replaced for sub-optimal performance. The MITI results of 9 CHWs were: Evocation: 3.67; Collaboration: 3.44; Autonomy/Support: 4.22; Direction: 3.56; Empathy: 3.67 (each category mean score out of 5), indicating beginning or greater proficiency. 1 CHW evaluation was stopped due to inability to use the application. CHWs demonstrated a need for additional guidance on using the phone application, building rapport with clients, and gaining community trust.

Conclusions: CHWs were successfully trained to beginner proficiency through workshop trainings; however, ongoing supervision, training and support to optimize implementation is needed. Best practice strategies to offer on-going support for CHWs implementing HIV prevention and treatment interventions are recommended.

131 Reasons for Missed HIV Care Appointments among Inmates in a Southern Prison System

David Rosen (presenting), Catherine Grodensky, Anna Miller, Steven Bradley-Bull, Carol Golin, Becky White, David Wohl

University of North Carolina at Chapel Hill School of Medicine, Chapel Hill, NC, USA

Background: Individuals receiving HIV care in prison are thought to achieve better retention in care and medication adherence than when in the community; nevertheless, inmates likely face unique barriers to care, but these are not well-characterized.

Methods: We conducted qualitative interviews with 39 male inmates receiving HIV care at a central infectious diseases (ID) prison clinic in a state prison system; we over-sampled inmates self-reporting a gap in HIV care ≥6 months. We asked participants to describe experiences with prison healthcare, particularly missed HIV appointments.

Results: Participants were 79% African American and 10% Caucasian, median age 46 years (range 21-58), and median time incarcerated 6 years (range 0.2-33). Of 26 participants who reported missing an HIV appointment in prison, 7 missed due to factors beyond their control. Six were informed after the fact that they had missed an appointment they were not aware of existing. The majority (n = 19) reported refusing to attend appointments because of discomfort and inconvenience (e.g., shackling, transportation, waiting), confidentiality, being awoken early (e.g., 4 am) for clinic visits, and perceiving that appointments confer little benefit if the participant knows from recent lab work that his viral load is undetectable. Thirteen participants reported missing no appointments, but several acknowledged they may have missed without their knowledge. Participants generally expressed positive regard for ID clinic staff providing HIV care, but several mentioned difficulty navigating care in their "home" prison facilities and occasionally relying on ID clinic staff to advocate for their health needs at the "home" facilities.

Conclusion: Reasons for missing HIV appointments were highly particular to the prison environment and processes rather than participants' attitudes regarding HIV providers or care. Future research should explore methods of improving communication with inmates about appointments and reducing the discomfort and concerns about confidentiality involved with appointment attendance in prison.



132 Association of Food Insecurity and Food Assistance with Dietary Intake, Antiretroviral Adherence, and Health Outcomes in HIV-Infected Women

Phyllis Tien¹, Margot Kushel¹, Eryka Wentz², Adebola Adedimeji³, Mardge Cohen⁴, Daniel Merenstein⁵, Tracey Wilson⁶, **Kartika Palar (presenting)**¹, Jessica Escobar⁷, Edward Frongillo⁷, Sheri Weiser¹

- ¹ University of California, San Francisco, CA, USA
- ² Johns Hopkins University, Baltimore, MD, USA
- ³ Albert Einstein College of Medicine, Bronx, NY, USA
- ⁴ Rush University, Chicago, IL, USA
- ⁵ Georgetown University Medical Center, Washington, DC, USA
- ⁶ State University of New York, Brooklyn, NY, USA
- ⁷ University of South Carolina, Columbia, SC, USA

Background: Food insecurity has multiple effects on people living with HIV. Food assistance is used to alleviate, compensate, or buffer effects of food insecurity in the general population, but less is known about the impact of food assistance on people living with HIV. We examined the patterns of dietary intake, antiretroviral adherence, and health outcomes with food insecurity and food assistance in HIV-positive women.

Methods: We used data from 1,251 women enrolled in the Women's Interagency HIV Study. We examined how food security (i.e., high, marginal, low, and very low) and food assistance together were associated with outcomes, controlling for sociodemographic and clinical confounders using full information maximum likelihood regression in Stata. To test for buffering, we examined whether the association of food assistance with outcomes depended on the category of food security.

Results: No statistically significant interactions were found between food security and food assistance, suggesting no buffering. Women with very low food security had higher fat, dessert, and milk intake and poorer antiretroviral adherence than did other women. Women with high food security had higher intake of protein, fruits, and vegetables than did other women. Lower food security across the four categories was significantly associated with poorer physical and mental health and higher depressive symptoms. Women receiving both non-government and government food assistance had higher dessert intake. Women receiving government food assistance had higher sugar and sweet beverages intake. Women receiving non-government food assistance had lower physical health scores.

Conclusions: Food insecurity was associated with worse physical and mental health, antiretroviral adherence, and dietary intake among HIV-infected women, while food assistance was associated with poorer quality of dietary intake and lower physical health scores. Longitudinal studies are needed to further understand associations due to unmeasurable selection effects among women receiving food assistance.

134 Chronic Pain and Patient-Provider Engagement in Drug-Using, Primarily African-American Persons Living with HIV/AIDS

Sarina Isenberg¹, Allysha Maragh-Bass², Trang Nguyen¹, Amy Knowlton¹, **Mary Mitchell (presenting)**¹

- ¹ Johns Hopkins University, Baltimore, MD, USA
- ² Brigham and Women's Hospital, Boston, MA, USA

Background: Persons with HIV (PLHIV) who inject drugs are at risk for chronic pain, which worsens other chronic conditions, and results in less health care engagement and further exacerbation of their pain and chronic conditions. While there is a dearth of studies on pain assessment and management among African-Americans PLHIV who inject drugs, research suggests that these individuals may experience disparities in pain management compared to other racial/ethnic groups.

Methods: The present study used baseline data from the BEACON study (Being Active and Alive) (N = 383), which examined social environments and HIV medical adherence among PLHIV residing in Baltimore, Maryland who were current or former injection drug users and primarily African American. Using structural equation modeling, the current study examined relationships between experiencing chronic pain, depressive symptoms, substance use, and number of HIV primary care visits as correlates of patient-provider engagement, defined as patient-provider relationships which promote the use of health care services.

Results: Chronic pain and depressive symptoms were significantly associated with poor patient-provider engagement, while substance use was associated with better engagement, controlling for primary care visits and sex. Patient-provider engagement in turn was associated with HAART adherence, which was associated with viral suppression.

Conclusions: Results suggest the role of chronic pain in poor patient-physician engagement in this population, which has potential implications for quality of HIV patient care and health outcomes. Findings suggest the need for attention to the patient-provider relationship in patients with chronic pain and its role in pain management and other health outcomes among vulnerable PLHIV.



138 Implementing and Adapting a Group Prenatal Care Program for HIV-Seropositive Women

Olga Villar-Loubet (presenting), Lunthita Duthely, Nelly Diaz-Mendez, Lindsay Smith, Sindy Jaramillo, Marisa Echenique, JoNell Potter

University of Miami Miller School of Medicine, Miami, FL, USA

Background: CenteringPregnancy (CP) is a patient-centered, evidence based model of group prenatal care that emphasizes patient engagement through health assessment, self-management, and peer support, in an effort to improve health outcomes.

Methodology: CP was introduced at a large, urban hospital in Miami, Florida, serving HIV-seropositive pregnant women. Care was provided by certified nurse-midwives/ARNPs who were trained in the CP model. Women of similar gestational age (GA) met in groups of six to eight for an average of ten groups. Although most of the core components of the CP sessions were preserved, HIV-specific topics were incorporated (medication adherence, disclosure).

Results: Fifteen women participated in the first year of the program (7 African American, 4 Hispanic-American, 4 Caribbean-American); Almost half had an AIDS diagnosis ($n = 7$). 70% met or fell below poverty level. GA at entry was mostly 13-24 weeks ($n = 8$). Mode of transmission was mostly heterosexual intercourse ($n = 10$), four were perinatally infected and 1 unknown. Certain trends were identified; compared to HIV-seropositive women in individual prenatal care at the same hospital, women in CP had lower no-show rates (17% vs. 21%). Also, among those in CP, 0% delivered between 32-36 weeks (vs 8% individual care). While a similar proportion (71%) of CP and individual care patients had non-detectable viral loads at delivery, fewer CP patients were detectable at 50-1,000 copies/mL (14% vs 21%).

Conclusions: The main priorities of this program were to increase engagement in care and improve health outcomes. Although more data is needed, preliminary data shows that within one year of implementation, improved health trends among HIV-positive pregnant women in CP have been identified. In addition, adaptation of the CP model for HIV-positive women is an important prenatal care option and is possible to implement in a large urban hospital. More data is needed to assess more health outcomes, including mental health.

139 Beyond the Barriers: Exploring Patient and Navigator Perspectives in HIV Care Re-Engagement in North Carolina

Heather E. Parnell (presenting)¹, Miriam B. Berger¹, Anna Finestone LeViere², Constance Jones³, Evelyn Byrd Quinlivan²

¹ Center for Health Policy and Inequalities Research, Duke Global Health Institute, Duke University, Durham, NC, USA

² Institute for Global Health and Infectious Diseases, University of North Carolina at Chapel Hill, NC, USA

³ Communicable Disease Branch, North Carolina Department of Health and Human Services, Raleigh, NC, USA

Background: Persons living with HIV (PLWH) in the southeastern United States face numerous barriers to care engagement. Care navigators present a promising approach to address barriers and enhance the motivation of PLWH to re-engage in HIV care. This study explores the perspectives of recently re-engaged PLWH and the State Bridge Counselors (SBCs), North Carolina state employees who locate and attempt to re-engage lost-to-care PLWH in HIV care.

Methods: This qualitative study assesses the psychosocial contexts that impact PLWH's care engagement and the SBC role of re-engaging clients in care. During 2014-2015, a sample of 11 lost-to-care PLWH who had received re-engagement services and the 9 SBCs who served them, were individually interviewed in-person, utilizing a semi-structured interview guide. Client interview questions included HIV healthcare experiences, reasons for being out-of-care, and experiences with SBCs. SBC interviews focused on their role in motivating clients to return to care. Interviews were recorded, transcribed verbatim, and coded in NVivo for emergent themes.

Results: PLWH in this study were referred to SBCs after local clinics were unable to re-engage them. Participants described challenging life situations that often hindered their care engagement, including: limited social support; unstable transportation; stigma; difficulties navigating healthcare systems; and mental health/substance use challenges. Although participants represented diverse backgrounds, all felt SBCs were instrumental in their re-engagement in care. SBCs echoed client barriers, describing their role as building rapport, providing instrumental support, such as transportation and referrals, and increasing client self-efficacy, thus contributing to clients' motivation to return to care.

Conclusions: This study provides insight into the experiences of PLWH and their care navigators. The unique combination of both perspectives describing factors that impact HIV care re-engagement may inform the development of effective navigation programs for PLWH. These viewpoints go beyond the barriers of clients and address the core of enhancing care re-engagement.



143 Transition of HIV-Positive Adolescents into Adult Care: How Can We Make it Better?

Elizabeth Machado¹, Maria de Fatima Garcia¹,
Renata Neves (presenting)¹, Carla Gouveia¹, Craig Carty²,
John Lambert³, Iraina Farias¹

¹ Federal University of Rio de Janeiro, Brazil

² The Relevance Network, Johannesburg, South Africa

³ University College Dublin, Ireland

Background: The adherence to treatment is a process with several subjective issues involving adolescents, their families and health professionals. The challenge for the multidisciplinary health team is providing assistance aimed to improve adherence to treatment taking into account the feelings and needs of the adolescent population.

Methodology: We developed a research project to identify possible factors involved in lack of adherence to treatment and/or clinic appointments. The approach used an open interview with the adolescents to know more about their difficulties with medication and appointments. The objectives were to decrease morbidity and mortality of this population, and create a better environment for a future transition to adult care.

A total of 35 HIV-vertically infected adolescents agreed to participate in the research project. The most frequent factors reported were the difficulty to swallow the medications and maintenance of the schedule of the antiretrovirals during regular activities such as work or at school. Both difficulties were discussed within the group, where the adolescents had the opportunity to discuss then with their colleagues. The difficult in the adherence was related to the fact that it remind them of their HIV infection.

Results: We have identified a difficulty, by HIV-infected adolescents, to accept their HIV condition that contributes to decrease their adherence to treatment. Working with this difficulty might be useful to decrease in number of hospitalization among HIV infected adolescents and improve adherence to the clinical appointments and antiretroviral treatment.

Conclusion: We believe that the way these teens relate socially and emotionally reflects on their living with HIV / AIDS. Awareness about these representations will helps us think of strategies that can assist in the transition to the adult clinic where there is a need for greater autonomy in relation to treatment.

144 Building HIV Testing and Care Utilization Opportunities for Priority Populations: A Discussion of Infrastructure and Capacity Needs for Community-Based Intervention

Anita Raj¹, Bradely Boekeloo², John Edmiston³, Alexandra Caraballo³,
Pamela Schwartz³, Sankari Ayyaluru¹, Daniel Triplett¹, Jennifer Yore¹,
Lianne Urada¹, **Laramie Smith (presenting)**¹

¹ University of California San Diego, CA, USA

² University of Maryland, School of Public Health, College Park, MD, USA

³ Kaiser Permanente, Oakland, CA, USA

Background: The National HIV/ADS Strategy prioritizes improving HIV care continuum outcomes, calling for HIV care models that are responsive to social- and environmental conditions driving HIV disparities. Such models, positioned within community-based organizations (CBO), are the focus of the Kaiser Permanente's Community-based HIV Test and Treat Initiative.

Methodology: Seven CBOs serving priority populations across the US [Black/Latino MSM, Transgender women, Women of color, recently incarcerated, Persons who inject drugs (metropolitan areas), and low-income African Americans (suburban-Mid-Atlantic/rural-Southeast)] were selected to implement and evaluate novel programming to improve HIV care continuum outcomes. CBOs ranged from well-resourced federally qualified health services to more traditional stand-alone AIDS Service Organizations. Formal third-party discussions with CBOs about this process revealed several key learnings regarding the feasibility and reach of CBO-delivered support.

Results: CBOs were able to reach HIV-positive persons in their target communities; more immediate access to wrap-around services and outreach capacities facilitated engagement of client enrollment and follow up. Intervention staff benefited from funded clinic affiliations, and struggled in their absence. HIV testing challenges reflect a shift in the demographics of undiagnosed populations (MSM), though in-house testing programs were more beneficial than referrals from outside testing agencies. CBOs were able to facilitate access to HIV care, but recognized clients' abilities to sustain long-term treatment require substantial support (health literacy, HIV morbidity). Resources for program implementation and evaluation of engagement-support interventions were strained; ability to leverage support from other internal programs was necessary.

Conclusion: Diversity in access to internal resources varied dramatically, and was clearly reflected in a CBOs ability to reach a larger target sample in a given timeframe, successfully integrate intervention staff in systems of HIV care, and support clients' need for immediate access to life-stabilizing resources. Ways to maximize future CBO-delivered HIV test and treat efforts are discussed.



145 Data Driven Re-Engagement: Findings from START Care, a Hybrid Data to Care Model

Ian Frank¹, Baligh Yehia¹, Melissa Miller², Jacqueline O'Duor¹, Amanda Du², Emily Anderson², Kathleen Brady², Tanner Nassau (presenting)²

¹ University of Pennsylvania, Philadelphia, PA, USA

² Philadelphia Department of Public Health, Philadelphia, PA, USA

Background: Treatment as prevention is a cornerstone of HIV prevention efforts. Evaluation of the effectiveness of using surveillance data for re-engaging out-of-care (OOC) patients is needed.

Methods: START Care is a Philadelphia clinic-based re-engagement program which began in 2014. Monthly, clinics generate an OOC list (clinic list), defined as no care visit in the last 6 months. Lists were compared to the Enhanced HIV/AIDS Reporting System (eHARS) and patients were excluded due to death, imprisonment, outmigration, or evidence of care. Updated OOC lists were returned to the clinics for re-engagement efforts. Clinic lists for the 4 months prior to implementation were used as the control group. Univariate and multivariable Cox models were conducted to determine predictors of re-engagement and time to re-engagement. Variables included race/ethnicity, risk factor, sex, diagnosis status, years since diagnosis, age, insurance status, poverty level (FPL), prior viral suppression, and study arm.

Results: 708 individuals from the intervention and 442 from the control arms were on clinic lists and were matched to eHARS. 42% on the clinic lists were excluded due to death, imprisonment, outmigration, or evidence of care. Of the 691 OOC, 50.5% of control and 43.4% of intervention patients re-engaged within 6 months. In multivariable analysis, persons who were virally suppressed (HR, 1.79; 95%CI:1.41-2.27) and diagnosed ≥ 15 years ago (HR, 1.66; 95%CI:1.07-2.58) were more likely to re-engage. Persons above FPL (HR, 0.69; 95%CI:0.51-0.95) and with private insurance (HR, 0.12; 95%CI:0.02-0.86) were less likely to re-engage during follow-up.

Conclusions: START Care decreased the number of patients requiring re-engagement efforts by 42% but did not improve re-engagement of OOC patients. The removal of patients from clinic lists likely resulted in the perception that further re-engagement efforts were unnecessary as retention benchmarks had been met. Future efforts need to focus on re-training facilities on re-engagement best practices and inclusion of last viral load in updated OOC lists.

147 Structural Equation Modeling of Gendered Differences in Antiretroviral Adherence: Accounting for Psychosocial Factors

Robert Hogg¹, Cari Miller², Angela Kaida², Cathy Puskas²

¹ British Columbia Centre for Excellence in HIV/AIDS, Vancouver, BC, Canada

² Simon Fraser University, Burnaby, BC, Canada

Background: Stigma is a barrier to antiretroviral therapy (ART) adherence among people living with HIV (PLWH), yet little is known about the effect of specific stigma subscales on adherence. Similarly, gender has been observed to affect both psychosocial outcomes and ART adherence among PLWH. The aim of this study is to examine the pathway by which internalized stigma interacts with psychosocial variables to impact ART adherence between women and men.

Methods: Using the Longitudinal Investigation into Supportive and Ancillary services (LISA) study, the relationship between stigma mechanisms (internalized stigma, disclosure worries, personalized stigma, and public attitudes), medication taking self-efficacy expectation, depression, and ART adherence, stratified by sex, were explored with structural equation modeling (SEM).

Results: Among 763 individuals (26.5% women), women experienced a greater degree of adversity than men in regards to nearly all socio-demographic and psychosocial variables assessed, including overall and subscale stigma scores. Women had significantly lower median ART adherence than men in the one-year period prior to completing the LISA questionnaire (84.5 vs 100.0; $p < 0.001$). SEM showed unique pathways by which psychosocial variables affect adherence by gender. Disclosure worries had a small negative direct effect on women's adherence (standardized regression weight: -0.192), whereas negative self-image and personalized stigma had medium direct effect on depression (standardized regression weights: 0.321 and 0.299, respectively). Stigma mechanisms did not affect men's adherence directly; however, depression had a small negative direct effect on adherence among men (standardized regression weight: -0.128).

Conclusions: Psychosocial factors affect men and women living with HIV differently. Stigma alleviating interventions can reduce depression among both men and women, with the reduction of disclosure worries offering modest improvement in ART adherence among women. Our findings suggest, however, that prioritizing poverty-reduction interventions among women living with HIV would support the greatest improvement in women's ART adherence.



152 Tackling the First 90: Increasing HIV Testing among MSM

Jennifer Shinefeld¹, Kathleen Brady¹, Katherine Frasca²,
Tanner Nassau (presenting)¹

¹ Philadelphia Department of Public Health, Philadelphia, PA, USA

² University of Pennsylvania, Philadelphia, PA, USA

Background: HIV testing is a critical component of HIV prevention services including for the provision of pre-exposure prophylaxis (PrEP). The CDC recommends that all sexually active MSM should be screened at least annually for HIV. We sought to determine trends and predictors of annual HIV testing among MSM in Philadelphia.

Methods: Data were used from the 2011 and 2014 National HIV Behavioral Surveillance (NHBS) surveys among MSM in Philadelphia. The outcome of interest was having a recent HIV test defined as a test in the past 12 months. Non-demographic variables include: recent health care visit, outness, number of partners/12 months, last partner type, alcohol/drugs at last sex, number of unprotected anal sex partners/12 months, and knowledge of PrEP. Chi-square tests were performed to determine significant differences between the 2011 and 2014 cycles and between those with and without a recent HIV test. Univariate and multivariable analyses were conducted to determine trends and predictors of having a recent HIV test.

Results: 1,043 HIV-negative MSM were included in analysis. 70.2% had a recent HIV test, and more individuals in 2014 were tested compared to 2011 (74.4% vs 65.5%). Multivariable analysis demonstrated individuals age ≥ 45 were 0.43(95%CI:0.27-0.68) times as likely to have had a recent HIV test compared to those age 18-24. Those with a recent health care visit (AOR:1.80;95%CI:1.27-2.56) and those who had heard of PrEP(AOR:2.56;95%CI:1.81-3.63) were more likely to have had a recent HIV test compared to those who had not.

Conclusions: Nearly a third of MSM did not have a recent HIV test consistent with CDC guidelines. As more MSM become aware of and seek PrEP we can hope to see an increase in corresponding testing for HIV, which is a mandatory component of PrEP treatment. Promotion of PrEP may be an effective prevention method to improve HIV testing in MSM.

153 Development of a Clinic-Based Integrated Data Management System to Evaluate a Practice-Based Approach to Improving HIV Treatment Adherence

Erna Kojic, Fizza Gillani, Joseph Garland, Daniel Zariczny,
Aadia Rana (presenting)

Brown University, Providence, RI, USA

Background: Impacting the HIV care continuum requires implementing a multidisciplinary approach to support consistent engagement with HIV care. In addition to outreach and care coordination, evaluation of practices to assess programmatic impact is necessary. We describe our development of an integrated data management system to evaluate our program to improve HIV virologic suppression and reduce gaps in care for patients at an urban HIV clinic in Rhode Island.

Methodology: The Ryan White-funded Immunology Center Adherence and Retention (ICARE) Program at The Miriam Hospital Immunology Center in Providence, RI is a multidisciplinary team of physicians, adherence nurses, case managers, social workers, a secretary, a clinical psychologist, a data administrator, and a peer health advocate which utilizes a practice-based approach to identify, through quarterly database review, patients with gaps in care (>9 months) or detectable HIV plasma viral load (PVL >200 copies/mL), and perform targeted outreach. In 2015, the team developed the ICARE tracking system: a SQL server database accessed via Microsoft Access 2010 user-interface and linked to the Miriam Immunology Center's clinical patient database (ICDB). Once developed, the ICARE patient tracking system was implemented with training starting in January 2016. The ICARE database allows the ICARE team members to organize team leadership for outreach, coordinate and track all multi-disciplinary actions taken by the team to address barriers, follow ongoing outreach efforts, and generate quarterly comprehensive reports on retention outcomes for review and quality improvement.

Results: The ICARE database was developed using pre-existing funding structures and required infrastructure support from institutional Information Technology, the ICBD data administrator, and members of the ICARE team. The goals of the ICARE database software are: 1) collection of pertinent socio-clinical data related to retention, 2) ease of use, 3) direct linkage to the ICDB, and 4) minimal documentation burden to ICARE team members who have additional care delivery responsibilities within the clinic. Once active, only one training session was required for the ICARE team. Post-implementation modifications to data collection methods were minimal and limited to minor data entry modifications.

Conclusion: Cost-effective methods of tracking and evaluating strategies to improve HIV treatment adherence are necessary to impact the HIV care continuum. It is possible to integrate these methods into existing clinical data systems. It is important to involve diverse staff in different roles to make the interface user-friendly, capture relevant data, and be time-efficient for busy clinical staff.



154 Product-, System-, and Patient-Level Factors Influence Interest in Long-Acting Injectable PrEP among Oral PrEP Users

Atrina Brill¹, Kathrine Meyers², Sarit Golub (presenting)¹

¹ Hunter College, City University of New York, NY, USA

² Aaron Diamond AIDS Research Center, New York, NY, USA

Background: Long-Acting Injectable (LAI) PrEP has many potential benefits, but its success will depend on understanding factors that influence acceptability and uptake among potential users.

Methods: READY (R01MH106380) is designed to identify product-, system-, and patient-level factors that might impact LAI implementation. Participants in this analysis were gay/bisexual men (N = 53, 23-62 years; 56.6% white) who had taken daily oral PrEP for at least 12 months.

Results: Compared to a daily pill, 77% of current PrEP users preferred a q3-month shot and 62% preferred a q2-month shot. The highest rated "pro" of the shot was not having to remember to bring pills when sleeping away from home (96%). Injection-related concerns were not highly rated "cons"; instead, participants were concerned about long-term side effects (94%) and whether shots would stop working inside their body (77%). At the systems-level, participants cared most about receiving LAI-PrEP from a setting with on-site STI testing/treatment (94%), on-site HIV care in the event of infection (81%), and doctors with HIV treatment experience (62%). Participants cared less about co-located primary care (47%), case management (49%), or substance treatment (28%). Participants ranked one-on-one information from a personal doctor as the single most effective method for "getting the word out" about LAI-PrEP – ahead of press, PSAs, or social media. At the patient level, personality factors most strongly associated with preferring LAI-PrEP were: a) liking a prevention method you never have to think about, ($p < .01$); b) liking to take risks, ($p < .05$) and c) liking to keep health information private ($p = .07$).

Conclusions: LAI-PrEP is highly acceptable to current oral PrEP users. Patients care about receiving detailed biological information from their doctor, and want integrated HIV/STI prevention and care. Understanding patients' personality and lifestyle may help them and providers best tailor prevention choices.

157 Treatment of HCV in HIV-Coinfected Individuals in Real-World Clinical Settings: Results from Two Large HIV Care Clinics

Sarah Rowan (presenting)¹, Steven Johnson², Edward Gardner¹, Joshua Bayer³, Maya Rogers², Lisa Smith¹, Jacob Langness²

¹ Denver Public Health, Denver, CO, USA

² University of Colorado Hospital, Aurora, CO, USA

³ University of Colorado Denver, CO, USA

Background: Participants in clinical trials of direct-acting antivirals (DAAs) for treatment of chronic HCV infection in HIV-coinfected patients may not be representative of most clinic populations. We report patient characteristics and treatment results from a cohort of HIV/HCV-coinfected patients treated with HCV DAAs in two large urban HIV care clinics.

Methods: Baseline data regarding patient demographics, HCV genotype, liver fibrosis, HIV RNA levels, antiretroviral regimens, and past HCV treatment status were collected. Patients were followed prospectively throughout their treatment courses in clinic tracking databases which were queried and supplemented with chart review when necessary. Drug and alcohol use was tracked during treatment.

Results: From January 2014 through December 2015, 94 individuals with HIV-HCV coinfection were treated with HCV DAAs. The median age at treatment was 52.6 years. 15 patients (16.0%) were female. Payer sources were 66% through the AIDS Drug Assistance Program, 26% Medicare, 7% commercial insurance, and 1% Medicaid. 36 patients (38.3%) had advanced fibrosis (F3-F4) and 20 patients (21%) were treatment-experienced. The genotypes were as follows: GT1a = 53 cases; GT1b = 21; 1a/b=8; 2=9; 3=2; mixed=1. 76 patients were treated with sofosbuvir-ledipasvir, 13 patients with sofosbuvir-ribavirin, and 5 patients with other regimens. 91 patients (96.8%) completed treatment; 1 patient was discontinued because of a gastrointestinal hemorrhage, 2 patients with undetectable HCV RNA at week 4 were lost to follow-up at week 8. Of patients who were 12 weeks or more post-end of treatment ($n = 84$), 73 (95% of those who completed 12-week post-treatment HCV RNA testing) attained SVR12, 4 patients relapsed and 14 patients have not yet been evaluated. Drug and alcohol use was not associated with treatment failure.

Conclusions: A high proportion of patients in this cohort had advanced disease and many were treatment experienced. This review of HCV treatment in HIV/HCV-coinfected patients shows high levels of success in a real-world setting.



162 Randomized Controlled Trial of a Peer Navigation Intervention to Improve Retention in HIV Care and Viral Suppression among HIV-Positive Men Being Released from Large Urban Jail: Potential Mediators at Baseline

Terry Nakazono, Jasmine Smith, Jenna Arzinger, Danielle Seiden, William Cunningham (presenting)

University of California Los Angeles, CA, USA

Background: Knowledge is needed about predictors of retention in HIV care and viral suppression (VS) for HIV+ persons released from incarceration.

Methods: We recruited 356 HIV-positive jail inmates, conducted interviews at baseline and 3 months follow-up with viral load (VL) samples. Outcomes were: retention in HIV care (at least 1 visits in 3 months), and VS (VL < 200 copies/mL). Predictors were access to care (6-items, alpha = 0.78), competing basic needs (5-items, alpha = 0.80), and social stigma (12 items, alpha = 0.77). Using separate multivariate logistic regressions of 1. retention in HIV care, and 2. VS with each predictor, we estimated adjusted probabilities of retention and VS for values of predictors 1 SD above and below the mean, with 95% CIs of the difference.

Results: Mean age was 39.6; blacks were 42%, Latinos 31%; 72% were MSM or transgender. Nearly half (46%) were retained in care and 50% had VS at follow-up. Adjusted probabilities of retention in HIV care for access to care scores 1 SD above the mean were 74% and 46% for 1 SD below (difference = 0.28; 95% CI = 0.14, 0.41; P = 0.0001). Higher scores predicted lower probability of retention for competing needs (difference = -0.16; 95% CI = -0.29, -0.03; P = 0.001), and stigma (difference = -0.17; 95% CI = -0.31, -0.04; P = 0.008. Comparable probabilities of VS for access to care scores 1 SD above the mean were 61% vs. 40% 1 SD below (difference = 0.21; 95% CI = 0.34, 0.74, p = 0.01); and higher stigma scores were associated with lower probability of VS (difference = -0.15; 95% CI = -0.30, 0.00; P = 0.05).

Conclusions: Potential mediators-- access to care, competing basic needs, and social stigma-- predicted continuum of care outcomes for HIV+ men leaving a large US jail, and make key targets for the intervention underway.

164 Healthcare Use and Women of Color: Adherence among Low-Income Mothers Living with HIV

Latoya Small (presenting)¹, Claude Mellins²

¹ University of North Carolina at Chapel Hill, NC, USA

² Columbia University, New York, NY, USA

Background: In the US, low-income women of color are disproportionately more likely to become HIV-infected, fail to adhere to HIV related treatments, have compromised health as a result of HIV infections, and die from AIDS related consequences in comparison to White and more affluent women. African American women evidence this ongoing disparity with high rates HIV-infection and lower use of healthcare services. The threats to health may not only impact individual women, but given that they are often the primary caregivers and sole providers in their household, the wellbeing of their children is also at risk. With the advances in treatment and prevention, low-income HIV+ women of color continue to lag behind others in accessing and adhering to anti-retroviral therapy (ART). More information is needed about why they fail to successfully navigate the HIV treatment cascade, and identify their specific barriers to adherence. This information is critical towards informing the integration of services that address their physical and emotional health. Data from an NIH-funded study is analyzed to examine the association between stress and healthcare use among a sample of 134 low-income mothers with HIV.

Methods: The complex relationship between stress and medical appointments was examined. Statistical models (i.e., structural equation models) were used to examine the role that depression, trauma, parenting stress, and adherence efficacy had on perceived stress and healthcare utilization.

Results: Results suggest that these constructs were related, in that greater levels of stress were associated with increased depression symptoms (p < .001) and these depression symptoms were associated with lower efficacy towards treatment adherence (p < .05), which was associated with lower levels of health care utilization (p < .05).

Conclusion: Low-income HIV-positive mothers have complex barriers that mitigate their HIV treatment adherence. This study advances our understanding of various factors where interventions may be applied to enhance their healthcare utilization.



167 Rethinking and Refocusing HIV Incidence Data to Target HIV Prevention and Linkage to Care

Melissa Miller (presenting), Tanner Nassau, Emily Anderson, Kathleen Brady

Philadelphia Department of Public Health, Philadelphia, PA, USA

Background: Estimated HIV incidence declined in Philadelphia from 2009 - 2013. However, HIV continues to disproportionately affect minorities and those living in poverty. We analyzed incidence data to identify those at highest risk for new HIV infections.

Methods: Cases for residents >13 diagnosed between 2009 -2013 were identified from the Enhanced HIV/AIDS Reporting System and categorized as 'Recent' or 'Long-term' based on the Serologic Testing Algorithm for Recent HIV Seroconversion (STARHS). Sex, race/ethnicity, age, transmission risk, diagnosis year, facility type at diagnosis, and neighborhood at diagnosis were evaluated in univariate and stepwise multivariable analyses. To identify variances in incidence density, recent infections were stratified by race/ethnicity and mapped using GIS software.

Results: Of 2,768 new cases with STARHS results, 31.7% (n = 877) were recent and 68.3% (n = 1,891) were long-term infections. In univariate analyses, diagnosis year, race, age, transmission risk, facility type, and the interaction between neighborhood and race/ethnicity were significant predictors of incidence ($p < 0.05$). In the multivariable model, blacks (OR, 0.58; 95% CI: 0.46-0.73) and Hispanics (OR, 0.48; 95% CI: 0.36-0.65) were less likely to be incident cases compared to whites. Those in all age groups <45+ were more likely to be incident cases than those >45+ (<18 (OR, 3.12; 95% CI: 1.73-5.63), 18-24 (OR, 2.52; 95% CI: 1.99-3.20), 25-34 (OR, 1.35; 95% CI: 1.07-1.70), and 35-45 (OR, 1.48; 95% CI: 1.15-1.90)). Those diagnosed at a counseling and testing site (CTS) were 38% more likely to be incident (95% CI: 1.01-1.90) and those diagnosed at correctional facilities (95% CI: 0.35-0.72) were 50% less likely to be incident than those diagnosed by private providers.

Conclusions: Routine testing among non-whites, persons >45+, and the incarcerated is critical to reducing long-term HIV infections. CTS have been successful in identifying incident HIV cases through accessible testing. While neighborhood was not a significant predictor of incidence, the analysis highlights areas where prevention and linkage interventions should be focused.

171 A Pilot Urban Gardens Project to Address Food Insecurity and Nutritional Needs of People Living with HIV in the Dominican Republic

Kathryn P. Derose (presenting)¹, María Altagracia Fulcar², Luis Eduardo Peña³, Eliana Silverio², Ramón Acevedo⁴, Hugo Farías⁵, Juana Zorilla⁶, María A. de la Cruz⁷

- ¹ RAND Corporation, Santa Monica, CA, USA
- ² United Nations World Food Program (UN-WFP), Dominican Republic (DR) Country Office, Santo Domingo, Dominican Republic
- ³ Ministry of Agriculture, Santo Domingo, Dominican Republic
- ⁴ Consejo Nacional de VIH/SIDA, Santo Domingo, Dominican Republic
- ⁵ United Nations World Food Program, Regional Office for Latin America and the Caribbean, Panama City, Panama
- ⁶ Grupo de Hortelanos de Sana Alimentación Orgánica, Consuelo, Dominican Republic
- ⁷ Servicio de Atención Integral Lotes y Servicios, Santo Domingo, Dominican Republic

Background: Food insecurity and poor nutrition are barriers to anti-retroviral therapy (ART) adherence among people living with HIV (PLHIV) and sustainable interventions are needed to address this persistent challenge.

Methodology: After conducting extensive formative research with PLHIV in the Dominican Republic (DR) that identified high levels of food insecurity, substantial levels of overweight and obesity, low dietary intake of green leafy vegetables, and acceptability of urban gardens, we developed a pilot program. Initially, 25 PLHIV from three communities (75 total) participated, and Ministry of Agriculture agronomists conducted group trainings and home visits for support in developing and maintaining home gardens. After first harvest, World Food Program nutritionists provided training on how to prepare garden products for a healthy diet, and with participant input created an urban gardens recipe/nutrition handbook. Over the last year, the number of program participants has increased; in one community, participants have quadrupled (from 25 to nearly 100), and this community group is seeking legal status as a non-profit organization, has obtained donated land from the government, and aims to become income-generating.

Results: Space, soil quality and water availability vary across homes and communities; container gardening and considering seasonal weather changes have enabled gardens in constrained settings, and enriching soil with nutrients is sometimes necessary. Local leadership among PLHIV has been essential to maintaining and growing the program. The gardens have contributed to food security and dietary diversity, and participation has provided other benefits such as reduced social isolation, increased sense of purpose, and occupational therapy. Income-generation is also a critical need that larger community gardens could fulfill.

Conclusion: Urban gardens are a sustainable way to address food insecurity and nutritional needs among PLHIV with diverse nutritional statuses. Research is needed to identify effects on ART adherence and physical and mental health outcomes among PLHIV.



179 An HIV Care Continuum for Transgender Women Diagnosed and Living with HIV in Washington State

Jason Carr

Washington State Department of Health, Seattle, WA, USA

Background: In late 2015, CDC released a new methodology allowing state and local HIV surveillance programs to identify transgender women (TGW) diagnosed with HIV infection. This report describes efforts in Washington State (WA) to use and compare CDC's method with an alternative approach, and to develop an HIV continuum of care specific to TGW diagnosed and living with HIV in WA.

Methods: HIV surveillance staff at the WA Department of Health evaluated HIV case and laboratory surveillance data reported through January 31, 2016. To identify TGW, we compared the output of CDC's transgender algorithm to an alternative method based on two criteria: sex assigned at birth equals male and current gender equals female or male-to-female. We manually re-evaluated case records linked to any individual identified as potentially TGW, including those in which the two methods produced conflicting results. We used aggregate findings to produce an HIV care continuum specific to TGW, based on new HIV diagnoses between 2010 and 2014, and on diagnosed prevalence as of year-end 2014.

Results: We identified 21 TGW who were newly diagnosed with HIV infection between 2010 and 2014. Four (19%) of these women were diagnosed with AIDS within 12 months of HIV diagnosis; 19 (90%) were linked to care within 90 days of HIV diagnosis. Seventy-five TGW appeared to be living with HIV as of year-end 2014. Among these cases, 61% were detected using the CDC algorithm; 91% were detected using the alternative method. The percentages of cases with laboratory evidence of HIV care engagement, retention, and viral load suppression were 88%, 63%, and 68%, respectively.

Conclusions: Both methods of identifying TGW appear to be useful, but neither seems sufficient by itself. Compared to all cases combined, we did not find evidence suggesting TGW experienced HIV-related health disparities following HIV diagnosis.

182 A Web-Based Data Collection Platform for Multisite Behavioral Intervention Trials

Riddhi Modi¹, Michael Mugavero¹, K Rivet Amico², Alfredo Guzman¹, Alex Jones (presenting)¹, Anne Zinski¹, Solange Montue³, Tyffany Evans Coleman³, Laurie Smith⁴, James Willig¹

¹ University of Alabama at Birmingham, Birmingham, Alabama, USA

² University of Michigan, Ann Arbor, Michigan, USA

³ University of North Carolina at Chapel Hill, NC, USA

⁴ University of Washington, Seattle, Washington, USA

Background: With multisite behavioral intervention trials; data collection, security, storage and access are critical components, and challenging to accomplish with traditional paper based tools. We aimed to: (a) describe design of web-based software to deploy multisite behavioral science interventions; (b) report on end user perspectives of the impact of our behavioral science research platform on trial conduction.

Methods: The NIAID-funded behavioral intervention trial ENGagement and Adherence Goals upon Entry (iENGAGE) seeks to empower newly HIV diagnosed persons with skills to enhance retention in care. We worked with the UAB Research and Informatics Service Center (RISC) team to develop software to deploy to four participating sites. A research coordinator was integrated into the informatics team to participate in software development. We asked users to rate key software functionality using a 25-item web quality survey adopted from Aladwani et.al to evaluate user perspectives on software features.

Results: Key functionalities included enrollment, randomization, real-time data collection, facilitation of longitudinal workflow, reporting and reusability. We found 100% user agreement that participation in database designing/testing phase made it easier to understand user roles/responsibilities and recommended participation of research team in developing a database for future studies. Users acknowledged ease of use, color flags, longitudinal work flow and data storage in one location as the most useful features. Saving participant forms, security restrictions and worklist layout were judged least useful.

Conclusion: The successful development of iEngage behavioral research platform validated approach of early and continuous involvement of the study team in development. In addition, we recommend post-hoc collection of qualitative data from users after study completion as this has led to important insights on how to enhance our software. Optimizing user-interface, informatics, and data-capture in the context of multisite randomized trials should be a priority to promote efficiencies and quality monitoring/improvement in trial implementation.



183 An Exploration into Late Diagnosis of HIV on Health Outcomes in Virginia

Lauren Yerkes (presenting), Kate Gilmore, Amanda Saia, Sonam Patel, Karen Diepstra, Sahithi Boggavarapu, Jennifer Kienzle, Anne Rhodes

Virginia Department of Health, Richmond, VA, USA

Background: Persons living with HIV (PLWH) who are diagnosed late, defined as an AIDS diagnosis within one year of HIV diagnosis, are at higher risk for reduced response to HIV treatment. This study aims to assess: a) the association between demographic characteristics and late diagnosis, and b) HIV care outcomes among the late diagnosed population.

Methods: A total of 946 persons were newly diagnosed with HIV in Virginia in 2013. Of those, 26% (N = 244) were identified as late diagnoses. A series of logistic regression models assessed if there was: a) a relationship between demographic characteristics and geographic location and late diagnosis, and b) a relationship between persons diagnosed late in 2013 and health outcomes in 2014 and 2015.

Results: PLWH in the Northwest region were 1.7 times more likely to be diagnosed late than PLWH in the Eastern region of Virginia [Odds Ratio (OR) 1.7, 95% confidence interval (CI), 1.0-2.9]. Persons who were diagnosed late were 1.9 times more likely to be retained in care (CI, 1.3-2.6) and 2.1 times more likely to be virally suppressed in 2014 (CI, 1.5- 2.8) than persons who were not diagnosed late. This relationship was maintained in 2015, as persons diagnosed late were 2.1 times more likely to be retained in care (CI, 1.5-2.9) and 1.5 times more likely to be virally suppressed (CI, 1.1-2.1).

Conclusions: Results suggest that persons who were diagnosed late were more likely to be retained in care and be virally suppressed over time. However, persons were more likely to be diagnosed late if they were diagnosed in a more rural health region than in a more urban health region, suggesting that geographic areas with higher concentrations of HIV cases and more testing opportunities may promote more timely diagnosis. Continued analysis of late diagnosis by geography and other social determinants of health is needed.

184 Primary Care Providers' Role in HIV Prevention with Pre-Exposure Prophylaxis (PrEP): Perspectives from Young Men of Color who Have Sex with Men

Viraj Patel (presenting)¹, Junaid Chaudhry¹, Alison Karasz¹, Anthony Santoro¹, Sarit Golub², Julia Arnsten¹

¹ Albert Einstein College of Medicine, Bronx, New York, USA

² Hunter College, City University of New York, NY, USA

Background: Young men of color who have sex with (YMCSM) have the highest rates of new HIV infections in the United States. We therefore conducted a qualitative study to explore YMCSM's perspectives on barriers and facilitators to PrEP use and better understand primary care providers' (PCP) role in the PrEP adoption process.

Methods: We conducted individual semi-structured interviews with young MSM (N=17), recruited through social media advertisements between July-November 2015 until reaching thematic saturation. Inclusion criteria included being 18-29 years of age, HIV negative status (by self-report), living or working in the Bronx, New York, identifying as Black and/or Latino, and fluent in English or Spanish. We used grounded theory and the constant comparative method for analysis.

Results: All participants identified as gay, reported English as their primary language (n=15), majority had Medicaid (n = 13), all reported having a PCP, and approximately half the participants (n=9) currently used PrEP. Two overarching themes emerged from our analysis pertaining to PCPs. First, PCPs can be highly influential in facilitating PrEP use by YMCSM. Specifically, participants reported that providers may serve as an important facilitator by a) suggesting PrEP use, especially if a strong rapport and trust with their PCP exists, and/or b) if PCPs provides reassurance about PrEP use. Second, PCPs may also serve as a significant barrier to accessing PrEP, due to: a) perceived stigma from providers related to sexual activity or reasons for potential PrEP use, and b) lack of PrEP awareness and knowledge by PCPs. These barriers contributed to some missed opportunities for PrEP education and/or provision to individuals at high risk coming in for routine and/or sexual healthcare.

Conclusions: YMCSM indicate PCPs can be critical in influencing decision making about PrEP and serve as important 'gatekeepers.' Interventions to increase PrEP adoption in YMCSM are urgently needed and should target PCPs with education and support for PrEP and engage YMCSM into routine primary care.



185 Effect of Patients' Knowledge of HIV and Antiretroviral Therapy on Adherence in a Treatment Site in Lagos, Nigeria

Aba Sagoe¹, Fola Tayo², Roseline Aderemi-Williams (presenting)²

¹ Lagos State University Teaching Hospital, Lagos, Nigeria

² University of Lagos, Nigeria

Background: Patients' knowledge about HIV and antiretroviral therapy has been found to have varying effect on patients' adherence to treatment. This study assessed various aspects of patients' knowledge and the effect on adherence.

Methods: This was part of the longitudinal observational study carried out from December, 2006 to December, 2010. Validated questionnaires set to meet study objectives were administered to 294 eligible patients on whom on-going adherence counseling and monitoring of patients' clinical data were done. Pharmacy refill record measure of adherence was used. Data from 248 patients that completed the study were analyzed using SPSS version 15.0 statistical package. Logistic regression model was used to determine the effect of knowledge on adherence.

Results: Social and clinical demographic data analysis of study patients showed that 134 (54%) were married, 148 (59.70%) female, 106 (42.70%) had secondary school education and 208 (56.40%) employed. Their mean age was 40.39 ± 8.78 years and mean baseline CD4 cell counts was 143.46 ± 92.72 cells/μL. At baseline 66.10% of the patients were on 12- hourly regimen while 33.90% were on 24-hourly regimen. Mean patients' pharmacy refill record of adherence at the end of the study was 96.64% ± 6.95%. In the twelfth month of study patients' knowledge of drug management and drug adherence were significantly predictive of adherence at $p < 0.05$.

Conclusion: Continuous patient education on HIV, antiretroviral treatment and need for adherence can contribute significantly in HIV+ patients' adherence.

186 Adherence to Antiretroviral Therapy in Patients of Caribbean Descent: An Application of the IMB Skills Model

Silvia Rabionet, Akesha Edwards (presenting)

Nova Southeastern University, Fort Lauderdale, FL, USA

Background: Increasing ethnic minorities within the US has contributed to a growing public health concern in the area of HIV/AIDS. The 2013 American Community Survey reports an estimate 41,348,066 foreign born persons living in this country. Almost 4 million of these persons were from the Caribbean. Medication adherence is critical to the efficacy of antiretroviral therapy (ART). The Information Motivation Behavioral Skills Model (IMB) posits that a patient's HIV preventive behavior is determined by the level of their HIV prevention information, motivation and behavioral skills. This model can be used to understand, predict and promote adherence to ART. The objective of this study was to sample from the IMB Skills Model to explore and determine factors that affect adherence to ART in patients of Caribbean descent.

Methods: This was a cross-sectional study using face-to-face interviews in a convenient sample of 115 adult patients diagnosed with HIV/AIDS, experienced with ART, and either a Caribbean island native or the first generation born of a Caribbean island native. Interviews used a study questionnaire which was a compilation of instruments. Medication adherence was measured by 3 day self-report recall with secondary outcomes – CD4 and viral load. Regression analyses were performed to determine factors that impact adherence. Descriptive analyses were used to discuss variables and findings.

Results: 94% of patients self-reported adherent with an overall adherence rate of 98% (SD11.21). Mean adherence information score was 38.58 (SD 5.43). Mean behavioral skills score was 57.34 (SD 7.62). Adherence behavioral skills was a moderate predictor of CD4 ($P = .082$).

Conclusion: This population had optimal self-reported adherence, information and behavioral skills. However, attention needs to be paid to the relationship between behavioral skills and adherence. Interventions for this population should focus on the objective ability and self-efficacy of HIV infected patients of Caribbean descent.



187 Adherence among HIV-Positive Pregnant Women Receiving Antiretroviral Therapy for Prevention of Mother-to-Child Transmission of HIV in Nigeria

Kenneth Agu, **Olumuyiwa Omonaiye (presenting)**

West African Postgraduate College of Pharmacists, Lagos, Nigeria

Background: The use of highly active antiretroviral therapy has impacted positively on the rate of transmission of HIV from mother to child by reducing the risk of infection by less than 2% during pregnancy while without intervention using antiretroviral (ARV) drugs the risk of transmission of HIV from mother to child ranges from 20% to 45%. However, adherence level >95% is required to accomplish the aforementioned benefit of reduced risk of transmission of HIV from mother to child during pregnancy.

Methods: This was a cross-sectional survey, where the adherence of 160 HIV-positive pregnant women taking fixed-dosed, tenofovir-based regimen was evaluated using a self-administered study-specific 16 element-semi-structured questionnaires. The number of prescribed doses of medication missed and the mean scores of the patient's adherence to the medication schedule was used to calculate the self-reported adherence.

Results: Majority of the participants (96.25%) were between the age group of 15-44 years. The mean self-reported adherence with respect to taking the fixed dose combination of tenofovir/lamivudine/efavirenz (300/300/600mg) once in a day was 78.8%. In this study, depression, 46 (48.8%) ranks as the number one risk factor for non-adherence to ARV drug regimen among the HIV-positive pregnant women. The second major ranked risk factor for non-adherence to medication among the HIV-positive pregnant women in this study is stigma; 41 (25.6%) reported that the main reason why they missed taking their medication was because they were afraid that others may know that they are taking ARV drugs.

Conclusion: The study reported sub-optimal medication adherence when compared to the acceptable adherence level >95% required to accomplish viral load suppression that will substantially reduce the risk of transmission of HIV from mother to the child during pregnancy.

188 Opioid Use and Engagement in Care for HIV-Positive Women

Adele Feng, Kathryn Salvadora, Mary Zhang, Jane Kang, Mallory O. Johnson, Edward Machtinger, **Jennifer Cocohoba (presenting)**

University of California, San Francisco, CA, USA

Background: Prescription opioid-related deaths in women have increased five-fold between 1999 and 2010. In light of these sobering statistics, clinicians at the UCSF Women's HIV Program began in 2012 to more closely scrutinize opioid prescribing practices in order to adjust medications and doses to fit patients' pain syndromes as closely as possible. The goal of this research is to describe the adjustments in opioid prescribing in a cohort of HIV-positive women, and determine whether changes in opioid prescribing were related to changes in patient engagement in care.

Methods: Observational retrospective cohort study of women seen at the UCSF Women's HIV Program between 2012 and 2014. Women must have had at least two visits during the study period, and at least one visit during the enrollment period of January-June 2012 in order to be included in the study. Patients that were seen only for HIV consult, and not for primary care were excluded from the study. Chronic opioid therapy was defined as receiving at least 3 sequential opioid prescriptions for non-cancer pain during the enrollment period. A taper was defined as reduction of 25% or greater in daily morphine equivalents from the start to the end of the study period (2012-2014). Engagement in care was measured via appointment adherence and appointment constancy.

Results: 212 unique patients were seen at the WHP between 2012 and 2014. 76 patients were excluded because they did not have a visit during the study enrollment period of 1/2012-6/30/2012, because they only had one visit during the study period, or due to cancer diagnoses. Of the included cohort (n = 136), 39% (n = 53) patients had been prescribed chronic opioid therapy for non-cancer pain. 23% of chronic opioid users underwent a taper. 69% of patients on chronic opioids adhered to their appointments vs 73% not on opioids (p = 0.18), yet 79% of opioid users had at least one appointment every 6 months of the study period vs 57% of non-opioid users (p = 0.07). Patients who were tapered trended towards lower appointment adherence (63% vs 71%, p = 0.06), but engaged in care more constantly (83% vs 78%, p = 0.049).

Conclusions: It can be challenging for clinicians to balance management of chronic pain in people living with HIV with risks of chronic opioid use. Although patients on chronic opioids may adhere less to their appointments, tapering them generally did not demonstrate loss to follow up over our 2 year study period. It is important to understand the interplay between the treatment of chronic pain, connection to clinicians, adherence to ART, and the care continuum.



189 Social Network Intervention Boosts HIV Care Uptake among People Living with HIV in St. Petersburg, Russia

Yuri Amirkhanian (presenting)¹, Jeffrey Kelly¹, Anna Kuznetsova², Sergey Tarima¹, Vladimir Musatov², Alexei Yakovlev², Wayne DiFranceisco¹

¹ Medical College of Wisconsin, Milwaukee, WI, USA

² Botkin Hospital for Infectious Diseases, St. Petersburg, Russian Federation

Background: Social support from persons close to an individual in real life predicts engagement to HIV care. New approaches are needed to capitalize upon social support in order to encourage HIV-positive persons to enter and remain in medical care. People living with HIV (PLH) in the community often have other PLH in their social networks. It may be possible to bring together all HIV-positive members of a social network to strengthen mutual support in assisting one another to enter HIV medical care. The HIV epidemic continues to expand in Russia, where over one million infections have been diagnosed and where interventions are urgently needed to boost supports for HIV care.

Methods: This randomized trial was carried out in St. Petersburg, Russia. 20 out-of-care or ART-nonadherent PLH "seeds" were located through PLH community and online venues. Seeds, in turn, recruited their networks of HIV+ friends (total n = 85). Participants received care counseling and completed baseline and 6-month follow up assessments of psychosocial well-being and HIV care engagement. Members of each of 10 networks randomized into the intervention condition attended a 7-session care-related social support intervention with other of their real-life HIV+ friends. The sessions used interactive techniques to convey the benefits of treatment, help establish practical plans to enter or re-enter care, and overcome treatment-related barriers.

Results: At follow up, participants who received the network intervention reported that the mean period since their most recent HIV medical care visit was one month ago compared to nearly six months ago for participants in the comparison condition ($p = 0.04$). In addition, intervention participants reduced their drinking ($p < .01$) and their binge drinking days ($p < .01$), with no parallel effects found in the comparison group.

Conclusions: Intervention directed toward social networks of PLH in the community can strengthen mutual supports that boost medical HIV care attendance and reduce problem drinking.

193 Understanding the Impact of Health Care Reform on Engagement in Care in PLWHA in a Large Metropolitan City in the Southeast United States

Allan Rodriguez (presenting), Andrew Wawrzyniak, Sara Clingerman, Macria Vidal, Daniel Feaster, Michael Kolber

University of Miami, FL, USA

Background: Structural barriers, particularly insurance issues, can negatively impact engagement in care of PLWHA. Implementation of health care reform in states without Medicaid Expansion (ME), such as those in the southeastern United States, may exacerbate challenges for PLWHA. The introduction of mandated Medicaid HMOs, Federally Facilitated Exchanges and other managed plans, add a level of complexity to the navigation of this new payer structure for both patients and providers. Understanding how these changes impact HIV care at a clinic level is essential.

Methods: To transition towards a patient centered medical home, a large county clinic in the Southeast added a patient navigator (PN) to provide information and address problems with scheduling, walk-ins, and on-site insurance issues. A PN log documented each patient interaction with the reason and outcome. We abstracted and analyzed each interaction due to an insurance issue during the first 4 months of the implementation.

Results: There were 800 interactions across 765 individual patients; 161 (20.1%) encounters were due to insurance issues. Sixty-five (40%; 8.5% of all unique patients seen) needed to be rescheduled in spite of the patient being present at their medical appointment. Of these 65, 51% were associated with Medicaid HMOs; 14% Federal Exchanges; 10% Medicaid's Share of Cost; 8% Private HMOs; 6% Medicare HMOs; 6% Ryan White and 5% no insurance. Prior documented viral load was obtained for 61 patients; 24 (39%) were non-suppressed (>20 copies/ml) compared to clinic-wide viral non-suppression of 29% during that same period.

Conclusions: Insurance issues worsen HIV care outcomes. Understanding how health care reform changes may adversely impact vulnerable PLWHA, particularly in states without ME such as in the southeastern United States, can inform the specific needs of system-level change and innovation needed to achieve better HIV-related health outcomes in this region.



194 HIV/AIDS in Benue State, Nigeria: Too Much Sex, or Is There Something Else?

Inalegwu Oono (presenting)¹, Edmund Ong², Zaman Shahaduz¹, Katie Brittain¹, Mark Pearce¹

¹ Newcastle University, Newcastle, England

² Royal Victoria Infirmary Newcastle Upon Tyne NHS foundation Trust, Newcastle, England

Background: Globally, about 1.5 million people died from AIDS related illnesses in 2014 - 940,000 of these deaths were recorded in Sub-Saharan Africa alone. A recent systematic review and meta-analysis found that HIV/AIDS prevalence in Nigeria, a country in sub-Saharan Africa, is driven by a number of local factors. This abstract focuses on Benue State (one of the States in the middle belt of Nigeria) where HIV/AIDS burden is above national average. The main aim of this project is to identify local variables that continue to drive the epidemiology of HIV in Benue State, Nigeria. An understanding of how these local factors work to produce an excess of HIV prevalence above national average is crucial to the success of HIV campaigns in Benue State, Nigeria.

Methods: This abstract is based on the qualitative component of my PhD work (a mixed methods project). Participants were selected via purposive sampling. Focus group discussions and in-depth interviews were conducted in locations across Benue State and Abuja (FCT) between February and May 2015. Interviews were conducted in English language, Nigeria Pidgin and Idoma. Data was analyzed, thematically, using Nvivo version 10 software. The quantitative arm is ongoing.

Results: 96 participants were interviewed in 42 meetings. Socioeconomic variables (especially poverty) play a huge role in the epidemiology of HIV/AIDS in Benue State by limiting access to medications and modifying response to campaigns. Religion plays a huge limiting role in the uptake and acceptance of condoms and sexual health services. Other important variables encountered includes cultural practices (tribal marks, wife inheritance), criminal transmission of HIV and government policies.

Conclusions: Structural changes as well as policy changes are urgently needed in order to ensure that no one is left behind in the fight against HIV in Benue State and Nigeria.

196 Identification of Risk Predictors for Antiretroviral Non-Adherence using Pharmacy Claims

John Hou, Heather Kirkham, Ambrose Delpino (presenting), Glen Pietrandoni

Walgreens Company, Deerfield, IL, USA

Background: Non-adherence to antiretroviral therapy may lead to emergence of drug resistance and treatment failure. HIV-specialized pharmacies have staff with advanced disease state education, high levels of cultural competency and HIV stigma awareness. This training is coupled with face to face proactive patient service programs designed to promote adherence to all medications for HIV and comorbid condition treatments and retention in care.

Objective: To identify risk factors that are predictive of patient antiretroviral (ARV) nonadherence using pharmacy claims.

Method: The study sample identified patients with pharmacy claims evidence of being on triple ARV-therapy from 2013-2015. Medication adherence was measured in proportion of days covered (PDC) for a 1-year period from their first fill; patients were considered non-adherent if an individual's PDC was less than 0.90. Modeled variables included demographics (e.g., age, gender), year of index ARV fills, patient insurance plan type, and baseline fill count, and 90 binomial indicators representing each of the 90 therapeutic classes. These variables were then fitted into multiple predictive models including logistic regression, decision tree, and ensemble. Variables were flagged as important variables to identify nonadherence, i.e., variables were shown to have significant association with non-adherence from the logistic regression model or variable relative importance value to the decision tree model were greater than 0.1 from the decision tree model.

Results: History of using analgesics, antidiabetics, antifungals, anti-hypertensives and not using anti-hyperlipdemics, vaccines, androgens-anabolic and nasal agents were highly associated with ARV non-adherence. Not using HIV-specialized services increased risk for nonadherence. Being younger (age <50) and without commercial insurance coverage also increased the risk of non-adherence.

Conclusions: By understanding risk predictors for non-adherence pharmacists at HIV-specialized pharmacies will be able to customize support based upon individualized needs and to proactively support patients to prevent adherence declines.



197 Relationship Dynamics and PrEP use among Gay and Bisexual Men in Primary Partnerships: Findings from the SPARK Project

Kristi Gamarel (presenting)¹, Asa Radix², Stephanie Pena³, Kailip Boonrai³, Sarit Golub³

¹ Alpert Medical School of Brown University, Providence, RI, USA

² Callen-Lorde Community Health Center, New York, NY, USA

³ Hunter College, City University of New York, NY, USA

Background: Approximately one-third of HIV infections among gay and bisexual men occur in the context of primary partnerships. However, few studies have examined how relationship dynamics are associated with decisions to take PrEP. The current study compared intimacy motivations for condomless sex, feelings of closeness, and closeness discrepancies between PrEP users and non-users.

Methods: As part of an ongoing PrEP demonstration-implementation project, analyses were conducted on a subsample of HIV-negative men in primary partnerships (N = 131, 34.1%). Participants' mean age was 34.8; 45% were racial/ethnic minority; 32.3% earned less than \$20,000 annually; 38.2% were in a serodiscordant relationship; and 71.8% reported an open sexual arrangement. Participants rated their "actual" and "ideal" closeness to their partner using the Inclusion of Other in Self (IOS) scale. PrEP was available to all participants; however only 98 (74.8%) had elected to start PrEP. A logistic regression model examined differences in demographic variables, behavioral variables, and relationship variables between PrEP users and non-users.

Results: In bivariate analyses, greater number of casual sex partners, higher risk perception, actual closeness, and closeness discrepancies (i.e. difference between actual and ideal) were each associated with PrEP use. There were no significant bivariate differences by age, partner serostatus, race/ethnicity, income, education, sexual agreement type, or relationship quality. In multivariate logistic regression analyses, only relationship variables remained, with intimacy motivations for condomless sex (aOR = 2.31, 95% CI: 1.15, 4.63), actual closeness (aOR=2.51; 95% CI = 1.12, 5.62), and closeness discrepancies (aOR=1.05; 95% CI = 1.02, 1.15) each associated with PrEP use.

Conclusions: Findings suggest that a desire for more closeness and intimacy may contribute to PrEP adoption among men in primary partnerships. Future research is warranted to examine relationship dynamics and partner support for PrEP use among male couples.

198 PROACTIVE Linkage, Retention, Re-Engagement, and Adherence Program in Broward County, Florida

Janelle Taveras (presenting), Yvette Gonzalez

Florida Department of Health in Broward County,

Background: According to the Centers for Disease Control and Prevention (CDC), in 2013 Broward County had the second highest new human immunodeficiency virus (HIV) infection and fourth highest acquired immunodeficiency virus (AIDS) case rates in the United States. In 2014, there were 993 reported HIV infection cases with 86% linked to care but only 65% of individuals living with HIV (19,391 persons diagnosed and living with HIV) are currently retained in care in Broward County.

Methodology: The Florida Department of Health in Broward County (DOH-Broward) has created PROACT (Participate, Observe, Adhere, Communicate and Teamwork), a linkage, retention, re-engagement and adherence program for newly identified and previously diagnosed HIV positive individuals that consists of 7 HIV Disease Intervention Specialists (DIS), 2 Perinatal and Congenital Syphilis DIS, 3 Linkage Coordinators, 1 Perinatal Coordinator, and 1 Modified DOT Nurse. These individuals are referred to PROACT through DOH-Broward contracted providers, community-based organizations, HIV care providers and the local Ryan White Part A program. Newly and previously diagnosed HIV positive individuals referred to PROACT have a 95% and 96% (respectively) linkage rate within 90 days, which is higher than the county rates.

Results: Incorporating an ongoing program can provide seamless services for newly and previously diagnosed HIV positive individuals can improve outcomes across the HIV Continuum of Care, starting with linkage to care. Monitoring outcomes across the continuum is necessary to be able to evaluate program effectiveness and compare rates utilizing a database created specifically for this program.

Conclusion: A comprehensive linkage, retention, re-engagement and adherence program should be established to provide seamless services to HIV-positive individuals, especially in high HIV morbidity areas. Specialized positions within a program such as PROACT facilitate the effective provision of services.



199 “Protect Yourself, Protect your Baby”: Perinatal Program at the Florida Department of Health in Broward County, Florida

Janelle Taveras (presenting), Yvette Gonzalez

Florida Department of Health in Broward County

Background: In Broward County Florida, there were 19,391 individuals living with human immunodeficiency virus (HIV) through 2014, of which only 61% are virally suppressed. Examining Florida's Continuum of Care suggests that being female and between 13 and 49 years of age are factors affecting even lower rates of viral suppression. In 2014, 68% of the HIV cases among women were of childbearing age (13-49) and new HIV cases among Black women were more than 14 times higher than among non-Hispanic White women in Broward. In 2015, there were 128 known HIV positive pregnant women, 81% were Black, 11% were White and 18% were Hispanic.

Methodology: The Perinatal Program of the Florida Department of Health in Broward County has reported, tracked and case-managed all 128 known HIV positive pregnant women. The case management included the following: 1) comprehensive HIV education; 2) linkage to care, retention and monitoring, and 3) antiretroviral adherence counseling and support.

Results: A comprehensive linkage, re-engagement, and adherence program, specialized for HIV positive pregnant women, can be effective for reporting and case managing known HIV positive pregnant women. Engaging HIV positive pregnant women into intensive case management, increases outcomes for HIV positive pregnant women and their children, especially among those women disproportionately affected by HIV. Specialized positions within a perinatal program such as a perinatal disease Intervention specialist and perinatal coordinator can improve a program's effectiveness.

Conclusion: Promoting the services provided by a Perinatal Prevention Team is essential to increase program awareness and utilization. This can be done by providing educational grand rounds at labor and delivery hospitals, visiting obstetric and gynecological practices yearly, and facilitating monthly perinatal network meetings. Coordination of perinatal services by utilizing a perinatal network systems help to enhance and streamline services for HIV positive pregnant women and their neonates.

202 The Cost of a Multi-Component Intervention to Maintain Suppression of HIV RNA following Release from Prison

Terence Johnson (presenting), Carol Golin, David Rosen, Jessica Carda-Auten, David Wohl

University of North Carolina at Chapel Hill, NC, USA

Background: Project IMPACT was designed to help people living with HIV released from prison sustain viral load suppression upon re-entry into their communities. The 6 month intervention included: (1) a link coordinator to facilitate HIV care upon re-entry into the community, (2) pre- and post-release motivational interviewing (MI) counseling sessions, and (3) daily text message reminders to take antiretroviral therapy via study-supplied cell phones. We sought to estimate the total cost of this multicomponent intervention at one project site.

Method: Cost data were collected throughout the intervention. Intervention staff members included two MI counselors and one link coordinator. Allocation of staff time throughout the intervention was estimated using time logs from four randomly selected weeks. To estimate Travel time and mileage for intervention staff members was estimated using Google maps. We excluded the cost associated with creating the text messaging platform and participant tracking database.

Results: The intervention was provided to 82 participants at one project site and the total cost per participant was \$5,502. The most costly component of the intervention was staff time, which included indirect (\$259,115) and direct (\$13,623) interactions with participants. The average length of time for the initial needs assessment conducted by the link coordinator was one hour and 49 minutes. The mean number of MI counseling sessions was seven, and each session averaged 39 minutes. The average distance from the research staff offices to each prison was 178 miles (roundtrip, \$199). Monthly total cost of providing participants cell phones was \$71. Other cost included: intervention planning (\$24,167), intervention fixed costs (\$25,164) and variable cost (\$90,211).

Conclusion: Assessment of the costs of behavioral interventions are infrequently completed. Our estimate of the cost of a multi-component intervention to maintain HIV suppression in people released from prison informs the adoption of such a program by criminal justice systems and community organizations.



203 Factors Related to Late Enrollment in HIV Care in a Highly Affected Region in Ukraine

Iuliia Novak¹, Ihor Kuzin², Vasyl Bonenko³, Tetiana Salyuk¹, Oleksandr Neduzhko⁴, **Oleksandr Postnov (presenting)**⁴

¹ Alliance for Public Health, Kyiv, Ukraine

² Ukrainian Center for Socially Dangerous Disease Control of the MOH, Kyiv, Ukraine

³ Mykolaiv Regional AIDS Center, Mykolaiv, Ukraine

⁴ Ukrainian Institute on Public Health Policy, Kyiv, Ukraine

Background: In consideration of UNAIDS 90-90-90 goals, it is crucial to quantify patient dropouts at each step of the HIV care continuum and to identify risk factors for dropout. Late enrollment in HIV care is associated with increased mortality, worse health outcomes and higher treatment costs. In Ukraine, over 50% of newly registered HIV cases have a CD4 count <350 cells/mm³ (late presenters). Mykolaiv is among several regions with the highest HIV burden, where almost two thirds of newly registered HIV cases are late presenters. The purpose of our investigation is to identify factors associated with late enrollment in HIV care in Mykolaiv.

Methods: We performed a triangulation analysis (semi-structured review, synthesis and interpretation) of available secondary data. These data included routine epidemiologic and clinical monitoring data of the general population, integrated biobehavioral surveillance among key populations, programmatic data, size estimates of people living with HIV (PLHIV) and other available data regarding late enrollment in HIV care in Mykolaiv.

Results: We identified the following risk factors for late enrollment in HIV care: feeling well, lack of information/motivation, fear of disclosure, drug/alcohol addiction, insufficient HIV testing services (HTS) coverage, reluctance to use HTS, limited use of rapid tests, not returning for test results, poor quality of counselling services, and requirements for additional examinations prior to registration in care.

Conclusions: Late enrollment in HIV care is a serious issue in Ukraine's Mykolaiv region. To address the identified barriers for enrollment, we suggest several immediate public health actions: 1) improve quality and targeting of HTS, strengthen linkage services, assure confidentiality, integrate HTS and treatment services-particularly at tuberculosis clinics, drug treatment facilities, and prisons; 2) introduce routine HTS for sexual partners of PLHIV; and develop a standardized referral algorithm and case-management monitoring system.

205 Continuity of Services, Continuity of Care: Challenges of Provider Turnover and Program Discharge for People Living with HIV

Michelle Broaddus (presenting), Julia Dickson Gomez, Jeffrey Kelly, Katherine Quinn, Sarah Reed, Justin Rivas

Medical College of Wisconsin, Milwaukee, WI, USA

Background: Positive doctor-patient relationships are potentially important for stable linkage to medical care for people living with HIV (PLH). PLH also often interact with other service providers to address potential barriers to medical care such as housing instability, mental health care, and substance abuse. Given that HIV is increasingly managed as a chronic disease, continuity of care and service provision is potentially important for long-term care engagement.

Methods: In-depth interviews were conducted with two populations: 1) 24 out-of-care PLH recruited through advertisements and referrals interviewed about their barriers to care; 2) 30 clients of an intensive client-centered, short-term case management program in Wisconsin interviewed about their program experiences. This program, known as the "Linkage to Care" program, was delivered by "Linkage to Care Specialists" for PLH who were newly diagnosed, recently incarcerated, out of medical care, or at risk of disengaging in care. Data were coded for key themes using MAXQDA software and used to conduct targeted readings of continuity of care, reluctance to discharge, and relationships with health and service providers.

Results: Preliminary findings from out-of-care PLH suggest a high degree of instability regarding medical care, medication regimens, and healthcare providers may be a risk factor for care disengagement. Clients of the Linkage to Care program expressed a high degree of discomfort with being discharged from the program, often citing the relationship they had built with their Specialists and the benefits of intensity of services provided, resulting in clients wanting to avoid "starting all over" with a new service provider. Previous experiences with service providers were also marked by high degrees of turnover.

Conclusions: Although provider turnover and medical care transitions are unavoidable, their effects on PLH's engagement in care should not be ignored. Programs to increase care engagement will require consideration of these relationships, and of easing transitions.



206 Medication Adherence among HIV-Positive Substance Users: The Impact of Substance Use Severity and HIV-Related Stigma on ART Medication Adherence

Kristi Stringer (presenting), Janet Turan, Bulent Turan, Mirjam-Colelette Kempf, Elizabeth Baker

University of Alabama at Birmingham, AL, USA

Background: Research suggests that people living with HIV (PLWH) who also engage in illicit substance use are significantly less likely to adhere to antiretroviral therapy (ART), resulting in negative health outcomes. This study seeks to examine the compounded effects of HIV-related stigma and severity of substance use on medication adherence among HIV-positive substance users.

Methods: Data were collected from 172 HIV-positive adults in the southeastern United States who self-reported current illicit drug use. Participants also self-reported their ART adherence in the past month by responding to the question "In the last 30 days, how good a job did you do at taking your HIV medicines in the way you were supposed to?" Responses were dichotomized into adherent (excellent or very good) and non-adherent (good, fair, poor, and very poor). The severity of substance use was assessed using the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). HIV-related internalized stigma was measured using the short version of the HIV Stigma Scale.

Results: Logistic regression revealed a significant interaction between substance use severity and internalized HIV stigma when predicting ART adherence (AOR = 0.97, $p = .02$, 95% CI [0.944, 0.996]). Follow up simple slope analyses suggested that the association between internalized HIV stigma and adherence was not significant at low levels of substance use severity, whereas the association was significant and positive for individuals with high levels of substance use severity.

Conclusions: Although further research is required to examine direction and modifiers of the relationship between HIV-related stigma and adherence among substance using PLWH, this analysis supports the need to provide current substance users with support to help reduce and cope with stigma, in order to improve ART adherence. Further, this analysis suggests that HIV stigma interventions may be particularly effective for individuals with more severe substance use problems.

209 Attitudes towards Using Interactive Video-Gaming Technology to Improve Adherence among HIV-Infected Youth

Amanda Castel (presenting)¹, Saba Qasmieh¹, Daniel Greenberg², Caleb Griffith³, Nicole Ellenberger³, Tyriesa Howard¹, Brittany Lewis¹, Kavitha Ganesan⁴, Nadia Hussein³, Gabriel Ralte², Natella Rakhmanina³

¹ The George Washington University Milken Institute School of Public Health, Washington, DC, USA

² Media Rez, Washington, DC, USA

³ Children's National Health System, Washington, DC, USA

⁴ Military HIV Research Program, Henry M Jackson Foundation, Bethesda, MD, USA

Background: HIV-infected youth and young adults (HIVAYA) have low rates of adherence. We sought to determine if using interactive video-gaming linked to WisePill box openings is a feasible and acceptable approach to improving adherence among HIVAYA (13-24 years old) receiving care at an urban US pediatric HIV clinic.

Methods: Data were gathered from HIV medical and support services providers ($n = 10$), HIVAYA ($n = 12$), and their guardians ($n = 14$) eliciting their opinions regarding barriers and facilitators of adherence, perceptions of using videogames for adherence, and desired characteristics of such videogames. One provider focus group (FG) and seven iterative FGs among HIVAYA were conducted during which the game prototypes and WisePill box were demonstrated. Surveys were administered to HIVAYA and their guardians through which we collected demographic, disclosure, antiretroviral treatment (ART), and videogame usage data. Qualitative data were analyzed using thematic coding; descriptive statistics were generated.

Results: Providers reported that adherence facilitators included HIVAYA being organized, responsible for their medications, and younger at the time of disclosure. After seeing the game prototype, providers were generally optimistic that such an intervention might work. The majority of guardians (79%) reported at least one gaming device in the home and the majority (79%) of HIVAYA on ART were on once-a-day regimens. Commonly used adherence strategies included alarms and pillboxes. Self-reported barriers to adherence included size and taste of pills, concerns regarding family issues, and social isolation. Desired videogame characteristics included challenging games with avatars, in-game bonuses, and built-in reminder notifications. After playing the game prototypes, most participants were optimistic about the games' ability to help improve adherence.

Conclusions: Overall, providers, HIVAYA, and their guardians were supportive of exploring the video-gaming and WisePill intervention, and its potential to improve treatment adherence, with guardians confirming widespread availability of gaming devices at home. Based on these results a pilot intervention is underway among HIVAYA.



210 High Medication Possession Ratios Predict Greater Reductions in the Risk of Virologic Failure for Adults Compared to Youth in a Nigerian Cohort

Aimalohi Ahonkhai (presenting)¹, Bolanle Banigbe², Juliet Adeola², Ingrid Bassett¹, Prosper Okonkwo², Elena Losina¹, Kenneth Freedberg¹, Susan Regan¹

¹ Massachusetts General Hospital, Boston, MA, USA

² AIDS Prevention Initiative in Nigeria

Background: Effective tools are needed to identify youth in danger of virologic failure in resource-limited settings. Our objective was to assess the relationship between medication possession ratio (MPR) and virologic failure (VF) among adolescents and young adults (AYA) and adults in Nigeria.

Methods: We conducted a retrospective cohort study of AYA (15-25 years) and adults (>25 years) who initiated ART between 1/2009 and 12/2012 at 10 university-affiliated HIV clinics in the AIDS Prevention Initiative in Nigeria (APIN) network. Patients who were adherent to clinical care (≤ 3 months between any two consecutive clinical or pharmacy visits) were followed for 12 months after ART initiation. MPR was defined as the number of ART doses dispensed divided by the number of days since ART initiation, and categorized as optimal, suboptimal, or poor ($>94\%$, $80-94\%$, $<80\%$). Multivariate generalized linear models were used to assess the relationship between age, MPR category, and risk of VF (HIV RNA $>1,000$ copies/mL) after 12 months on ART.

Results: The cohort included 1,599 AYA and 13,067 adults. Viral load data was available for 70% of patients. VF on ART was more common in AYA than adults (24% vs. 20% $p=0.001$). Overall, 82% of patients had optimal, 15% had suboptimal, and 3% had poor adherence. Among those with optimal adherence, 22% of AYA vs. 18% of adults had VF ($p = 0.001$). In multivariate analysis, MPR $>94\%$ portended decreased risk of VF, but this risk was muted in AYA (RR 0.78 $p = 0.013$) compared to adults (RR 0.63 $p<0.001$).

Conclusions: In a Nigerian cohort of patients compliant with clinical visits, AYA had an increased risk of VF after starting ART compared to adults. High MPRs were common, and associated with a greater reduction in the risk of VF in adults relative to AYA, suggesting better tools are needed for adherence monitoring, especially among AYA.

212 Out of the Bubble (and into the Fire?): Challenges Encountered Implementing a Health-Based HIV Treatment Adherence Study among HIV-Positive Pregnant and Postpartum Women in Uganda

Lora Sabin¹, Mary Bachman DeSilva (presenting)¹, Nafisa Halim¹, Salome Kuchukhidze², Justin Tepe¹, Allen L. Gifford¹, Harriet Chemusto³, Julia Gasuza³, Joseph Kyebuzibwa³, Davidson H. Hamer¹, Rachael Bonawitz¹, Anna Larson Williams⁴, Seggane Musisi⁵, Barbara Mukasa³, Lisa J. Messersmith¹

¹ Boston University School of Public Health, Boston, MA, USA

² Massachusetts General Hospital, Boston, MA, USA

³ Mildmay Uganda, Kampala, Uganda

⁴ Center for Global Health and Development at Boston University, Boston, MA, USA

⁵ Makerere University, Kampala, Uganda

Background: WHO's Option B+ initiative calls for provision of antiretroviral therapy (ART) to all HIV-positive pregnant women. The 'WiseMama' Study is assessing an m-Health-based intervention designed to improve HIV treatment outcomes among pregnant and postpartum women (PPPW) in Uganda, a population in urgent need of support. After ten months of implementation, we report on multiple challenges related to compliance with both ART standard care and the intervention protocol.

Methods: We enrolled pregnant women initiating ART at hospitals in Mityana and Entebbe. Subjects agreed to use a real-time monitoring device (RTD) daily for HIV medications, make monthly visits per ANC/HIV standard care, and receive SMS reminders and monthly counseling. For one month, we monitored subjects' device use and investigated gaps in use. At month 1, subjects completed a device-use survey and were randomized. We continued to monitor device operation and ART retention.

Results: 165 women were enrolled between June 2015 and January 2016. In the first month, we encountered barriers both to ART provision and to effective use of RTD, leading to 33 (20%) withdrawals. Of these, 11 subjects failed to attend the first month ANC/HIV follow-up; 4 miscarried; 2 refused medications; 1 had a false-positive HIV test result. RTD-related challenges included poor signal strength (12) and intentional non-use (2). Explained gaps in RTD (130 total) were mainly behavioral (72, 55%) and related to ART maintenance, including fear of side effects (21) and fear of HIV disclosure (13). At one month, all retained subjects expressed positive views of the RTD. Post-randomization, ART retention remained a challenge; keeping batteries charged was the primary RTD-related issue.

Conclusions: The first months of study implementation found that women had difficulty following Option B+; RTD technology presented additional challenges. These findings highlight this population's vulnerability and the importance of designing appropriate support in high stigma, low-resource settings.



Name	Page Number(s)		
Aaron, Erika	30	Bologna, Estefany	20
Abas, Melanie	61	Bonawitz, Rachael	31, 100
Abrams, Elaine	25, 27, 74	Bonenko, Vasyl	98
Acevedo, Ramon	89	Boonrai, Kailip	96
Adedimeji, Adebola	82	Boswell, Stephen	47
Adeola, Juliet	100	Boum, Yap	22
Aderemi-Williams, Roseline	92	Boyer, Abigail	78
Agbaji, Oche	24	Bradley, Heather	14, 16
Agu, Kenneth	93	Bradley-Bull, Steven	81
Ahonkhai, Aimalohi	100	Brady, Kathleen	85, 86, 89
Alcaide, Maria	68	Braunstein, Sarah	15, 21, 53
Stephen, Alege	65, 78	Brill, Atrina	87
Alegria, Margarita	61	Brincks, Ahnalee	23
Allison, Susannah	49	Brittain, Katie	95
Alperovitz-Bicahell, Kari	72, 73	Brittain, Kirsty	25, 74
Al-Tayyib, Alia	25	Broadus, Michelle	98
Amaro, Hortensia	61	Brooks, Ronald	63
Amico, K. Rivet	39, 45, 81, 90	Browder, Mary	80
Amirkhanian, Yuri	19, 94	Brown, III, William	69
Anabwani, Gabriel	23	Brown, Larry	20
Anderson, Emily	85, 89	Brown, Shakara	46, 76
Anderson, Peter	30, 60	Brown, Sharon	72, 73
Andrew, Erin	32	Bucek, Amelia	27
Andrews, Krista	55	Buchbinder, Susan	36
Arayasirikul, Sean	57	Bugnon, Olivier	58
Armstrong, Wendy	23	Bugos, Eva	81
Arnold, Trisha	20	Bukusi, Elizabeth	27, 59
Arnsten, Julia	32, 77, 91	Bull, Lois	55
Arzinger, Jenna	88	Bulya, Nulu	59
Asiimwe, Stephen	27, 59	Burack, Jeff	44, 45
Asirot, Mary Grace	72, 73	Burns, Bridget	22, 26, 75
Aunon, Frances	60	Bushman, Lane	60
Ayyaluru, Sankari	41, 84	Buyu, Celestine	52, 80
Azuero, Andres	43	Bwana, Mwebesa	22
Babawarun, Oloruntoba	50	Byram, Bev	67
Bachman DeSilva, Mary	31, 100	Cabral, Howard	30
Bacon, Oliver	32	Calabrese, Sarah	47
Baeten, Jared	22, 26, 27, 59, 75	Calixto, Diego	51
Bailey-Webb, Jeannette	62	Campbell, Diane	78
Baker, Elizabeth	99	Caraballo, Alexandra	41, 85
Balán, Ivan	69	Caraway, Patricia	60
Bangsberg, David	22, 26	Carballo, Alexandra	84
Banigbe, Bolanle	100	Carballo-Diéguez, Alex	69
Barrett, Kimberly	31	Carda-Auten, Jessica	31, 97
Bassett, Ingrid	100	Cardenas, Gabriel	32
Batchelder, Abigail	24, 57, 66	Carpenter, Lavenia	67
Batey, David	23, 71	Carr, Jason	90
Batista, Daniela	51	Carr, Susan	80
Bayer, Joshua	87	Carrico, Adam	66
Bean, Madelyne Ann	66	Carty, Craig	84
Beattie, Christopher	53	Castel, Amanda	99
Beauchamps, Laura	20	Castillo, Jessica	67
Bebawy, Sally	64, 67	Castillo-Mancilla, José	60
Beer, Linda	14, 16, 17, 54	Castro, Rodolfo	64
Bello, Fatimah	71	Cavassini, Matthias	58
Bengtson, Angela	48	Cazares, Rebeca	46
Berger, Miriam	37, 83	Cedric-Crouch, Pierre	36
Berman, Claire	49	Celum, Connie	26, 27, 59
Bessong, Pascal	58	Chakrabarti, Anindita	70
Betancourt, Joseph	47	Chamberlin, Stephanie	21
Bien, Cedric	33, 36	Chang, Larry	81
Blackstock, Oni	32, 33	Chapman, Jennifer	23
Blashill, Aaron	24	Charalambous, Salome	30
Boekeloo, Bradely	84	Chaudhry, Junaid	91
Bogart, Laura	17, 61, 62	Chayama, Loulou	39
Boggavarapu, Sahithi	91	Chemusto, Harriet	31, 100
		Chen, Bing	34
		Chen, Wei-ti	60
		Chen, Ying-Tung	63
		Cherutich, Peter	26, 41
		Chhabra, Rosy	32
		Chiasson, Mary Ann	21
		Chinedu, Onyekatu	50
		Christopoulos, Katerina	44, 47
		Church, Anna	72, 73
		Claborn, Kasey	55
		Clark, Devon	18
		Clark, Jesse	64
		Clark, Michele	36
		Cleland, Charles	16, 19, 26, 41
		Clingerman, Sara	94
		Clouse, Kate	67
		Clymore, Jacquelyn	71
		Cocohoba, Jennifer	93
		Cohen, Mardge	82
		Cohen, Phillip	77
		Cohen, Stephanie	32, 36
		Cohn, Michael	66
		Cohn, Wendy	74
		Cole, Stephen	31, 47, 48
		Coleman, Jenell	30
		Conyngham, S	18
		Craker, Lacey	20
		Crane, Heidi	47, 72, 73
		Crane, Paul	72, 73
		Cranston, Ross	69
		Craw, Jason	16
		Croome, Natasha	61
		Cropsey, Karen	43
		Cunningham, Chinazo	32
		Cunningham, William	17, 88
		Curtis, Virginia	20
		Dadem, Nancin	24
		Dale, Sannisha	62
		Dant, Lydia	72, 73
		D'Arata, Michael	44
		Dark, Heather	63
		Daskalakis, Demetre	28
		Daughtridge, Giffin	18
		Davila, Jessica	42, 45
		de Boni, Raquel	64, 70
		de Guzman, Rebecca	16, 19
		de la Cruz, Maria	89
		de Vasconcellos, Mauricio	70
		DeBolt, Claire	74
		Deem, Thomas	25
		DeGroote, Nicholas	17
		del Rio, Carlos	23
		Delpino, Ambrose	95
		Derosé, Kathryn	89
		Dhanireddy, Shireesha	35
		Diaz-Mendez, Nelly	83
		Dickson Gomez, Julia	98
		Diepstra, Karen	91
		DiFranceisco, Wayne	19, 94
		Dillingham, Rebecca	74
		Dilworth, Samantha	44
		Doblecki-Lewis, Susanne	32
		Dolezal, Curtis	27, 69
		Dombrowski, Julia	35
		Donnell, Deborah	59
		Donnelly, Jennifer	25
		Donovan, Jenna	71, 75, 78
		Doshi, Rupali	79



AUTHOR INDEX

Dovidio, John.....	47	Genn, Leah.....	23	Hollod, Laura.....	18
Dowdy, David.....	30	Ghiam, Michael.....	64	Holt, Sally.....	37
Downing, Martin.....	21	Gibbons, Laura.....	72	Honig, Sylvie.....	16, 19
Drainoni, Mari-Lynn.....	30	Gifford, Allen.....	31, 100	Hopkins, Mary.....	67
Du Pasquier, Renaud.....	58	Giguere, Rebecca.....	69	Horvath, Keith.....	60
Du, Amanda.....	85	Gilbert, Hannah.....	24	Horwitz, Jessica.....	44
Duerr, Ann.....	40	Gillani, Fizza.....	86	Hotton, Anna.....	49
Duke, Chris.....	16	Gilmore, Kate.....	28, 91	Hou, John.....	95
Duran, Jesus.....	63	Giordano, Thomas.....	42, 45	Houang, Steven.....	21
Duthely, Lunthita.....	83	Godfrey, Monica.....	72, 73	Howard, Tyriesa.....	99
Earnshaw, Valerie.....	39, 47	Goggin, Kathy.....	17	Hsu, Joanne.....	18, 53
Eaton, Lisa.....	65	Golden, Matthew.....	35	Huebner, David.....	56
Echenique, Marisa.....	83	Golin, Carol.....	31, 81, 97	Hughes, Lyndsay.....	61
Edelstein, Zoe.....	28	Golub, Sarit.....	28, 43, 87, 91, 96	Hunt, Peter.....	22
Edmiston, John.....	41, 84	Gonzalez, Yvette.....	96, 97	Huo, Yanling.....	49
Edwards, Akesha.....	92	Gooden, Lauren.....	23	Hussein, Nadia.....	99
Edwards, Todd.....	72, 73	Gorrell Kulkarni, Sarah.....	21, 80	Hutton, Heidi.....	81
Ekerete-Udofia, Christy.....	50	Goss, Stephanie.....	36	Hygie-Enwerem, Grace.....	50
Elamin, Fatima.....	80	Gosselin, Jillian.....	67	Ibitoye, Mobolaji.....	69
Elkington, Katherine.....	27	Gouaux, Ben.....	38	Ingersoll, Karen.....	74
Ellenberger, Nicole.....	99	Goulart, Silvia.....	70	Irvine, Mary.....	21
Elul, Batya.....	80	Gould, Michelle.....	31	Isenberg, Sarina.....	82
Erguera, Xavier.....	44	Gouveia, Carla.....	84	Jagielski, Christina.....	43
Escobar, Jessica.....	82	Grant, Robert.....	44	Jain, Jennifer.....	66
Evans Coleman, Tyffany.....	29, 37, 90	Grasso, Chris.....	73	Jain, Mamta.....	23
Fadul, Nada.....	75, 78	Gray, Ronald.....	81	Jain, Sachin.....	33
Falcon, Anthony.....	70	Green, Gill.....	51	Jaramillo, Sindy.....	83
Farias, Hugo.....	89	Greenberg, Daniel.....	99	Johnson, Kendra.....	42
Farias, Iraina.....	84	Gremel, Garrett.....	16	Johnson, Mallory.....	14, 15, 34, 44, 57
Feaster, Daniel.....	23, 32, 94	Griffin, Amy.....	79	Johnson, Rachel.....	18
Felsen, Uri.....	33	Griffith, Caleb.....	99	Johnson, Steven.....	87
Feng, Adele.....	93	Grimes, Deanna.....	53	Johnson, Terence.....	97
Fennie, Kristopher.....	79	Grimes, Richard.....	53	Jones, Alex.....	90
Fernandez, Nilo.....	70	Grinsztejn, Beatriz.....	64, 70	Jones, Constance.....	83
Finestone LeViere, Anna.....	29, 37, 71, 75, 78, 83	Grodensky, Catherine.....	81	Jones, Deborah.....	68
Fischl, Margaret.....	68	Gross, Robert.....	23	Jones, Rhondette.....	36
Fitzsimmons, Emma.....	72, 73	Grossberg, Robert.....	32	Kacanek, Deborah.....	49
Flash, Charlene.....	42	Grov, Christian.....	35	Kaida, Angela.....	40, 85
Flickinger, Tabor.....	74	Groves, Jennifer.....	31	Kalichman, Moira.....	27
Flynn, Patrick.....	31	Guthrie, Kate.....	55	Kalichman, Seth.....	27, 65
Fogel, Cathie.....	31	Gutierrez, Cristina.....	72, 73	Kallas, Esper.....	70
Frank, Ian.....	85	Guzman, Alfredo.....	90	Kallen, Michael.....	45
Frasca, Katherine.....	86	Gwadz, Marya.....	16, 19	Kamal, Susan.....	58
Frazier, Remi.....	44, 45	Haberer, Jessica.....	22, 26, 27, 43, 59, 75	Kang Dufour, Mi-Suk.....	44, 45
Fredericksen, Rob.....	72, 73	Halfin, Janet.....	57	Kang, Jane.....	93
Freedberg, Kenneth.....	100	Halim, Nafisa.....	31, 100	Karas, Alison.....	91
Freeman, Robert.....	16, 19	Hall, Gerod.....	53	Katabira, Ely.....	20, 22, 26, 27, 59, 75
Frongillo, Edward.....	39, 73, 82	Hamer, Davidson.....	31, 100	Kaul, Pamposh.....	55, 56
Fujimoto, Kayo.....	49	Hannaford, Alisse.....	77	Kegeles, Susan.....	56
Fulcar, Altagracia.....	89	Hansen, Nathan.....	47	Keller, Jennifer.....	75
Gachara, George.....	58	Hare, Brad.....	36	Kelly, Jeffrey.....	19, 94, 98
Gadisa, Tsigereda.....	80	Harrington, Robert.....	35	Kempf, Mirjam-Colette.....	43, 57, 99
Galarraga, Omar.....	33, 34	Harris, Rebecca.....	50	Kennedy, Kristin.....	44, 45
Galvan, Frank.....	63	Hartman, Christine.....	45	Kersanske, Laura.....	15
Gamarel, Kristi.....	96	Haughton, Lorlette.....	32	Kershaw, Trace.....	47
Gandhi, Monica.....	44	Heaton, Anne.....	38	Keruly, Jeanne.....	47
Ganesan, Kavitha.....	99	Hecht, Fredrick.....	39	Khan, Iman.....	61
Garcia, Maria de Fatima.....	84	Hecht, Jen.....	36	Kidoguchi, Lara.....	26, 27, 59
Gardner, Edward.....	38, 60, 87	Heffron, Renee.....	22, 26, 27, 59, 75	Kienzle, Jennifer.....	52, 91
Garland, Joseph.....	86	Heine, Amy.....	48, 71, 75, 78	Kimemia, Grace.....	22, 75
Garofalo, Robert.....	49	Hirshfield, Sabina.....	21	Kirkham, Heather.....	95
Garvie, Patricia.....	49	Ho, Titcha.....	69	Klein, David.....	17
Gasuza, Julia.....	31, 100	Hoagland, Brenda.....	70	Knight, Kevin.....	31
Gay, Cynthia.....	29	Hoffman, Susie.....	80	Knowlton, Amy.....	82
Gaynes, Bradley.....	48	Hoffmann, Chris.....	30	Koenig, Helen.....	18, 30
Genberg, Becky.....	24	Hogg, Robert.....	40, 85	Koester, Kimberly.....	44, 45
Geng, Elvin.....	44, 47			Kojic, Erna.....	86



Kolawole, Grace	24	Martin, Jeffrey	22	Nalugoda, Fred	81
Kolber, Michael	32, 94	Marukutira, Tafireyi	23	Nankya, Betty	22, 75
Konkle Parker, Debbie	42, 57	Marx, Grace	38	Napoles, Tessa	39, 57, 73
Krakower, Douglas	47, 73	Matheson, Tim	23	Naprawnik, Sonia	31, 48
Kubeka, Griffiths	30	Mathews, Chris	47, 48, 72, 73	Nash, Binford	42
Kuhns, Lisa	49	Mattson, Christine	14, 17, 54	Nash, Denis	21, 80
Kurth, Ann	26, 41	Mavhandu, Lufuno	58	Nassau, Tanner	85, 86, 89
Kushel, Margot	82	Mayer, Kenneth	24, 47, 72, 73	Neduzhko, Oleksandr	98
Kutner, Bryan	60	Mbabali, Ismail	81	Neilands, Torsten	14, 15, 34, 44
Kutnick, Alexandra	16, 19	McAuliffe, Timothy	19	Nerlander, Lina	54
Kuzin, Ihor	98	McDavitt, Bryce	17	Neves, Renata	84
Kuznetsova, Anna	19, 94	McEwen, Dean	38	Ngure, Kenneth	22, 26, 59, 75
Kyebuzibwa, Joseph	31, 100	McGowan, Ian	69	Nguyen, Trang	82
Lake, Jordan	64	Medtiz, Amie	60	Nogg, Kelsey	17
Lalley-Chareczko, Linden	18	Mejia, Dianna	61	Novak, Iuliia	98
Lama, Javier	40, 69	Melaku, Zenebe	80	Nwafor, Samuel	50
Lambert, John	84	Mellins, Claude	27, 49, 74, 88	O'Cleirigh, Conall	24, 48, 62
Langness, Jacob	87	Mena, Leandro	20, 42	Oderinde, Tosin	50
Lanier, Chisa	42	Menefee, Jenna	31	Odoyo, Josephine	59
Lanzi, Robin	48	Mercogliano, Kathleen	70	O'Duor, Jacqueline	85
Laraque, Fabienne	76	Merenstein, Daniel	82	Okatch, Harriet	23
Lawrence, Sean	17	Messer, Lynne	37	Okonkwo, Prosper	24, 100
Lazar, Rachael	15	Messersmith, Lisa	31, 100	Olaiya, Oluwatosin	54
Lee, Christine	32	Metsch, Lisa	23	Omonaiye, Olumuyiwa	93
Lee, Sonia	49	Metsch, Morgan	70	Ong, Edmund	95
Lee, Yoojin	33, 34, 76, 77	Meyers, Kathrine	87	Oono, Inalegwu	95
Leech, Ashley	30	Meylakhs, Anastasia	19	Ott, Corilyn	43
Lehmann, Corrine	55	Miertschin, Nancy	42	Ouellet, Lawrence	62
Lelutiu-Weinberger, Corina	43	Milberg, John	79	Packard, Rebecca	44
Lemus Hufstедler, Lee	39, 73	Miller, Anna	81	Packer, Tracey	36
Leonard, Noelle	16, 19	Miller, Cari	40, 85	Paez, Edgar	72, 73
Leu, Cheng-Shiun	27, 69	Miller, Melissa	85, 89	Palar, Kartika	39, 73, 82
Levine, Ken	73	Mitchell, Mary	82	Parcesepe, Angela	80
Levison, Julie	61	Mobley, Victoria	71	Park, Jane	70
Lewis, Brittany	99	Mobuto, Tonderai	30	Parnell, Heather	37, 83
Li, Xianhong	60	Modi, Riddhi	90	Parra, Alexa	70
Lim, Sungwoo	53	Montoya, Jessica	38	Parsons, Jeffrey	29, 35
Lima, Helena	51	Montue, Solange	90	Pasalar, Siavash	42
Lipshie-Williams, Madeleine	77	Moore, Allison	35	Patel, Sonam	91
Little, Kristen	30	Moore, David	38	Patel, Viraj	33, 77, 91
Litwin, Alain	32	Moore, Miranda	76	Patrick, Donald	72, 73
Liu, Albert	32, 36	Moore, Richard	48	Patrick, Rachel	35
Liu, Honghu	63	Moorthy, Ganesh	18	Paul, Mary	49
Lizcano, John	26, 41	Moreira, Ronaldo	70	Pearce, Mark	95
Locatelli, Isabella	58	Moskowitz, Judith	66	Pena, Luis	89
Logie, Carmen	57	Mounzer, Karam	18	Pena, Stephanie	96
Long, Alice	70	Mugavero, Michael	47, 48, 71, 72, 73, 90	Pence, Brian	47, 48
Long, Amanda	81	Mugo, Nelly	22, 26, 27, 59, 75	Person, Anna	64
Loo, Stephanie	72, 73	Mujugira, Andrew	59	Personi, Domenica	52
Losina, Elena	100	Mukasa, Barbara	31, 100	Peterson, John	56
Lowenthal, Elizabeth	23	Mukherjee, Soumyadeep	79	Petroll, Andrew	54
Lu, Hongzhou	60	Mulamba, Jeremiah	81	Pettit, April	64, 67
Luz, Paula	64, 70	Murphy-Swallow, Dorothy	62	Phillips, Tamsin	25, 74
Machado, Elizabeth	84	Musatov, Vladimir	94	Pierre-Louis, Catherine	62
Machado, Iona	64	Musgrove, Karen	71	Pietrandoni, Glen	95
Machtinger, Edward	93	Musinguzi, Nicholas	22, 26	Pisarski, Emily	20, 59
Mackey-Amiti, Mary Ellen	62	Musisi, Seggane	31, 100	Pitchford, Simon	39, 73
Maddox, Lorene	79	Musyoki, Helgar	26, 41	Pitpitan, Eileen	46
Madruga, José	70	Mutchler, Matt	17	Pollack, Lance	56
Madsen, Kimberly	39, 73	Muwonge, Timothy	20, 22, 26, 59, 75	Poschman, Karalee	79
Magnus, Many	47	Muzooro, Conrad	22	Postnov, Oleksandr	98
Malee, Kathleen	49	Myer, Landon	25, 74	Potter, JoNell	83
Maloney, Kevin	73	Myers, Janet	44, 45	Predhomme, Julie	60
Mandler, Raul	23	Myers, Julie	28	Prejean, Joseph	17
Manhaeve, Cecile	58	Nakazono, Terry	88	Primbas, Angela	40
Maragh-Bass, Allysha	82	Nakigozi, Gertrude	81	Psaros, Christina	43
Marquez, Samantha	24	Nakku-Joloba, Edith	20	Puga, Ana	49



AUTHOR INDEX

Puskas, Cathy	40, 85	Seghatol, Victoria	63	Udeagu, Chi-Chi	46, 76
Qasmieh, Saba	99	Sehhat, Asemaneh	58	Udoh, Ifeoma	44, 45
Quadri, Yasmeen	42	Seiden, Danielle	88	Umlauf, Anya	38
Quinn, Katherine	54, 98	Seligman, Hilary	73	Underhill, Kristen	47
Rabionet, Silvia	92	Selwyn, Peter	50	Urada, Lianne	41, 84
Rachal, Nikki	17	Sena, Arlene	71	van den Berg, Jacob	34
Radix, Asa	96	Shahaduz, Zaman	95	Vasconcelos, Ricardo	70
Raffanti, Stephen	64	Sheehan, Diana	79	Velasque, Luciane	64
Raj, Anita	41, 84	Sheinfil, Alan	69	Veloso, Valdilea	64, 70
Rakhmanina, Natella	99	Shinefeld, Jennifer	86	Vidal, Macria	94
Ralte, Gabriel	99	Shireman, Theresa	33, 34	Villamizar, Kira	70
Ramchandani, Meena	35	Shiu, Cheenghee	60	Villaran, Manuel	40
Ramsey, Susan	55	Shlay, Judith	38	Villar-Loubet, Olga	83
Rana, Aadia	33, 34, 42, 86	Shouse, R. Luke	14	Voorhees, Kelly	25
Ranadive, Nikhil	39	Silverio, Eliana	89	Wagner, Glenn	17
Raper, James	71	Silverman, Elizabeth	16, 19	Walcott, Melonie	57, 72, 73
Raymond, Jeannette	27	Sima, Jessica	18	Waldman, Ava Lena	74
Rebchook, Greg	56	Simoni, Jane	60	Waldron, Levi	21
Rebeiro, Peter	64, 67	Singh, Tejinder	53	Walters, Sarah	53
Reed, Sarah	98	Sloan, Caroline	18	Wang, Alex	72, 73
Regan, Susan	100	Small, Latoya	88	Wang, Honghong	60
Remien, Robert	25, 74, 80	Smith, Jasmine	88	Ware, Norma	20, 24, 59
Rendina, H. Jonathon	29, 35	Smith, Laramie	39, 41, 46, 84	Warne, Patricia	27
Restar, Arjee	28	Smith, Laurie	72, 73, 90	Washington, Terry	57
Reynolds, George	74	Smith, Lindsay	83	Wawer, Maria	81
Rhodes, Anne	28, 80, 91	Smith, Lisa	87	Wawrzyniak, Andrew	70, 94
Richardson, Barbra	69	Smith, Renee	49	Weber, Shannon	36
Richey, Lauren	66	Smith, Whitney	48, 57, 63	Weiser, John	16
Rietmeijer, Cornelis	38	Sparks, Jennifer	55, 56	Weiser, Sheri	39, 57, 73, 82
Ritchie, Amanda	16, 19	Spellman, Dawn	35	Wendel, Karen	38
Rivas, Justin	98	Stanley, Melinda	45	Wentz, Eryka	82
Rizzuto, Jessica	77	Starrels, Joanna	77	West, Brady	16
Robbins, Rebekkah	21	Stella, Iwuagwu	50	White, Becky	31, 81
Robertson, McKaylee	21	Stinnett Miller, Emily	30	Whiteley, Laura	20
Rodgers, William	64, 67	Stitzer, Maxine	23	Whitfield, Thomas	35
Rodriguez, Allan	23, 70, 94	Stockton, Jan	55, 56	Wiewel, Ellen	18, 53
Rodriguez, Janet	68	Stringer, Kristi	43, 99	Wilkin, Aimee	75, 78
Rodriguez, Violeta	68	Sullivan, Kristen	37, 71, 75	Willig, James	90
Rogers, Maya	87	Sullivan, Margaret	30	Willis, Sarah	71, 78, 80, 81, 82, 83
Rojas, John	18, 53	Swygard, Heidi	71	Wilson, Erin	57
Rooney, Alexandra	38	Tam, Melanie	20, 59	Wilson, Ira	25, 33, 34, 42, 76, 77
Rosen, David	81, 97	Tamhane, Ashutosh	71	Wilson, Tracey	82
Rowan, Sarah	25, 38, 87	Tan, Judy	56	Wingood, Gina	42, 57
Roytburd, Katya	37	Tarima, Sergey	19, 94	Wohl, David	31, 81, 97
Ruth, Kathleen	36	Tassiopoulos, Katherine	49	Woods, Tiffany	57
Saberi, Parya	14, 15, 34	Taveras, Janelle	96, 97	Woodson, Tammie	80
Sabin, Lora	31, 100	Tayo, Fola	92	Wyatt, Monique	20, 59
Saccoccio, Michael	55	Tebas, Pablo	18	Xue, Xiaonan	50
Safren, Steven	24, 29, 43, 48, 61, 62	Tembo, Doreen	51	Yakovlev, Alexei	19, 94
Sago, Aba	92	Tepe, Justin	31	Yang, Frances	72, 73
Saia, Amanda	80, 91	Teran, Richard	21	Yang, Joyce	60
Salcuni, Paul	28	Thomas, Alvin	81	Yehia, Baligh	85
Salomon, Nadim	19	Thomas, Jesse	18	Yerkes, Lauren	28, 52, 80, 91
Salvadora, Kathryn	93	Thomas, Vasavi	36	Yoon, Irene	21
Salyuk, Tetiana	98	Thrun, Mark	25	Yore, Jennifer	41, 84
Samet, Jeffrey	41	Tien, Phyllis	82	Yorio, Carolyn	55, 56
Sanders, Chris	54	Tindimwebwa, Edna	59	Youn, Bora	33, 34
Santoro, Anthony	91	Tiruneh, Yordanos	76, 77	Young, Jeremy	62
Sauceda, John	14, 15	Todd, LaWanda	78	Zariczny, Daniel	86
Savage, Robert	43	Towe, Vivian	18	Zawitz, Chad	62
Scheer, Susan	36	Trepka, Mary Jo	79	Zerbe, Allison	25, 74
Schneider, John	49	Triplett, Daniel	41, 84	Zhang, Mary	93
Schneider, Marie Paule	58	Tsai, Alexander	22	Zheng, Jia-Hua	60
Schwartz, Pamela	41, 84	Tshume, Ontibile	23	Zhong, Yaoyu	18, 53
Scott, Hyman	36	Turan, Bulent	48, 57, 63, 99	Zinski, Anne	90
Scott, Kimberly	80	Turan, Janet	48, 57, 63, 99	Zlotnick, Caron	42
Scott, Linda	66	Turner, Megan	64, 67	Zorilla, Juana	89
Searls, Kristina	60	Tymejczyk, Olga	80	Zupp, Athena	18



ACKNOWLEDGEMENTS

SPONSOR

International Association of
Providers of AIDS Care

ACCREDITED PROVIDERS

Postgraduate Institute
for Medicine

PLANNING COMMITTEE

CO-CHAIR

K. Rivet Amico, PhD
University of Michigan
Ann Arbor, MI, USA

Carlos Cáceres, MD, PhD, MPH
Universidad Peruana Cayetano Heredia
Lima, PERU

Jennifer Cocohoba, PharmD, MAS
University of California San Francisco
School of Pharmacy
San Francisco, CA, USA

Marla A. Corwin, LCSW, CAC III
University of Colorado, Denver
Denver, CO, USA

Marijn de Bruen, PhD
University of Aberdeen
Aberdeen, SCOTLAND

Dázon Dixon Diallo, MPH, DHL
Sister Love
Atlanta, GA, USA

Thomas P. Giordano, MD, MPH
Baylor University
Houston, TX, USA

Ian Hodgson, MA, PhD
University of Huddersfield
West Yorkshire, UK

Franco Maggiolo, MD
University of Pavia
Pavia, ITALY

Kenneth Mayer, MD
Fenway Health
Boston, MA, USA

Gregorio Millett, MPH
amfAR, The Foundation for AIDS Research
Washington, DC, USA

CO-CHAIR

Michael J. Mugavero, MD, MHSc
University of Alabama
Birmingham, AL, USA

Nellie R. Mugo, MBChB, MMed, MPH
University of Nairobi and Kenyatta
National Hospital
Nairobi, KENYA

Jean B. Nachega, MD, PhD
Stellenbosch University
Stellenbosch, SOUTH AFRICA

Steven A. Safren, PhD
University of Miami
Miami, FL, USA

James D. Scott, MEd, PharmD
Western University
Pomona, CA, USA

Elizabeth Sherman, PharmD
Nova Southeastern University
Fort Lauderdale, FL, USA

Jane M. Simoni, PhD
University of Washington
Seattle, WA, USA

Michael J. Stirratt, PhD
National Institute of Mental Health
Bethesda, MA, USA

Marco Vitória, MD
World Health Organization
Geneva, SWITZERLAND

Alan Whiteside, DEcon
Wilfrid Laurier University
Waterloo, ON, CANADA

José M. Zuniga, PhD, MPH
International Association of Providers
of AIDS Care
Washington, DC, USA



ACKNOWLEDGEMENTS

ABSTRACT REVIEW COMMITTEE

K. Rivet Amico, PhD
University of Connecticut
Storrs, CT, USA

Amanda Castel, MD, MPH
George Washington University
Washington, DC, USA

Jennifer Cocohoba, PharmD, MAS
University of California San Francisco
School of Pharmacy
San Francisco, CA, USA

Amy Corneli, PhD
FHI360
Durham, NC, USA

Dázon Dixon Diallo, MPH, DHL
Sister Love
Atlanta, GA, USA

Vanessa Elharrar, MD, MPH
National Institute of Allergy and
Infectious Diseases
Bethesda, MA, USA

Edward M. Gardner, MD
Denver Public Health
Denver, CO, USA

Thomas P. Giordano, MD, MPH
Baylor University
Houston, TX, USA

Christopher M. Gordon, PhD
National Institute of Mental Health
Washington, DC, USA

Reuben Granich, MD, MPH
International Association of Providers
of AIDS Care
Washington, DC, USA

Ian Hodgson, MA, PhD
University of Huddersfield
West Yorkshire, UK

Shoshana Kahana, PhD
National Institute on Drug Abuse
Bethesda, MD, USA

Franco Maggiolo, MD
University of Pavia
Pavia, ITALY

Kenneth Mayer, MD
Fenway Health
Boston, MA, USA

John Milberg, MPH
Health Resources and
Services Administration
Rockville, MD, USA

Yuko Mizuno, PhD
Centers for Disease Control and Prevention
Atlanta, GA, USA

Tia Morton, RN, MS
National Institute of Allergy and
Infectious Diseases
Bethesda, MD, USA

Michael J. Mugavero, MD, MHSc
University of Alabama
Birmingham, AL, USA

James D. Scott, MEd, PharmD
Western University
Pomona, CA, USA

Salaam Semaan, DrPH
Centers for Disease Control and Prevention
Atlanta, GA, USA

Elizabeth Sherman, PharmD
Nova Southeastern University
Fort Lauderdale, FL, USA

Jane M. Simoni, PhD
University of Washington
Seattle, WA, USA

Michael J. Stirratt, PhD
National Institute of Mental Health
Bethesda, MA, USA

Evelyn Tomaszewski, MSW, ACSW
National Association of Social Workers
Washington, DC, USA

Benjamin Young, MD, PhD
International Association of Providers
of AIDS Care
Washington, DC, USA

Jose M. Zuniga, PhD, MPH
International Association of Providers
of AIDS Care
Washington, DC, USA



Adherence 2016

MAY 9 - 11, 2016 • FORT LAUDERDALE

To Whom It May Concern:

This letter is a confirmation that _____ attended the 11th International Conference on HIV Treatment and Prevention Adherence, held May 9-11, 2016, at the Diplomat Hotel and Resort in Fort Lauderdale, FL, USA. This 3-day conference was jointly sponsored by the International Association of Providers of AIDS Care (IAPAC) and the Postgraduate Institute for Medicine (PIM).

Sincerely,

José M. Zuniga, PhD, MPH
President/CEO
International Association of Providers of AIDS Care





Controlling the HIV Epidemic with Antiretrovirals

October 13-14, 2016 • Geneva, Switzerland

The **International Association of Providers of AIDS Care**, in collaboration with the **Joint United Nations Programme on HIV/AIDS**, **AIDS Healthcare Foundation**, and other partners (to be announced), will host its fifth annual summit aimed at leveraging antiretroviral therapy to end AIDS as a public health threat by 2030.

The summit will feature discussion about the implementation of treatment as prevention and pre-exposure prophylaxis as well as provide a forum for exploring HIV prevention and care continua optimization.



Co-Chairs

Kenneth Mayer, MD
Fenway Institute/Harvard University
Boston, MA, USA

Julio SG Montaner, MD
British Columbia Centre for Excellence in HIV/AIDS
Vancouver, BC, Canada

For More Information

Summit information and online registration will be available soon at www.iapac.org.





Adherence 2016

MAY 9-11, 2016 • FORT LAUDERDALE

The 11th International Conference on HIV Treatment and Prevention Adherence is co-hosted by the **International Association of Providers of AIDS Care (IAPAC)** and the **Postgraduate Institute for Medicine (PIM)**, who wish to express their deepest gratitude to the institutional and commercial supporters whose generosity has made this decade anniversary conference possible.

Institutional Supporters



Commercial Supporters



Corporate Sponsor



www.iapac.org