

Preliminary Validation of Unannounced Telephone Pill Count Adherence Data from Perinatally HIV-infected Adolescents and Young Adults

Amelia Bucek¹, Cheng-Shiun Leu¹, Katherine Elkington¹, Curtis Dolezal¹, Patricia Warne¹, Jennifer Cruz², Andrea Jurgrau², Elaine J. Abrams³, Andrew Wiznia⁴, Seth Kalichman⁵, Moira Kalichman⁵, Jeannette Raymond¹, Claude Ann Mellins¹

¹HIV Center for Clinical and Behavioral Studies at NY State Psychiatric Institute and Columbia University, ²New York Presbyterian Hospital/Columbia University Medical Center, ³ICAP, Columbia University Mailman School of Public Health, ⁴Jacobi Medical Center, Albert Einstein College of Medicine, ⁵University of Connecticut

IAPAC – June 5, 2017



HIV CENTER for Clinical and Behavioral Studies
at the New York State Psychiatric Institute and Columbia University

ART ADHERENCE MEASUREMENT WITH ADOLESCENTS AND YOUNG ADULTS

- ▶ There are increasing numbers of adolescents and young adults (AYA) living with HIV, particularly those with perinatal HIV infection (PHIV) outside the United States.
- ▶ AYA are at risk for sub-optimal ART adherence.
- ▶ Valid, low-cost ART adherence measurement tools are important for both assessment and treatment.
- ▶ Several methods are available:
 - ▶ Self-report
 - ▶ Electronic monitoring
 - ▶ Biomedical testing (e.g.: dried blood spot, hair samples)
 - ▶ **Unannounced telephone pill counts**

PROJECT CASAH

NIMH Grant R01-MH069133 (PI: Claude Ann Mellins, Ph.D.)

- ▶ Longitudinal cohort study of PHIV+ and perinatally HIV-exposed but uninfected adolescents
- ▶ Originally recruited in 2003-2008 from four major medical centers in NYC when youth were 9-16 years old (N= 207 PHIV+)
- ▶ Participants, now young adults, are enrolled in the third wave of the study: CASAH 3

PROJECT CASA H

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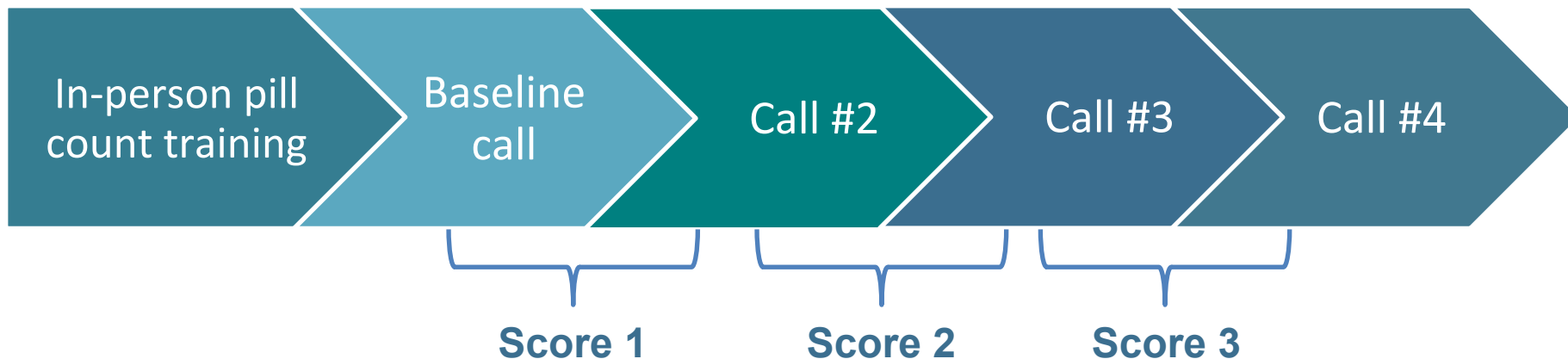
CASA H 3

- ▶ AIM: To identify individual, social, and contextual risk and protective factors influencing behavioral and health outcomes during the transition to adulthood.
- ▶ 3 annual psychosocial interviews, followed by:
 - ▶ Medical chart abstraction
 - ▶ Four monthly unannounced telephone pill counts

UNANNOUNCED TELEPHONE PILL COUNTS

Unannounced telephone pill counts: a procedure to calculate adherence over the past month

- ▶ Telephone calls are completed ~30 days apart. Pills are counted at each call and pharmacy label information is collected.



- ▶ Calculate the proportion of prescribed doses taken (0-100%)
- ▶ Potential to assess adherence behaviors and barriers

UNANNOUNCED TELEPHONE PILL COUNTS



This procedure has been:

- ✓ Validated with behaviorally-infected older adults
- ✓ Feasible with AYA
- ? Not yet validated with AYA

METHODS

Data come from PHIV+ CASAH 3 participants:

- ▶ Adherence score (0-100%) obtained via unannounced telephone pill count
- ▶ Viral Load test conducted after the pill count, within 60 days

Analysis

- ▶ Generalized linear model with generalized estimating equation was used to compare adherence of those with VL \leq 20 copies/ml vs. VL $>$ 20 copies/ml

PARTICIPANT SAMPLE

- ▶ 78 adherence scores collected from 41 participants could be linked to VL measured within 60 days after the pill count

Demographics	
Mean age	22 years (18 – 26)
Gender	66% female
Race	56% African American / Black
Ethnicity	59% Hispanic / Latino

FINDINGS

Outcomes		
	Mean (SD) or %	Min - Max
Unannounced Telephone Pill Count Adherence Score	75 (28)	0 – 100
Viral Load \leq 20 copies/ml	55%	Undetectable – 390,000

- ▶ Participants with VL \leq 20 had significantly greater mean adherence
- ▶ 84% vs. 66% (p=.018)

CONCLUSIONS

- ▶ These findings suggest that unannounced telephone pill counts are a valid measure of ART adherence and can predict virologic suppression among YA with PHIV.
- ▶ Additional validation with a larger sample and other objective measures of adherence, such as tenofovir diphosphate levels, is needed.
- ▶ This procedure could be tested with YA with PHIV in resource-limited settings outside of the U.S., where mobile phone use is high, but access to virologic testing is limited.
- ▶ See Poster #408 for additional validation analyses using self-report and VL collected within 6 days of the pill count.

ACKNOWLEDGMENTS

**HIV Center for Clinical and Behavioral Studies
New York State Psychiatric Institute and Columbia University**

CASAH Phone Assessors

**Stephanie Benson, Jeannette Raymond, Amy Weintraub
& Erica Wynn**

CHIP, University of Connecticut

**Seth Kalichman, Moira Kalichman, Christina Amaral, Tamar
Grebler, Ginger Hoyt & Cynthia Merly**

National Institute of Mental Health

R01-MH069133 (PI: Claude Ann Mellins, Ph.D.)

HIV Center for Clinical and Behavioral Studies

(P30-MH43520; Center Director and PI: Robert H. Remien, Ph.D.)