



2019 INTER-CFAR

**WOMEN
AND HIV
SYMPOSIUM**

**OCTOBER 21 - 22, 2019
THE DOUBLETREE HOTEL
300 E OHIO ST, CHICAGO, IL 60611**

WELCOME

The Planning Committee is delighted to welcome you to the 2019 Inter-CFAR Women and HIV Symposium in Chicago, IL.

In order to advance high-impact research focused on women and HIV, this symposium is designed to encourage cross-disciplinary dialogue and to foster new collaborations. Fifty-four early career investigators were competitively selected to present their work during oral abstract and poster sessions. We are pleased to provide multiple activities for career development and scientific mentorship to all symposium participants. The mentoring lunch each day, with tables led by senior investigators, and the final session on Tuesday, October 22 are excellent opportunities to seek advice from established faculty and representatives from NIH. Hyperlinks to mentor and speakers' profiles are available in the PDF of this program: bit.ly/WAHS2019.

We invite Twitter users to interact in real-time using [#WomenAndHIV2019](https://twitter.com/WomenAndHIV2019) to share your experience with your local CFAR community and broader professional networks.

Thank you for your participation over the next two days. We look forward to an excellent meeting.

Sincerely,

Phyllis Tien, MD
UCSF-Gladstone CFAR

Susan Cu-Uvin, MD
Providence-Boston CFAR

Renee Heffron, PhD, MPH
UW/Fred Hutch CFAR

Richard D'Aquila, MD
Third Coast CFAR

Thomas Hope, PhD
Third Coast CFAR

Roslyn Taylor, PhD
Third Coast CFAR

Susan Cohn, MD, MPH
Third Coast CFAR

ACKNOWLEDGEMENTS

Support for this meeting was provided by an R13 (AI147966; T. Hope), the Third Coast CFAR (P30 AI117943), an administrative supplement to the UCSF-Gladstone CFAR (P30 AI027763), the UW/Fred Hutch CFAR (P30 AI027757), and the Providence-Boston CFAR (P30 AI042853). The national network of Centers for AIDS Research is co-funded by 11 NIH institutes: NIAID, NCI, NICHD, NHLBI, NIDA, NIMH, NIA, NIDDK, NIMHD, NIDCR, NINR, with scientific management from the NIH Office of AIDS Research (OAR) and the Fogarty International Center (FIC).

The efforts of long-standing and recent members of the Inter-CFAR Collaboration on HIV Research in Women contributed to the development of this year's symposium. Nineteen investigators volunteered their time to review abstracts in the competition for early career investigators, five CFARs provided outstanding programmatic support, and leaders of the MACS/WIHS Combined Cohort Study timed their meeting to optimize new opportunities for innovative collaborations across NIH-funded research programs.

The Planning Committee would also like to thank the Office of the Dean of Northwestern University Feinberg School of Medicine for its generous institutional support for this symposium, in addition to the following co-sponsors: ViiV Healthcare (Platinum), Janssen Therapeutics (Gold), and Gilead Sciences (Gold).

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USEFUL INFORMATION

All symposium activities will be held at the Doubletree Magnificent Mile Hotel and Conference Center at 300 E. Ohio Street (northeast corner of E. Ohio St. and N. Fairbanks St.) in Chicago's Streeterville neighborhood. Symposium participants staying at the Doubletree may check-in after 3:00 p.m. on October 20 and check-out by 12:00 p.m. on October 22.

DAILY PARKING

For local symposium participants, daily parking (up to 12 hours) will be validated for **Northwestern University's Erie Ontario Lot at 321 E. Erie Street, two blocks north of the Doubletree Hotel and Conference Center**. Request a "chaser" ticket for validation at the CFAR Symposium registration desk. The "chaser" will not work for validation in other lots. Validation for parking at the Doubletree is not available.

MEALS AND REFRESHMENTS

Continental breakfast, boxed lunches, coffee, and water will be provided on each day of the symposium. Planned meals include vegan and gluten-free options. Monday evening's poster session and reception will include hors d'oeuvres and a bar with wine, beer, and soft drinks. Be sure to request a ticket for one complimentary drink when you check in at the CFAR Symposium registration desk. Additional food and beverage options are available for purchase at the Starbucks counter and Grab & Go Café on the Doubletree's main level. Please see "nearby amenities" for stores, restaurants, and other points of interest within a 10-minute walk of the hotel.

RESTROOMS

The conference level includes restrooms marked "All Gender" and "Women." There are additional public restrooms to the left of the Starbucks counter on the hotel's main level.

POSTER VIEWING

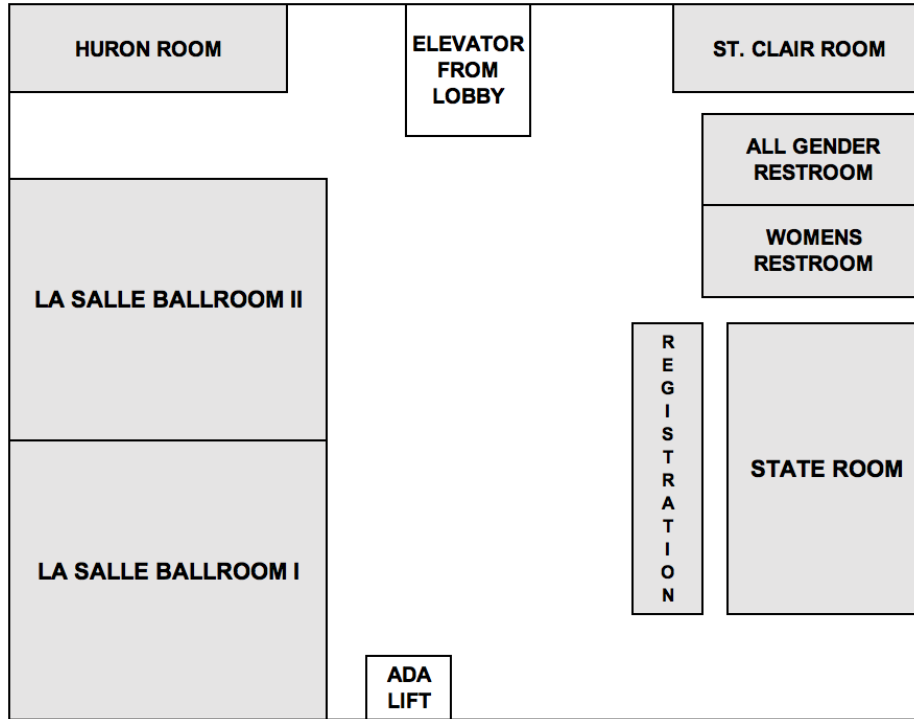
Early career investigators' posters will be displayed throughout each day of the symposium, and attended during the reception and poster session from 5:00 – 7:00 p.m. on Monday, October 21.

OTHER ACCOMMODATIONS

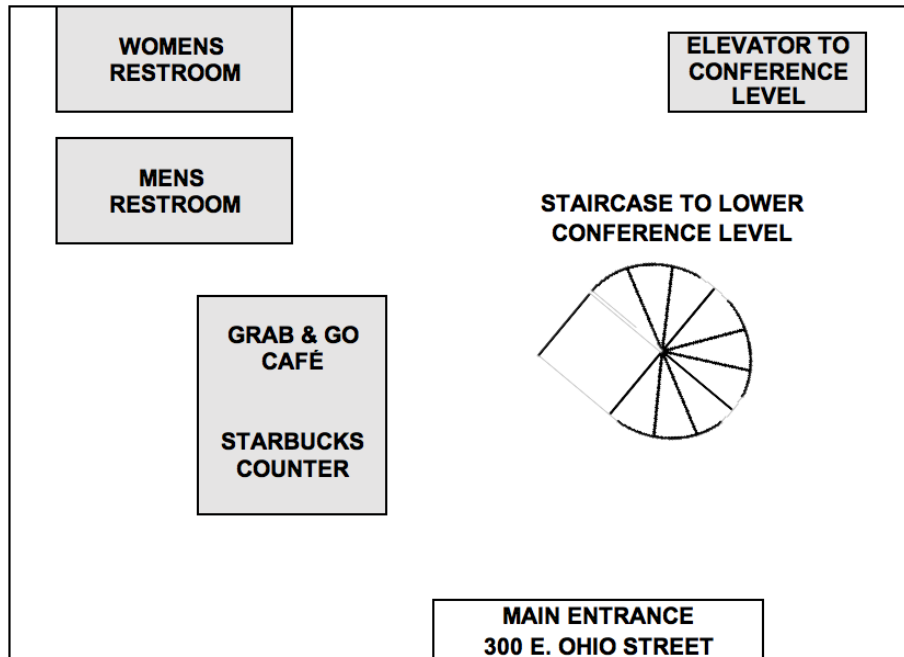
Please notify **CFAR staff** of any accommodations you may need during the meeting. Symposium participants who indicated the need for a private wellness room at the time of registration have confirmed their scheduled reservations with CFAR staff. We have flexibility to meet additional requests should the need arise. Please see a CFAR staff member at the registration table or **contact us** in advance.

DOUBLETREE MAGNIFICENT MILE HOTEL AND CONFERENCE CENTER

CONFERENCE LEVEL



MAIN LEVEL



GROUND TRANSPORTATION FROM O'HARE AND MIDWAY AIRPORTS

O'Hare (ORD) and Midway (MDW) International Airports are easily accessible by car and by public transit. Please see the [CTA website](#) for instructions to purchase a fare card. From either airport, you will transfer from a train to a bus on your way to the Doubletree.

Depending on traffic, the Doubletree is a 40-80 minute drive (taxi or rideshare) from O'Hare and Midway. The Doubletree is located at 300 E. Ohio Street, Chicago IL, 60611.

[Transportation options from ORD via Google Maps](#)

[Transportation options from MDW via Google Maps](#)

AMENITIES WITHIN WALKING DISTANCE OF THE DOUBLETREE



[POPULAR ATTRACTIONS IN CHICAGO \(PDF\)](#)

2019 INTER-CFAR WOMEN AND HIV SYMPOSIUM AGENDA

Monday, October 21, 2019

7:30 AM Registration Opens, Continental Breakfast, Poster Set Up

Opening Session

All presentations take place in *LaSalle Ballroom I*.

8:00 AM **Welcome from HIV in Women Working Group Chair**
Phyllis Tien, MD
UCSF-Gladstone CFAR

8:10 AM **Community Address**
Maya Green, MD
Howard Brown Health

8:30 AM **Keynote Address**
Thomas Hope, PhD
Northwestern University / Third Coast CFAR

9:00 AM **Plenary One: Hormones, hormones, hormones**

Session Leader
Renee Heffron, PhD
UW/Fred Hutch CFAR

Early Career Investigator Co-Leader
Pooja Chitneni, MD
Massachusetts General Hospital

Community Co-Leader
Anne Statton, BA
Pediatric AIDS Prevention Chicago Initiative (PACPI) / Third Coast CFAR

9:05 AM **Clinical Trials: ECHO Results**
Jared Baeten, MD, PhD
UW/Fred Hutch CFAR

9:25 AM **The microbiome, hormones, and the mucosal microenvironment**
Adam Burgener, PhD
University of Manitoba

9:45 AM **Impact of HC on Women's Health in Resource Poor Settings**
Margaret Kasaro, MBChB, MSc
UNC Global Projects Zambia / UNC CFAR

- 10:05 AM** **Discussion**
Facilitated by Session Leaders
- 10:25 AM** **Break**
- 10:35 AM** **Early Career Investigator Abstract Presentations**
- 10:40 AM** **Hormonal contraception and women's HIV acquisition risk in Rwandan discordant couples, 2002-2011**
Kristin Wall, PhD
Emory CFAR
- 11:00 AM** **Experiences of side effects among new contraceptive implant users concomitantly using efavirenz- or dolutegravir-containing ART in Kenya**
Randy Stalter, MPH
UW/Fred Hutch CFAR
- 11:20 AM** **Tailoring a gender-specific HIV cure strategy using NK cells expanded ex vivo**
Mary Ann Checkley, PhD
Case Western Reserve CFAR
- 11:40 AM** **Distribution of I.V. injected Cu64, Zr89, and fluorescently labeled VRC01 and VRC01-LS in the in vivo Rhesus Macaque Model**
Ann Carias, PhD
Northwestern University / Third Coast CFAR
- 12:00 PM** **Pick Up Boxed Lunch**
- 12:10 PM** **Lunch**
Mentoring lunches take place in *LaSalle Ballroom II*.
- 1:20 PM** **Plenary Two: Long Acting ARV formulations for treatment and prevention: Are there sex differences?**
- Session Leader**
Gustavo Doncel, MD, PhD
CONRAD
- Early Career Investigator Co-Leader**
Lunthita Duthely, MS, EdD,
Miami CFAR

- 1:25 PM** **Sex differences in LA-CBV**
Kim Smith, MD, MPH
ViiV Healthcare
- 1:45 PM** **New clinical trials in LA-ARV; Long acting ARVs in Non-Adherent populations**
Aadia Rana, MD
UAB CFAR
- 2:05 PM** **Acceptability of long-acting ARV formulations in MSM populations**
Robert Schieffer, MBA
Northwestern University / Third Coast CFAR
- 2:25 PM** **Acceptability of long-acting ARV formulations in young women in SSA**
Ariane Van der Straten, PhD, MPH
UCSF-Gladstone CFAR
- 2:45 PM** **Discussion**
Facilitated by Session Leaders
- 3:15 PM** **Break**
- 3:25 PM** **Early Career Investigator Abstract Presentations**
- Session Leader**
John Schneider, MD, MPH
University of Chicago / Third Coast CFAR
- Early Career Investigator Co-Leader**
Cecile Lahiri, MD, MSc
Emory University CFAR
- 3:30 PM** **Development of Subcutaneous Biodegradable Implants Comprised of Long-Acting (LA) Antiretroviral (ARV) and Hormonal Contraceptive**
Archana Krovi, PhD
RTI / UNC CFAR
- 3:50 PM** **Controlled Release of Tenofovir Alafenamide (TAF) for HIV Pre Exposure Prophylaxis (PrEP)**
Alice Linying Li, PhD
RTI / UNC CFAR
- 4:10 PM** **Shots don't bother me: how a history of injectable medication and/or substance use impact HIV-positive women's attitudes toward, and willingness to use, long-acting injectable antiretroviral therapy**
Morgan Philbin, PhD
Columbia University

- 4:30 PM** **The Value of Cross-Disciplinary Research to End the HIV Epidemic**
Welcome from Third Coast CFAR Director
 Richard D'Aquila, MD
Northwestern University / Third Coast CFAR
- Remaking a Life: How Women with HIV/AIDS Confront Inequality**
 Celeste Watkins-Hayes, PhD
Northwestern University / Third Coast CFAR
- 5:00 PM – 7:00 PM** **Poster Presentations and Networking Reception**
 Hors d'oeuvres, wine, and beer will be served.
 Leave posters for viewing until 3 p.m. on Tuesday, October 22.

Tuesday, October 22, 2019

- 8:15 AM** **Continental Breakfast**
- 8:40 AM** **Day Two Opening Remarks**
 Susan Cu-Uvin, MD
Brown University / Providence-Boston CFAR
- 8:45 AM** **Plenary Three: Optimization of Pre-Exposure Prophylaxis in Cis and Trans Women and Men**
Session Leader
 Maria Alcaide, MD
Miami CFAR
- Early Career Investigator Co-Leader**
 Roslyn Taylor, PhD
Northwestern University / Third Coast CFAR
- 8:50 AM** **Overview of PrEP Efficacy, Adherence, and Delivery in Cisgender Women**
 Lisa Hirschhorn, MD, MPH
Northwestern University / Third Coast CFAR
- 9:10 AM** **Overview of PrEP Efficacy, Adherence, and Delivery in Cisgender Men**
 Albert Liu, MD
Bridge HIV, SFDPH / USCF-Gladstone CFAR
- 9:30 AM** **Overview of PrEP Efficacy, and Delivery in Transgender Populations**
 Jae Sevelius, PhD
UCSF-Gladstone CFAR

- 9:50 AM** **Mechanisms of Sex Difference in PrEP function**
Mackenzie Cottrell, MS, PharmD
UNC CFAR
- 10:10 AM** **Dapivirine Ring Progress**
Sharon Hillier, PhD
University of Pittsburgh
- 10:30 AM** **Discussion**
Facilitated by Session Leaders
- 10:50 AM** **Break**
- 11:00 AM** **Early Career Investigator Abstract Presentations**
- Session Leader**
Jenny Trinitapoli, PhD
University of Chicago / Third Coast CFAR
- Early Career Investigator Co-Leader**
Sari Reisner, ScD
Harvard CFAR
- 11:05 AM** **Understanding PrEP Persistence among Ciswomen & Transgender Patients**
Maria Pyra, PhD
Howard Brown Health / University of Chicago / Third Coast CFAR
- 11:25 AM** **Para mi Misma: Providing PrEP in combination with gender affirming care in a community-based setting for trans Latinas**
Sophia Zamudio-Haas, DrPH, MSc
UCSF-Gladstone CFAR
- 11:45 AM** **Assessing the implications of a hormonal contraceptive in a multipurpose prevention implant for unintended pregnancy and HIV prevention: Qualitative insights from South Africa and Zimbabwe**
Mary Kate Shapley-Quinn, MPH
RTI / UNC CFAR
- 12:05 PM** **Pick Up Boxed Lunch**
- 12:15 PM** **Lunch**
Mentoring lunches take place in *LaSalle Ballroom II*.

1:25 PM

Closing Session

Symposium Wrap Up

Phyllis Tien, MD
UCSF-Gladstone CFAR

1:45 PM

How to Get Your Work Noticed by Policy Makers and the Media

Brian Mustanski, PhD
Northwestern University / Third Coast CFAR

2:30 PM

Tips and Resources for Early Career Investigators: A Panel with NIH Representatives

Denise Russo, PhD
NICHD / MPIDB

Joana Roe
NIAID/DAIDS

Natalie Tomitch, MPH, MBA
NIH / OAR

Samantha Calabrese, MPH
NICHD / MPIDB

3:00 PM

Symposium Adjourns

Please retrieve all posters.

MENTORING LUNCH—MONDAY, OCTOBER 21

Tables by Topic *LaSalle Ballroom II*

Seats at the mentoring tables are available on a first come, first served basis. Early career investigators are encouraged to select a boxed lunch and locate a table following the preceding session. The PDF of this program includes links to faculty profiles to facilitate networking throughout the Inter-CFAR Women and HIV Symposium.

**1. Working with the MACS/WIHS
Combined Cohort Study (MWCCS)**
Frank Palella, MD
*Northwestern University &
Phyllis Tien, MD
University of California San Francisco*

2. FAQs and Answers from NIH
Natalie Tomitch, MPH, MBA
*OD/Office of AIDS Research &
JoanaDarc Roe
NIAID/DAIDS*

**3. Behavioral Intervention
Development**
Judy Moskowitz, PhD
Northwestern University

**4. Vaginal Microbicides for
HIV Prevention**
Sharon Hillier, PhD
University of Pittsburgh

**5. Underlying mechanisms of
BV/HIV co-infection**
Maria Alcaide, MD
University of Miami

**6. Devices for Long Acting
ARV Delivery**
Gustavo Doncel, MD, PhD
CONRAD

**7. Improving HIV Outcomes for
Women in the Deep South**
Aadia Rana, MD
University of Alabama Birmingham

8. HIV Mucosal Immunology
Tom Hope, PhD
Northwestern University

9. Microbiome / -omics
Adam Burgener, PhD
University of Manitoba

MENTORING LUNCH—TUESDAY, OCTOBER 22

Tables by Topic *LaSalle Ballroom II*

Seats at the mentoring tables are available on a first come, first served basis. Early career investigators are encouraged to select a boxed lunch and locate a table following the preceding session. The PDF of this program includes links to faculty profiles to facilitate networking throughout the Inter-CFAR Women and HIV Symposium.

1. Building Research Partnerships in Sub-Saharan Africa

Jennifer Jao, MD, MPH
*Northwestern University &
Jenny Trinitapoli, PhD
University of Chicago*

2. Working with the MACS/WIHS Combined Cohort Study (MWCCS)

Mirjam Kempf, PhD, MPH
*University of Alabama Birmingham &
Deborah Konkle-Parker, PhD
University of Mississippi*

3. Implementation Research - Global and Local

Lisa Hirschhorn, MD, MPH
Northwestern University

4. African Women's Preferences for Contraception and PrEP

Ariane Van der Straten, PhD
RTI

5. Best Practices for Community Engagement

Alida Bouris, PhD, MSW &
John Schneider, MD, MPH
University of Chicago

6. Working with DAIDS Clinical Trials Networks

Ellen Chadwick, MD
Susan Cohn, MD, MPH
Northwestern University

7. Managing Work-Life Balance

Susan Cu-Uvin, MD
Brown University

8. FAQs and Answers from NIH Reps

Denise Russo, PhD &
Samantha Calabrese, MPH
NICHD

POSTER ABSTRACTS

Basic & Translational Sciences
Posters 01–08

Clinical Research
Posters 09–18

Epidemiology & Implementation Research
Posters 19–30

Social & Behavioral Sciences
Posters 31–44

Abstract 01

PET/CT scanning as a method to investigate the dynamics of the viral reservoir during antiretroviral therapy and viral rebound.

Isabelle Clerc, PhD¹, Michael Mc Raven¹, **Yanique Thomas, PhD¹**, Philip Santangelo, PhD³, Francois Villinger, DVM, PhD², Richard T. D'Aquila, MD¹ and Thomas J. Hope, PhD¹.

¹HIV Translational Research Center, Northwestern University, Chicago, IL; ²New Iberia Research Center, University of Louisiana, Lafayette, LA

Background: Human immunodeficiency virus (HIV) treatment with antiretroviral therapy (ART) suppresses viral replication and eliminating viremia. During ART, the virus and persists in a latent reservoir in long-lived memory T cells; however, viral rebound following the cessation of ART is a rapid process that is inconsistent with that small population of cells. Here we explore the viral reservoir and the dynamics of viral rebound.

Methods: Rhesus macaques were infected with a single high-dose challenge and 4 days later started on a six-month ART regimen. During ART and after ART cessation, PET/CT scans using radioactive 64copper-labeled antibodies against viral proteins revealed the locations of infected cells during the establishment of the viral reservoir, and the persistence of infection throughout treatment. After ART conclusion, tissues were harvested at four, five, seven, and ten days. Using PET scans, we visualized foci of infection within tissues and obtain sections for microscopy that specifically contain infected cells. Using this method, infected cells were observed in several tissues for the entirety of ART and in the absence of viremia.

Results: Reservoir rebound was efficiently detected by PET/CT as early as four days post ART cessation and infected cells were found in PET/CT positive tissues validating the method. Importantly, rebound was most robustly detected by PET/CT in the same sites where signal was last detected after initiation of ART, and surprisingly, PET indicates a large concentration of viral envelope in heart tissues. Also unexpectedly, initial studies from tissues harvested post-rebound reveal that most of the infected cells found in the small intestine, FRT, and colon are not T-cells. So far we have identified two morphologically distinct populations of infected cells and phenotyping is ongoing.

Conclusions: These data suggest that the viral reservoir is not limited to a small population of long-lived memory T cells. The use of PET/CT to direct the collection of tissue samples is a powerful tool that significantly increases the efficiency and impact of this work.

Abstract 02

Mucin-16 is a novel Fc receptor in the female reproductive tract that can enhance the neutralization potential of anti-HIV IgG

Patrick Madden¹, Jeffrey Schneider¹, Rosemary Bastian¹, Heidi Shubert², Chris Hill², Thomas Hope¹

¹Northwestern University, Chicago, IL, ²University of Utah, Salt Lake City, UT

Background: MUC16 is a cell associated mucin that is expressed by columnar epithelial cells of the female reproductive tract where it helps to form a mucus barrier that HIV must traverse during transmission. Recently, work in our lab has demonstrated that IgG can bind to MUC16 and that this binding is regulated by the glycosylation state of both the IgG and MUC16. In addition, IgG from HIV infected patients binds better to MUC16 than IgG from healthy patients due to a shift towards the G0 glycosylation state under conditions of chronic infection. Further work has shown that MUC16 bound IgG from SIV infected rhesus macaques is enriched for certain epitope specificities. Despite these results the mechanism and consequences of IgG binding to MUC16 are not known.

Methods: Functional characterization of the IgG-mucin binding interaction was done using the TZMbl HIV neutralization assay while biochemical assays such as surface plasmon resonance and isothermal titration calorimetry were used to characterize the kinetics and thermodynamics of the binding interaction.

Results: Through the use of the HIV neutralization assay we have been able to show that binding to MUC16 can enhance the neutralization potential of anti-HIV IgG such as VRC01 and that this is dependent on the subclass as well as glycosylation state of the IgG. Through further biochemical characterization of the binding interaction we have narrowed down the IgG binding region of MUC16 to the membrane proximal SEA domains. These SEA domains contain conserved cysteine residues as well as two conserved N-linked glycosylation sites. Removal of either N-glycan site on a single SEA domain reduces binding to IgG and removal of both completely abrogates binding.

Conclusions: With continued progress towards an HIV vaccine and interest in antibody mediated protection, understanding how antibodies function at mucosal sites is of great importance. Further characterization of the determinants of this MUC16 IgG interaction will allow us to target HIV specific IgG to the sites of transmission and further protect the female reproductive tract from HIV.

Abstract 03

Temporal and spatial characterization of SIV infection dynamics in rhesus macaque mucosal tissues

Danijela Maric, PhD¹, Wesley A. Grimm, PhD², Natalie Greco, PhD¹, Michael D. McRaven¹, Gianguido Cianci PhD¹, Angela J. Fought¹, Ronald S. Veazey, DVM, PhD³, Thomas J. Hope, PhD¹

¹Northwestern University, Chicago, IL, ²Abbott Molecular Diagnostics, Chicago, IL, ³Tulane National Primate Research Center, Covington, LA

Background: Our preliminary work revealed that Th17 helper T cells and immature dendritic cells are the most predominant initial targets after rectal challenge with an SIV-based replication defective reporter virus. These cell types are infected at a rate that is several-fold higher than their relative abundance would predict, indicating that they are preferentially targeted in the early time of infection.

Methods: Here, we challenged twelve female macaques with a mixture of our replication defective luciferase reporter virus and wild-type SIVmac239 and we sacrificed the animals 48-, 72- or 96h later. We used luciferase signal to home in on small regions within the tissue to increase our chances of identifying cells infected by the wild-type virus. Infected cells were identified microscopically by staining for SIV viral proteins Env and Gag and were validated by spectral imaging and nested PCR.

Results: Foci of infected cells are visible as early as 48-hour post challenge and expand in size by 96 hours, stretching over several 10-micron tissue sections at times. Analysis of SIV infected cells revealed expected virus induced changes in CD4 expression, including CD4 receptor internalization and down-regulation. Comprehensive phenotypic profiling of nearly 2,000 SIV infected cells revealed that the Th17 infection rate does not vary much over the first 96h. However, from 48h to 96h, there is a pronounced decrease in iDCs infection rate and an increase in infection of other T cell subtypes, suggesting immune cell recruitment to the site of infection. More over the preference for the same cell types was observed between squamous tissues of anus and those of the female reproductive tract and were disparate from those in columnar epithelia of the rectum.

Conclusions: Using the wild-type SIVmac239 virus we were able to study the early infection events at the rectal mucosa and we observed very dynamic changes in respect to infected cell phenotype and immune cell recruitment in response to infection. In our future work we hope to paint the full picture of the HIV/SIV sexual transmission in time and in space and hence aid development of more effective HIV prevention strategies.

Abstract 04

Tissue-specific differences in the mechanisms that govern HIV latency in blood, gut and genital tract in ART-suppressed women

Sara Moron-Lopez^{1,2}, Guorui Xie^{1,3}, Peggy Kim², Joseph Wong^{1,2}, Jennifer Price¹, Ruth Greenblatt¹, Phyllis Tien^{1,2}, Nadia R. Roan^{1,3}, Steven A. Yukl^{1,2}

¹University of California San Francisco, ²San Francisco Veterans Affairs Medical Center, ³Gladstone Institutes

Background: Sex-specific differences affect various aspects of HIV infection. An HIV functional cure will likely require a major reduction of HIV-infected cells from most tissues. However, few studies have quantified levels of HIV infection or expression in tissues from women. Here, we measured the extent of HIV infection and progression through the HIV transcriptional blocks in blood, liver, gut, and genital tissues from HIV-infected ART-suppressed women.

Methods: Peripheral blood mononuclear cells (PBMC), gut biopsies (ileum, colon, rectosigmoid), liver biopsies, genital tract biopsies (cervix, endometrium), and endocervical curettage (ECC) samples were collected from 5 women with plasma HIV RNA < 200 copies/ml. Total cell-associated HIV DNA and levels of read-through, initiated (TAR), 5'elongated, polyadenylated, and multiply-spliced (Tat-Rev) HIV transcripts were measured by ddPCR. Results were analyzed using the Wilcoxon signed-rank test.

Results: HIV DNA was detected in all tissues, with levels being comparable between the gut and genital tract tissues. HIV transcriptional initiation (TAR RNA per provirus) tended to be higher in PBMC and endometrium than in ileum, colon, rectosigmoid, cervix, and ECC (all $p=0.06$), and higher in rectum than either ileum or colon ($p=0.06$). Likewise, levels of elongated HIV transcripts per provirus were comparable in PBMC and endometrium, but higher than the gut and cervical samples ($p=0.06$). Polyadenylated HIV transcripts were detected in PBMC from all 5 individuals, but were rarely detected in the tissues. Multiply-spliced HIV transcripts were detected in PBMC from 2 of 5 individuals, but not detected in any tissue.

Conclusions: The gut, liver, and genital tract are all sites of HIV persistence in women. The female genital tract contains a large pool of HIV-infected cells, with HIV DNA levels/10⁶ tissue cells that are similar to the gut. HIV-infected cells in the blood and endometrium showed higher levels of HIV transcription per provirus, while much lower levels were observed in the gut, and cervix. These results suggest tissue-specific differences in the mechanisms that govern HIV latency, with greater suppression of HIV transcription in most tissues than blood. Therapies aimed at disrupting latency, such as latency-reversing or latency-silencing agents, will be required to penetrate into multiple tissues and affect different blocks to HIV transcription.

Abstract 05

Development of a Point-of-Care (PoC) Test for Bacterial Vaginosis for Women at Risk for HIV Acquisition

Devon C. Pawley¹; Emre Dikici, PhD¹; Sapna Deo, PhD¹; Margaret Fischl, MD¹; Sylvia Daunert, PhD^{1,3}

¹Miller School of Medicine, Miami, FL, ²Clinical and Translational Science Institute, University of Miami

Background: Bacterial vaginosis (BV), the most common genital infection among reproductive women and is associated with poor reproductive health outcomes as well as an increased risk of STI and HIV acquisition. Due to the alterations in the vaginal microbiota resulting in BV, clinical and laboratory, diagnosis is challenging, and there is a need for an accurate, affordable, and simple PoC test to detect BV. One of the pathogenic bacteria associated with BV is Gardnerella vaginalis, which produces the toxin vaginolysin (VLY). This work describes the design of a diagnostic test for the presence of VLY as a first step to develop a PoC test for BV.

Methods: A recombinant expression and purification of VLY was performed, and a sandwich format ELISA assay for detection of VLY was developed. Quantification of the VLY toxin can be correlated with the current levels of *G. vaginalis*, while elevated levels of these bacteria have been shown to lead to a toxic vaginal environment, facilitating BV. Translation to a lateral flow assay (LFA) for use in a rapid, easy-to-use, cost effective paper-based PoC diagnostic for BV that does not require the use of any instrumentation for the visualization of the results of the test was also demonstrated.

Results: VLY was detected using ELISA. The limit of detection (LOD) for the ELISA for VLY was 3.68 ng/mL, and the current LOD for the LFA developed is 25.9 ng/mL, both values are significantly lower than the standard 10 µg/mL cut off limit used for identification of the VLY toxin, demonstrating the potential for developing a sensitive assay.

Conclusions: We designed and developed a selective and sensitive assay for BV based on recombinant VLY capable of detecting VLY. This assay was miniaturized and incorporated into a PoC test that is portable, fast, cost-effective and does not require any instrumentation for visualization of the results. The detection platform can potentially be expanded to include tests for *Lactobacillus*, *Mobiluncus*, *Prevotella*, *Bacteroides*, and other bacteria associated with BV, ultimately providing for a fully comprehensive PoC test to detect BV and help protect women from poor reproductive health outcomes and HIV acquisition.

Abstract 06

Similar Risk of Resistance in Plasma and Genital Tract in Women who Seroconverted on PrEP in VOICE

Kerri J. Penrose¹, Rahil Sethi¹, Uma Chandran¹, Cliff Kelly², Zvavahera Mike Chirenje³, Jeanne Marrazzo⁴, John W. Mellors¹, and **Urvi M. Parikh¹**, on behalf of the MTN 003 Protocol Team

¹University of Pittsburgh, Pittsburgh, PA, ²SCHARP, Seattle, WA, ³University of Zimbabwe College of Health Science-Clinical Research Center, Harare, Zimbabwe, ⁴University of Alabama at Birmingham School of Medicine

Background: HIV variants in the plasma of an infected woman can differ from the variants found in her genital tract. In women failing antiretroviral therapy, resistant HIV-1 can be shed in the genital tract and transmitted to a partner. Few cases of tenofovir disoproxil fumarate/emtricitabine (TDF/FTC) resistance in plasma HIV-1 have been found in seroconverters from oral PrEP trials. We assessed the frequency of HIV-1 drug resistance in the genital tract of women who seroconverted during use of oral TDF/FTC for HIV prevention in VOICE.

Methods: VOICE was a safety and effectiveness study of tenofovir (TNV)-based products for HIV prevention conducted at 15 sites in South Africa, Zimbabwe and Uganda. Participants were randomized to TFV 1% gel, placebo gel, oral TDF, oral TDF/FTC or oral placebo. Cervicovaginal swabs collected within 60 days of seroconversion were selected from participants in the oral TDF or TDF/FTC arm who had detectable TFV in plasma at any study visit (n=17). Placebo arm swabs matched by time from seroconversion and geographical region (n=16) and plasma with detectable HIV-1 RNA collected within 60 days of swab collection (n=17) were also selected. Illumina-based in-house next generation sequencing (NGS) with unique molecular identifiers (UMI) (Boltz 2016) was used to identify mutations in HIV-1 reverse transcriptase (RT). Hamming distances were compared for sequences from swab and plasma.

Results: Of 33 swabs, 23 (70%) were sequenced successfully by NGS. Only 1 of 11 participants in the TDF/FTC arm had the FTC-associated mutation M184V in both genital tract and plasma HIV-1. An additional participant in the TDF/FTC arm had the NNRTI mutation V90I in both genital tract and plasma HIV-1, and one participant from the oral placebo arm had low frequency A62V (1.2%) in only the genital tract. Hamming distances ranged from 0 to 9 of 394 positions or 98-100% genotypic identity between sample types.

Conclusions: HIV-1 in the genital tract of VOICE seroconverters was comparable to that found in circulating plasma. This limited dataset provides reassurance that women who seroconvert on PrEP do not have a greater risk of selecting resistant HIV-1 in their genital tract.

Abstract 07

Detection of cervical dendritic cells using flow cytometry

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Background: Dendritic cells (DCs) are professional antigen presenting cells that are critical for determining the balance between pro-inflammatory and tolerogenic immune states. In cervical mucosa, DCs initiate the inflammatory response, and are likely involved in the early steps of HIV entry and infection. Furthermore, DCs derived from cervix, vagina, and blood have been shown to enhance T cell susceptibility to HIV infection. Despite their importance, cervical DCs remain poorly characterized. Here, we present preliminary data on the feasibility of isolating DCs from frozen cervical samples, with the goal of using these techniques in a comprehensive study of cervical DCs and HIV risk in Kenyan female sex workers.

Methods: Cervical biopsies obtained from fresh hysterectomy samples were frozen and thawed to mimic conditions necessary for transport of tissue samples from Kenya to the United States. After thawing, samples were collagenase digested and stained for flow cytometry. Positive and negative gates were determined based on staining of peripheral blood mononuclear cells (PBMCs). Dendritic cells were identified by gating to include live cells expressing CD45 (a leukocyte marker), CD11c, and HLA-DR, (dendritic cell markers), and to exclude CD3+ T cells and CD19+ B cells. A subpopulation of CD14+ DCs, as well as a population of CD11c- CD14+ macrophages, were also analyzed. To improve the consistency of cell counts between samples, a known number of beads were added to each sample prior to cytometric analysis, and the proportion of beads counted was used to estimate the total number of each cell type per sample.

Results: A total of 411, 259, and 39 live, CD11c+ HLADR+ DCs were counted from three frozen cervical biopsies. The proportion of CD11c+ HLADR+ DCs expressing CD14 ranged from 29% to 100%. Additionally, a substantial population of CD11c-, CD14+ macrophages were detected.

Conclusions: These results indicate the feasibility of detecting DCs and other myeloid cell types from frozen cervical samples. Further characterization of these cells by flow cytometry, or more advanced techniques such as RNA sequencing, will help further distinguish reproductive tract myeloid cells from those in other tissues, and provide a framework to understand inflammation in the female reproductive tract.

Abstract 08

SIVmac239 infected cells persist in vaginal mucosa over the course of ART treatment in intravaginal infected rhesus macaques.

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Background: While much of the focus on woman HIV reservoir has been on blood cells, lymphoid tissues have additional reservoirs of latent and/or persistently infected cells, including cells localized to vaginal mucosal tissues at the site of exposure when sexual transmission occurs. This mucosal reservoir is established during the earliest days of acute infection and is poorly defined.

Methods: To define if the vaginal mucosa might be a site of viral reservoir and then a potential source of viral rebound after ART cessation in women, we infected through vaginal route 4 females rhesus macaques with SIVmac239. Two of them are sacrificed right after 96h of infection while the two others are placed on ART and sent to necropsy 3 months after ART initiation. None of these macaques exhibited any systemic proviral load, before and during ART. Female reproductive tracts (FRT) are collected along with their associated draining lymph nodes, and tissues blocks surrounding the site of infection are collected. Every block is tested for DNA and RNA viral detection by q-PCR against Gag

Results: The results show that SIVmac239 spread all around the site of injection at 96h post infection. We've been able to find Gag DNA in different parts of the FRT like vagina, ectocervix, labia and some draining lymph nodes. Remarkably, we still find Gag DNA in different parts of FRT after 3 months of ART, making vaginal mucosa a strong candidate for a SIV reservoir in females. It's likely than rebound occurs from this mucosal reservoir in macaques experiencing rebound while not having proviral load and antiviral response at the time of ART initiation.

Conclusions: These results demonstrate that FRT mucosa might be a major viral reservoir established in the very first moments of infection. They give us a better understanding of reservoir localization in woman and their kinetic of formation that so far are not characterized. The identification of the viral reservoir have an immense importance in the HIV field, since these reservoirs are the main cause of viral rebound when ART is ceased, and then prevent HIV eradication.

Abstract 09

Stressful Life Events and Retention in HIV Care among Black Women Living with HIV

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Background: Adherence to HIV care rates are suboptimal for women in general, but worse for Black women living with HIV (WLWH) when compared to their White counterparts. In fact, less than half of Black WLWH achieve viral load (VL) suppression. Failure to achieve VL suppression and suboptimal antiretroviral therapy (ART) and medical visit adherence among WLWH are associated with experiencing stressful and traumatic life events. Thus, the primary objective of our study was to explore the relationship between stressful life events and adherence to HIV care in the context of other individual, environment, and HIV-specific stressors in a sample of Black WLWH.

Methods: Thirty in-depth interviews were conducted with Black WLWH who receive care at an academic HIV primary care clinic in the Southern region of the United States to elicit stressful events influencing adherence to HIV care. A semi-structured interview guide was used to facilitate discussion regarding stressful events and adherence to HIV care. Interviews were audiotaped and transcribed verbatim. Transcripts were independently coded using a theme-based approach by two experienced coders, findings were compared, and discrepancies were resolved by discussion.

Results: Participants described frequently experiencing incident stressful events including death or serious illness of a close friend or family member, and relationship, financial, and employment difficulties. Furthermore, participants reported experiencing traumatic events such as sexual and physical abuse during childhood and adolescents. While experiencing traumatic events such as sexual and physical abuse during childhood and adolescence may be distressing, these events did not influence adherence to HIV care. However, incident stressful events as defined above did influence adherence to HIV care for some participants, but not for others. For participants who reported that stressful events did not influence adherence to HIV care, factors such as personal motivation, access to social support, and adaptive coping strategies facilitated their engagement in care.

Conclusions: Experiencing stressful life events, incident or traumatic, is common among Black WLWH and have the potential to negatively influence adherence to HIV care. Thus, Interventions aimed at identifying and addressing stress, social support, and coping are essential to improve adherence to HIV care behaviors.

Abstract 10

Association between sleep quality, mental health symptom burden, and cognitive function: Women's Interagency HIV Study (WIHS)

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Background: Sleep disturbances have been associated with worse mental health and cognitive function. Although women living with HIV (WLWH) are at higher risk of poor mental health and cognitive dysfunction, it is not known whether sleep quality also contributes to mental health and cognition in WLWH. We examined the prevalence of poor sleep quality overall and by HIV status and its association with mental health symptom burden and domains of cognitive performance in the Women's Interagency HIV study.

Methods: Sleep quality was assessed via self-report using the Pittsburgh Sleep Quality Index (PSQI) in 1,583 (1,123 HIV+/460 HIV-) women in 2018. We analyzed the relationship of continuous total PSQI score, mental health (MH) symptoms (depression: CES-D, anxiety: GAD-7, post-traumatic stress: PCL-C, and perceived stress: PSS-10), and cognitive domain T scores (executive function, psychomotor speed, attention/concentration, verbal learning, verbal memory, verbal fluency, and fine motor skills), stratified by HIV status.

Results: Participants were predominantly African American (62%), had income \$18,000 (62%), and high school education (63%). Mean age was 51 years. Among HIV+ participants, mean CD4 was 725 cells/mm³ and 85% reported 95% cART adherence; 36% had detectable viral load >20. Poor sleep quality (PSQI>5) was reported in 52% with no significant difference by serostatus. The overall median PSQI score was 6 (IQR: 3 – 9). Higher total PSQI score, indicating worse sleep quality, was associated with greater MH symptom burden, symptoms of depression, anxiety, PTSD and perceived stress (all $p < .0001$), in HIV+ and HIV- women. The relationship between sleep quality and MH symptom burden remained statistically significant when adjusting all models for age, race, and income, as well as viremia in HIV+ only models. In adjusted models restricted to WLWH, worse sleep quality was significantly associated with lower executive function performance ($p < .05$); sleep quality was not significantly associated with performance in other cognitive domains.

Conclusions: Poor sleep quality is highly prevalent among US women living with and at risk for HIV and is associated with higher mental health symptom burden and in WLWH, poorer executive function. Longitudinal studies are needed to better understand the directionality of the relationship between sleep and mental health symptom burden.

Abstract 11

Pills, PrEP, Pals and the Voices of Women living with HIV: Adherence, Mental Health, Stigma, Resiliency, Faith and the need to Connect among Minority Women in a U.S. HIV Epicenter

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Background: Adherence to HIV care (medication and appointments) is complex, as barriers are multi-faceted, interrelated, and affect women and minorities disproportionately. Adherence to pre-exposure prophylaxis (PrEP) and anti-retrovirals (ARV) is a public health priority. Psychological challenges, HIV stigma, and medical mistrust are known barriers; resiliency, social support and faith/spirituality are known facilitators. A concurrent mixed-methods, pilot randomized control trial is investigating a culturally-appropriate mobile health intervention (mHealth), to improve outcomes for minority women living with HIV (WLWH) attending a large urban clinic in Miami—a U.S. HIV epicenter.

Methods: This study examines the relationship between individual-level factors and adherence, and mHealth solutions that target visit and medication adherence for WLWH, identified as non-adherent. Baseline demographics, depressive symptomatology (PHQ-9), stigma (HIV Stigma Scale; HSS), medical mistrust (GBMMS), resiliency (CD-RISC25) and medication adherence (3-Item, Self-Report) are collected. Focus groups exploring barriers and facilitators to care are probed for factors related to adherence, and technology solutions. Baseline results from additional languages (Spanish, Haitian Creole) will be reported, as well.

Results: Quantitative analyses (proportions, Pearson's r , T-test or Mann-Whitney) were conducted. English-speaking participants ($n=23$) were non-Hispanic Black (90%), ≤ 45 years-of-age (77%), unmarried (74%), and not pregnant (70%). PHQ-9 correlated to HSS ($r=0.23$; $p<0.01$) and CD-RISC25 ($r=-0.45$; <0.05). Women ≤ 45 endorsed higher HSS ($p<0.05$) and GBMMS ($p<0.05$). Qualitative analysis (8 participants; $n=29$ instances) revealed: caregiver-related stressors (e.g. children) (25%), structural issues (e.g. clinic-related) (25%), and conscious choice ("no pills when drinking") (21%) led to non-adherence. Routine (e.g. after meal) (30%), religion/spirituality (30%), and caregiver role (20%) supported adherence. Participants concurred that texting—medication/appointment reminders, psycho-educational (e.g. inspirational/religious/informational)—would facilitate adherence. Participants proposed group meetings (e.g. PrEP support), and offered advice: adherence to non-HIV medications, PrEP for HIV-negative partners, disclosure of HIV-positivity (partners/family), children/family as motivators, curbing negative thoughts, spirituality/religion/faith and mental resiliency ("it's a mind thing").

Conclusions: Among this group of minority WLWH, the results regarding the complex nature of adherence was consistent with previous findings. Participants perceived family and self as both barriers and facilitators; suggested spirituality/religion/faith and group meetings (e.g. PrEP support); and, concurred that texting could enhance adherence. WLWH endorsed technology as a strategy to improve adherence.

Abstract 12

PrEP counseling during gender affirming surgery consultation: a method of increasing access to PrEP for transgender individuals

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Background: Transgender individuals represent a population disproportionately affected by HIV. Despite the effectiveness of pre-exposure prophylaxis (PrEP) in reducing HIV transmission, utilization of PrEP among transgender persons is low. The majority of transgender individuals desire gender-affirming surgery, which may lead them to seek surgical consultation. This study aims to investigate the feasibility of the surgical consult, as a unique opportunity to inform and engage transgender individuals in PrEP-related care.

Methods: An electronic survey was designed and distributed to adult transgender patients seen for gender affirmation surgery (GAS) consultation at an academic hospital center. The survey questions were adapted from a previously implemented PrEP-related survey. Participants completed the survey on a tablet device and subsequently received PrEP counseling and referral after completing the survey if desired. Demographic data were collected along with questions to assess knowledge of PrEP, interest in using PrEP, and interest in receiving PrEP counseling at their GAS consultation.

Results: 41 transgender persons completed the survey (n=24 (58%) transgender women and n=17 (41%) transgender men), ranging in age from 20 to 68 years old (mean age 38.3). The majority (n=22, 54%) were Caucasian, high school graduates (n=38, 93%), and insured (n=39, 95%). Eighteen(44%) reported cisgender female partners and eight(20%) reported cisgender male partners. All respondents were HIV negative, and none were taking PrEP; three(7%) reported partners of unknown HIV status. One (2%) person reported survival sex work in the past 6 months. While 23(56%) had heard of PrEP, and 11(27%) reported interest in PrEP, only 5(12%) had discussed PrEP with a medical provider. Seven (17%) reported that they would be interested in receiving PrEP during the surgical gender affirmation process, and 15(37%) persons reported interest in receiving PrEP at a surgical clinic.

Conclusions: Transgender persons are at risk of acquiring HIV, but have low utilization PrEP. While most had heard of PrEP, the vast majority had not had the opportunity to discuss it with a medical provider. A notable portion of respondents were open to receiving PrEP through a surgical clinic, supporting the implementation of PrEP counseling and services during the gender affirmation surgical consultation.

Abstract 13

Effects of Integrase Strand-Transfer Inhibitor Use on Cardiometabolic Risk Indicators in the Women's Interagency HIV Study (WIHS)

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Background: Integrase strand-transfer inhibitor (INSTI)-based antiretroviral therapy (ART) remains first-line HIV treatment. We demonstrated increased weight gain associated with INSTI use among women living with HIV (WLH) enrolled in the Women's Interagency HIV Study (WIHS), raising concern for cardiometabolic consequences. We therefore evaluated the effects of INSTI use on blood pressure (BP), lipid profiles, insulin resistance, and glycemic control in WLH.

Methods: Data from 2006-2017 were analyzed from WLH enrolled in WIHS. Women who switched to or added an INSTI to ART (SWAD group) were compared to women remaining on non-INSTI ART (STAY group). Outcomes included changes in systolic and diastolic BP; fasting total cholesterol, low density lipoprotein (LDL), high density lipoprotein (HDL), triglycerides, and glucose; hemoglobin A1c; and incident insulin resistance (defined as homeostatic model assessment of insulin resistance score ≥ 2). Outcomes were measured 6-12 months before and 6-18 months after INSTI switch/add in the SWAD group with comparable time points in the STAY group. Linear regression models compared change over time in each outcome by SWAD/STAY group, adjusted for age, race, income, education, smoking, and use of statins, any non-nucleoside reverse transcriptase inhibitor (NNRTI), or tenofovir disoproxil fumarate.

Results: 881 WIHS participants (182 SWAD and 699 STAY) were followed for a mean 1.8 (+/- 1.1) years. Mean age was 49 (+/- 8.8) years, BMI was 31 (+/- 8.2) kg/m², and 49% were Black. At baseline, SWAD vs. STAY were more likely to report NNRTI use (vs. protease inhibitors) and statins (both $p < 0.0001$), but had similar baseline lipid, glucose, and BP variables. Compared to STAY, the SWAD group experienced significantly greater increase in diastolic BP (+1.5 vs -0.4 mmHg, $p = 0.04$) and decrease in HDL (-2.6 vs. -0.2 mg/dL, $p = 0.05$) without significant differences in systolic BP or other lipid profiles. The SWAD group experienced significantly greater increases in A1c (+0.09% vs. -0.03%, $p = 0.02$) but trended toward lower incidence of insulin resistance (19% vs. 32%, $p = 0.05$).

Conclusions: Despite reported weight gain, INSTI use was associated with only modest increases in diastolic BP and hemoglobin A1c during short-term follow-up of WLH compared to non-INSTI ART. Research is needed to elucidate long-term cardiometabolic effects.

Abstract 14

Psychosocial Stress, Depression, and Atherosclerosis in the Women's Interagency HIV Study

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Background: To explore pathways that may explain increased cardiovascular disease (CVD) risk among women with HIV, we examined associations of psychosocial risk factors – perceived stress, posttraumatic stress disorder (PTSD) symptoms, and depressive symptoms – with the presence of focal extracranial internal right carotid artery (ICA) plaque among HIV+ and HIV– women.

Methods: We conducted a cross-sectional analysis nested within the Women's Interagency HIV Study (WIHS) cardiovascular sub-study. Using carotid artery ultrasounds from 2010-2012, focal plaque was defined as localized intima-media thickness >1.5 mm in the ICA. Psychosocial factors were measured using the Perceived Stress Scale (score ≥20), PTSD Checklist-Civilian Version scale (score >44 and DSM-IV symptom criteria), and Center for Epidemiologic Studies Depression scale (score ≥16). Associations were assessed overall and by HIV status using multivariable logistic regression, adjusted for age, race/ethnicity, income, education, smoking, alcohol use, crack/cocaine use, injection drug use history, hepatitis C infection history, and menopausal status.

Results: Among 544 HIV+ and 195 HIV– women (median age 47 years; 51% non-Hispanic Black; 29% Hispanic; 5% non-Hispanic white), 27% vs. 26% had high perceived stress (HIV+ vs. HIV–), 14% vs. 15% had probable PTSD, and 30% vs. 25% had high depressive symptoms. Focal plaque was present among 15% of HIV+ vs. 10% of HIV– women ($p=0.084$); 18% with, vs. 12% without, high stress ($p=0.048$); 16% with, vs. 14% without, probable PTSD ($p=0.53$); and 20% with, vs. 12% without, depressive symptoms ($p=0.0027$). Overall, stress (aOR: 1.61; 95% CI: 0.99-2.63) and depressive symptoms (1.79; 1.12-2.87) were associated with plaque. Results were similar after excluding 38 participants with known coronary heart disease. After stratifying by HIV status, aORs were 1.83 (1.05-3.17) vs. 1.15 (0.34-3.85) for perceived stress (HIV+ vs. HIV–); 1.84 (1.08-3.14) vs. 1.76 (0.57-5.45) for depression; 1.73 (1.02-2.95) vs. 1.44 (0.49-4.25) for stress or depression (vs. neither); and 2.52 (1.40-4.54) vs. 1.49 (0.45-5.02) for concurrent stress+depression (vs. neither).

Conclusions: Psychosocial stress and depressive symptoms were associated with prevalent ICA atherosclerotic plaque. The association for stress alone and with depression appears stronger among HIV+ women. Psychosocial risk factors may represent important targets to reduce CVD risk among HIV+ women.

Abstract 15

HIV Knowledge and attitudes among minority pregnant women and their male partners

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Background: HIV seroconversion during pregnancy poses substantial risk to maternal-child health and disproportionately affects urban, minority women. In order to prevent horizontal and vertical HIV transmission, it is essential that at-risk individuals are aware of HIV risk factors and transmission prevention strategies. We examined knowledge about HIV transmission as well as attitudes about HIV among low-income, minority pregnant women and their partners living in a high prevalence community.

Methods: This is a qualitative study of non-Hispanic black and Hispanic pregnant women and their partners. All women were HIV-negative, English-speaking, and receiving publicly-funded prenatal care in an urban clinic in the United States. Women were participants in a clinic program offering free HIV testing to male partners. Semi-structured guides were used to conduct individual interviews about participant sources of information about HIV, knowledge about horizontal and vertical transmission, and attitudes regarding those living with HIV. Deidentified interviews were analyzed using the constant comparative method to determine themes and subthemes.

Results: Of 51 participants, 29 were pregnant women and 22 were male partners. Sources of information about HIV included television and advertisements, community-sourced knowledge, and educational materials (written and web-based). Themes regarding participant knowledge about horizontal and vertical HIV transmission were categorized as accurate, inaccurate, and absent. Inaccurate knowledge about transmission was highly prevalent. Lack of knowledge was also common: "I'm just not sure if ... the mother can have HIV and the child can't." Participants' perceptions of people living with HIV were primarily agnostic or judgmental. One example of an agnostic view was, "They're normal people. They just have to keep up with their medications." Contrasting stigmatized views were common: "... that's your choice. You are responsible for letting yourself get like that."

Conclusions: Among low-income, minority pregnant women and their male partners in a high HIV prevalence area, inaccuracies and lack of knowledge about horizontal and vertical HIV transmission were common. Enhanced efforts to educate pregnant women and their partners about HIV transmission should address common misconceptions and use popular sources of information. Future research should address the benefits of patient-centered education in improving knowledge with the goal of reducing maternal seroconversion in pregnancy.

Abstract 16

Loop Electrosurgical Excision Procedure treats CIN 2/3 among HIV- and HIV+ women in Kenya

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Background: Cervical cancer is the most common cancer among Kenyan women, with an age-standardized incidence rate of 33.8% in 2018. Cervical lesions in HIV+ women are more than twice as likely to progress in severity compared to HIV- women. This study compares loop electrosurgical excision procedure (LEEP) as treatment for cervical intraepithelial neoplasia (CIN) 2/3 in HIV- versus HIV+ women in Eldoret, Kenya.

Methods: Seventy-five HIV- and 75 HIV+ women at > 6-months post-LEEP for CIN2/3 were enrolled between September 2013-November 2014 in this prospective cohort study at the cervical cancer screening clinic in Eldoret, Kenya. Visual inspection with acetic-acid (VIA) followed by Pap smear with conventional cytology was performed on all women. Women with positive VIA or abnormal Pap smear underwent colposcopy/biopsy. Lesion progression, persistence, and regression were assessed to quantify the efficacy of LEEP.

Results: Post-LEEP screening test showed both a negative VIA and normal Pap smear in 64 (85%) of HIV- and 57 (77%) HIV+ women (risk difference=8.3%; CI= -4.2~21%; p=0.20). Eleven (15%) HIV- and 17 (23%) HIV+ (p=0.20) women had positive VIA, abnormal Pap smear, or both, and were referred for colposcopy/biopsy. Twenty-one (8 HIV-; 13 HIV+) women were biopsied. Four of 8 (50%) HIV- women had CIN lesions that regressed, 3/8 (38.0%) persisted, and 1/8 (12%) progressed to invasive cancer post-LEEP. Six of 13 (46%) HIV+ women had CIN lesions that regressed, 7/13 (54%) had CIN lesions that persisted, and no HIV+ women had CIN lesions that progressed post-LEEP. There was no difference in estimated efficacies of LEEP for HIV- and HIV+ women (92.7% versus 89.4 %; risk difference = 3.3%; CI = -4.8%~15.3%; p=0.85).

Conclusions: LEEP for CIN 2/3 is effective treatment for both HIV- and HIV+ women in low-resource settings. Future efforts should improve follow-up post-treatment and promote educational awareness around cervical cancer prevention among this population.

Abstract 17

Genome-wide scan for efavirenz exposure measured in the hair of HIV+ women

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Background: Candidate gene studies in hair and plasma have identified variants in CYP2B6 influencing efavirenz (EFV) pharmacokinetics. We report the first genome-wide association study (GWAS) of EFV exposure measured in hair in an observational cohort representative of HIV+ U.S. women.

Methods: This study was nested in the Women's Interagency HIV Study (WIHS); clinical data, laboratory testing and scalp hair specimens were collected prospectively during semi-annual visits. Hair EFV levels were determined by high performance liquid chromatography tandem mass spectrometry. Approximately 30.4 million directly measured and imputed SNPs were analyzed. We conducted a linear regression-based GWAS stratified by 4 ethnic groups (White (WT), Hispanic (HIS), Caribbean Hispanic (CH), African American (AA)), with EFV hair concentration as primary outcome. Meta-analysis of strata was conducted to yield a final model. GWAS analyses were adjusted for self-reported EFV adherence, menopausal status, smoking, gamma-glutamyl transferase (GGT) levels, concurrent use of medications known to decrease EFV plasma concentration and the first 3 Principal Components.

Results: Of 359 women providing hair for EFV measures, 335 passed all QC criteria for inclusion in the GWAS: 206 AA, 45 WT, 36 HIS and 48 CH. 46 SNPs (44 in chromosome (Chr) 19, 1 in Chrs 10 and 6) were statistically significantly associated with EFV levels ($p < 5 \times 10^{-8}$). Of these, rs3745274, located within exon 4 of CYP2B6 on chromosome 19, was the only coding (516:G>T) variant associated with higher EFV exposure (fold difference per SNP copy, 1.38, 95% confidence interval (CI) 1.24-1.54, $P = 2.7 \times 10^{-9}$). Of 44 SNPs in Chr 19, 39 were associated with higher EFV (mean effect size = 1.37) and 5 were associated with lower EFV concentration (mean effect size = 0.73) in hair. Non-coding variants 10:9561314 (-/G) and rs75937383 (G>T) in Chr 10 and 6 were associated with 1.83 (95% CI: 1.39-2.4, $p = 2.4 \times 10^{-9}$) and 0.58 (95% CI: 0.44-0.76, $p = 2.3 \times 10^{-8}$) difference in EFV exposure, respectively.

Conclusions: Our results are consistent with previously observed CYP2B6 coding variant association with increased ATV exposure in hair and plasma. Additionally this analysis identified numerous novel non-coding SNPs within and in close proximity to CYP2B6 and 2 regions in Chrs 6 and 10 associated with EFV exposure in hair.

Abstract 18

Cardiovascular Disease in Women Living with HIV in a Large Academic Center in the Southern US

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Background: Cardiovascular disease (CVD) is the leading cause of death in people living with HIV (PLWH), who carry a nearly three-fold increased incidence of CVD events compared to uninfected counterparts. While CVD in the general population is more common in men, sex-stratified analyses evaluating CVD and clinical events in women living with HIV (WLWH) are lacking. This study aims to investigate the prevalence of CVD in a population of WLWH, compare different clinical presentations of CVD by sex, and evaluate factors associated with CVD.

Methods: A retrospective chart review of PLWH seen at the University of Miami/Jackson Memorial outpatient HIV clinics between 2007-2019 was performed. Data on demographics, clinical, laboratory and diagnostic studies were obtained from electronic health records. CVD was defined as the presence of coronary artery disease, myocardial infarction, angina pectoris, peripheral vascular or cerebrovascular disease, heart failure, or atrial fibrillation.

Results: A total of 706 patients were reviewed (360 male and 346 female). Average age was comparable between men and women (53.0 ±11.7 vs. 51.5±11.9 years, p=0.09). Women had a higher average CD4 count compared to men (634.8±339.8 vs 526.9±322.8, p<0.01), and higher prevalence of African American ethnicity (76.7% vs 57.4 %, p<0.01). Overall prevalence of any CVD was comparable between women and men (10.1% vs 13.3%, p=0.10). Interestingly, women had significantly higher prevalence of heart failure (3.5% vs 2.5%, p=0.01). However, rates of other clinical presentations of CVD did not differ by sex. Among WLWH, women with CVD were older (59.9±10.2 vs ±50.6±11.7 years, p<0.01), had lower rates of viral suppression (54.3% vs 70.7%, p=0.046), and among those with detectable viremia, higher median viral load ([0-88] vs [0-0] IQR, p=0.006). No differences were noted in CD4 counts.

Conclusions: Although CVD is more prevalent in men than in women in the general population, in this study we describe similar rates of CVD among men and women living with HIV, and increased prevalence of heart failure in women. This may be partly explained by earlier onset of menopause in WLWH and premature loss of protective female hormones. Our findings support the importance of achieving virological suppression to prevent CVD events among WLWH.

Abstract 19

High STI incidence despite partner notification and treatment facilitation among HIV-exposed women planning for pregnancy in rural, southwestern Uganda

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Background: Little is known about STI incidence and reinfection in Sub-Saharan Africa, especially in the context of STI partner notification/treatment. This information is particularly important for women with or planning for pregnancy, given increased morbidity and mortality risks among women and neonates exposed to STIs. Understanding STI persistence is necessary to guide management algorithms in this key population.

Methods: The Healthy Families PrEP study enrolled 134 HIV-uninfected women in rural Uganda, planning for pregnancy with a partner known or suspected to live with HIV. Women received quarterly safer conception counseling, including TDF/FTC as PrEP. We integrated STI screening for *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Trichomonas vaginalis* (via GeneXpert), and *Treponema pallidum* (via immunochromatographic rapid testing confirmed by rapid plasma reagin) for a subset of women. Women screening positive for STI received treatment, partner notification (PN) counseling and cards, and patient-delivered partner medications (PDPM). We assessed six-month or pregnancy STI incidence related to enrollment STI treatment practices.

Results: Between June 2018 and March 2019, 94 women completed STI enrollment screening. Median age was 28 (IQR 24-31) years. Twenty-three (24%) women had prevalent STIs, including chlamydia-13%, gonorrhea-2%, trichomoniasis-6%, syphilis-6%, and 3% ?2 STIs. Thus far, 58/94 (62%) participants completed STI incidence screening within six-months of enrollment. Eleven participants (11/58; 19%) had incident STIs, including chlamydia-5%, gonorrhea-9%, trichomoniasis-2%, syphilis-5%, and 2% ?2 STIs. Ten participants (10/11; 91%) with incident STI had prevalent STI, and 6/11 (55%) had the same prevalent and incident pathogen. Among participants with prevalent and incident STI, the enrollment STI care cascade demonstrated all participants completed treatment, 9/10 (90%) received PDPM and/or PN cards, 9/10 (90%) completed the six-month survey, 8/10 (80%) delivered PN cards, and 6/10 (60%) reported partner STI treatment completion.

Conclusions: We describe a 17% curable STI incidence among HIV-exposed women planning for pregnancy. Most women with incident STI had prior STI at study enrollment. Given that all women received treatment, and nearly half had the same pathogen, many women likely had STI reinfection. While we facilitated STI PN, this was suboptimal. Partner treatment will require novel methods of partner engagement to prevent index reinfection and achieve cure.

Abstract 20

The Influence of Primary Care Provision on Potential Adoption of PrEP Services in Title X-funded Family Planning Clinics in the Southern United States

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Background: Pre-exposure prophylaxis (PrEP) is underutilized by women in the US. Title X-funded family planning (FP) clinics may be ideal settings for PrEP delivery for women, but PrEP integration is limited in these settings. Cost concerns are cited as barriers to PrEP delivery in clinical settings that mostly see men. Title X FP clinics are not uniform in the services they provide, as some only provide FP and sexual health care, but others integrate FP within primary care services. Thus, cost concerns may vary based on these services. We examined factors that influence perceptions of costs and resources related to PrEP delivery in Title X FP clinics in the Southern US.

Methods: We conducted a web-based survey from February-June 2018 among clinicians and administrators of Title X FP clinics across 18 Southern states. Survey items were designed using the Consolidated Framework for Implementation Sciences Research (CFIR). We compared responses from 15 Cost and Resources-related survey items by whether their clinics also had primary care services using unpaired t-tests and unadjusted logistic regression models.

Results: Among 529 respondents from 286 unique FP clinics, the majority worked in health departments (67%) and FQHCs (11%). Overall, 109 (20%) worked in clinics that currently provide PrEP; those whose clinics also provide primary care services were more likely to provide PrEP (26% vs. 17%, $p=0.02$). Availability of primary care services was more common among FQHCs ($p<0.0001$), urban-located clinics ($p<0.01$) and those in counties with higher proportions of uninsured residents ($p<0.0001$) and lower proportion of residents living in poverty ($p=0.03$). Among 420 respondents who worked in clinics that were not providing PrEP, those in clinics with primary care services were more likely to respond that they had the necessary financial resources ($p<0.01$) and staffing ($p<0.01$) for PrEP implementation compared to those without primary care services.

Conclusions: Among Title X FP clinics in the Southern US, current PrEP provision was higher among clinics that also provide primary care. Among clinics not currently providing PrEP, those that provide primary care services have lower perceived cost and resource barriers and therefore may be key avenues to expand PrEP delivery for women.

Abstract 21

Integration of family planning services into clinics for HIV-positive women in Botswana can increase interest in effective, reversible contraception

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Background: In Botswana half of all pregnancies are unplanned and many women of reproductive age are HIV positive. Integration of family planning services into HIV care is a necessary step towards reducing unplanned pregnancies and eradicating maternal to child transmission of HIV. We created and tested a simple model for integrating contraceptive services into HIV care.

Methods: Our prospective study assessed clinical outcomes before and after integration of contraceptive services into an HIV clinic in Gaborone. Using WHO and CDC materials, our intervention provided clinicians with brief training on contraceptive counselling plus immediate referral for interested patients to on-site contraceptive services. Patients (all using antiretrovirals) and clinicians were surveyed before and post-intervention about services and perceptions of contraceptive service integration.

Results: At baseline, 6% of 141 women surveyed discussed contraception with their HIV-care provider, compared to 61% of 107 women surveyed post-intervention ($p < .001$). At baseline, 6% of women reported wanting to use long-acting reversible contraception (LARC) going forward. Post-intervention, 48 patients chose to meet with the family-planning provider (45% of post-intervention cohort); 27 of these patients reported wanting to use LARC going forward (25% of the post-intervention cohort ($p < 0.001$ vs. baseline)). Both before and after intervention, most patients and clinicians desired contraceptive services in the HIV clinic. All clinicians strongly agreed that they were better trained post-intervention and were satisfied with their ability to refer patients for contraception

Conclusions: Integration of on-site contraceptive services into an HIV clinic can increase interest in LARC, has practical potential for introduction at similar sites in Botswana, and is an effective step towards reducing unmet need for effective contraception and unplanned pregnancies for women living with HIV.

Abstract 22

Associations between past-year violence victimization and viral load failure among HIV-positive adolescents and young adults in Ndola, Zambia

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Background: Violence is known to negatively affect HIV outcomes—including medication adherence and viral suppression—among women living with HIV. However, virtually no studies have assessed the impact of violence victimization on HIV care and treatment outcomes among male or female adolescents and young adults (AYA) living with HIV in sub-Saharan Africa, which is home to most of the world's HIV-positive youth. This study examined associations between multiple types of past-year violence victimization and viral load (VL) failure among male and female HIV-positive AYA, ages 15-24 years, in Ndola, Zambia.

Methods: Data were analyzed from a randomized controlled trial in four HIV clinics. Violence measures were adapted from the IPSCAN Child Abuse Screening Tool and the WHO Multi-Country Study on Violence. Multiple logistic regression was used to obtain crude and adjusted associations between VL failure ($\geq 1,000$ copies/mL) and past-year violence victimization, measured in five modalities: any violence, frequency/severity of violence, type of violence, perpetrator group, and polyvictimization. Models adjusted for individual factors (age, sex, highest education, mode of HIV acquisition, time on antiretroviral therapy), family factors (orphanhood, sense of family belonging) and study clinic as a fixed effect.

Results: Surveys were analyzed for 272 AYA (59.3% female, 72.9% perinatally infected), of whom 73.5% (n=200) had experienced past-year violence victimization (physical violence, psychological abuse, or forced sex) and 36.7% (n=100) had VL failure. In adjusted models, higher odds of VL failure were observed among those reporting: high frequency of any violence vs. no violence victimization (adjusted odds ratio, AOR: 2.63; 95% CI: 1.06-6.51; $p < 0.05$); high frequency of psychological abuse vs. no psychological abuse victimization (AOR: 4.70; 95% CI: 1.64-13.45; $p < 0.01$); and any vs. no violence from a non-caregiver family member (AOR: 2.65; 95% CI: 1.49-4.74; $p < 0.001$).

Conclusions: Past-year violence victimization is highly prevalent and associated with VL failure in this study population. Addressing the frequency, type, and perpetrator of violence against HIV-positive AYA may be critical to preventing and mitigating the spread of HIV. HIV interventions for AYA must account for frequent exposure to psychological abuse, which may be an important but overlooked barrier to HIV care and treatment.

Abstract 23

Getting to zero: a demonstration project of partner HIV testing in the prenatal setting

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Background: Although universal antenatal HIV screening identifies most women with HIV, women who are exposed to HIV and seroconvert during pregnancy remain at risk of not being identified. These women are at significantly increased risk of maternal-to-child transmission (MTCT). Implementation of male partner HIV testing in routine prenatal care has not previously been evaluated in the United States. The objective was to assess interest in and uptake of partner HIV testing services as well as characteristics associated with each.

Methods: This quality improvement demonstration project included all pregnant English-speaking HIV-negative women receiving publicly funded prenatal care in a single hospital-based practice located in a high HIV prevalence urban center. Women were offered free HIV screening for their male sexual partners. From April 2017 to June 2018, enrolled women completed surveys on sociodemographic and medical access characteristics as well as HIV testing history and preferences. Women were invited to bring their partners to a prenatal visit where pre-test counseling was provided and HIV testing offered. Factors associated with pregnant women's interest in having their partner tested and completion of partner testing were assessed.

Results: Of 392 women approached, 70% (N=274) completed study surveys. Although the majority (73%, N=200) of women desired their partner undergo HIV testing, only 18 (7%) of the partners of women who enrolled ultimately completed HIV testing. Maternal sociodemographic characteristics (age, race/ethnicity, parity, number of current sexual partners, educational, employment, and marital status) were not associated with interest in or completion of partner HIV testing. Similarly, HIV testing history, testing preferences, and medical access characteristics were not significantly associated with interest in or uptake of partner testing services.

Conclusions: Male partner HIV testing has the potential for primary HIV prevention and may be especially critical during pregnancy. Although the majority of low income women in an urban prenatal clinic expressed interest in having their partner tested, uptake of the free HIV testing services was uncommon. A focused assessment of implementation barriers is needed to optimize partner testing and eliminate HIV transmission to mothers and their babies.

Abstract 24

Female sex workers in Kampala, Uganda have a low perceived value of a statistical life

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Background: In sub-Saharan Africa, FSWs charge higher fees for sex without a condom compared to sex with a condom because of the increased demand for and risk of HIV associated with this behavior. We used FSWs' price differential for the provision of condomless sex and their perceptions of HIV risk to measure their perceived value of a statistical life (VSL) (i.e., monetary value associated with an individual life).

Methods: From October-November 2016, we conducted a quantitative survey among 960 FSWs in Kampala, Uganda who had not recently tested for HIV (past three months) and self-reported being HIV uninfected. Participants reported their perceived: risk of HIV acquisition per condomless sex act, risk of death from HIV (if acquired), and prevalence of HIV among clients. Additionally, participants reported the price they charge clients for vaginal sex without a condom and with a condom. To calculate participants' VSL, we divided the price differential for the provision of condomless sex by participants' perceived probability of death per condomless sex act (calculated from their HIV risk measurements).

Results: Participants had a median age of 28 years (IQR 24-32) and charged clients roughly three times more for vaginal sex without a condom (median: \$6 USD, IQR \$3-13) versus with a condom (median: \$2 USD, IQR \$1-3). On average, participants' perceived their risk of HIV acquisition per condomless sex act to be 60% (SD 25%), their loss in expected life expectancy following HIV acquisition to be 17 years (SD 15 years), and the prevalence of HIV among clients to be 70% (SD 21%). Using these values, FSWs' median perceived VSL was \$48.55 USD (IQR \$20.64 - \$110.42) and their mean perceived VSL was \$123.63 USD (SD \$297.50).

Conclusions: FSWs' perceived VSL is very low in Uganda – far below the guideline of 3-times the national GDP per life year (~\$1,800 USD per life year in Uganda). These findings suggest that FSWs in this setting may value their immediate versus future needs; HIV prevention programs targeted at these individuals may have to address these issues to effectively engage FSWs in prevention interventions, such as pre-exposure prophylaxis (PrEP), that require continued use over time.

Abstract 25

Antiretroviral Prescribing Trends in Pregnancy Compared with United States Department of Health and Human Services Perinatal Treatment Guidelines: 2008 – 2017

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Background: The United States (US) Department of Health and Human Services (DHHS) issues guidelines for maternal use of antiretrovirals (ARVs) in pregnancy, providing recommendations that balance risk of HIV transmission with pregnancy safety data. Comparing ARV prescribing patterns with DHHS guidelines may inform future prescribing practices and guideline updates.

Methods: The Pediatrics HIV/AIDS Cohort Study (PHACS) Surveillance Monitoring for ART Toxicities (SMARTT) study dynamic cohort enrolls pregnant women living with HIV (WLHIV) and their infants in the US, including Puerto Rico, to evaluate ARV safety. ARVs prescribed preconception and during pregnancy were abstracted from medical records of women enrolled from January 2008 through June 2017. Maternal eligibility in this analysis required availability of ARV regimens and dates. We applied an algorithm to classify individual ARVs and regimens based on first regimen prescribed in pregnancy and compared this with DHHS perinatal guidelines issued from 2006-2015. Treatment was categorized according to DHHS guidelines as preferred, alternative, special circumstances, not mentioned, insufficient evidence or not recommended. The percent by category was calculated by timing of maternal ARV initiation.

Results: 1,867 pregnancies from 1,582 women with complete ARV prescribing data were included in this analysis. Of these, 790 (42%) pregnancies involved maternal ARVs prescribed prior to conception, 625 (34%) resumption of ARVs in pregnancy, 452 (24%) ARVs first initiated in pregnancy. A higher percentage of pregnancies with first ARV initiation involved DHHS designated preferred or alternative treatment compared to pregnancies with ARV resumption or use at conception (70% vs 53% vs 35% respectively; $p < 0.001$). More pregnancies with ARV use from conception involved ARVs with insufficient safety evidence compared with pregnancies with ARV resumption or initiation (34% vs 25% vs 15% respectively; $p < 0.001$).

Conclusions: Most women starting ARVs during pregnancy were prescribed preferred or alternative regimens. However, those conceiving on or resuming ARVs in pregnancy were more likely to be prescribed ARVs that deviated from DHHS guidelines, commonly receiving regimens with insufficient safety evidence in pregnancy. Overall, 35% of infants in the cohort had in utero exposure to ARVs with unestablished safety profiles, highlighting the importance of long-term safety monitoring.

Abstract 26

Knowledge and acceptability of HIV pre-exposure prophylaxis (PrEP) in pregnant women

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Background: Despite increased risk of HIV acquisition in pregnancy, knowledge and acceptability of PrEP during pregnancy is understudied in high-risk resource-rich settings. We hypothesized that there would be low knowledge, but high acceptability of and interest in PrEP among pregnant women in a high prevalence Washington D.C. (DC) community.

Methods: We conducted an anonymous survey to assess knowledge and acceptability of PrEP in a convenience sample of pregnant women seeking prenatal care at a tertiary care center in DC. The 117-question, previously-validated survey instrument inquired into demographics, risk-taking behaviors, prior awareness of PrEP, and included a 5-minute educational video and post-video perceptions of/interest in PrEP. For this preliminary analysis, we used chi-squared and Fisher's exact tests for categorical variables and t-tests for continuous variables.

Results: 202 HIV-negative, pregnant women completed the survey. Average age was 26.9 years (± 5.6 SD); average gestational age was 6.3 months (± 2.2 SD). The majority were African-American (85.6%), single (53.0%), completed \geq 12th-grade/GED (91.1%), and reported incomes below the federal poverty level (86.0%).

9.0% reported a recent diagnosis of a sexually transmitted infection. 1.5% reported transactional sex. 5% reported sex without condoms with men of unknown HIV status and 2.5% with men with known HIV. Despite recent risk-factors for HIV acquisition in a community with among the highest prevalence in the country, perceived risk was relatively low. 2% perceived their risk of HIV acquisition as "moderate" or "high" during their pregnancy, and 4% and 5% "moderate" or "high" risk for HIV in the next 12 months and in their lifetime.

Only 14% had previously heard of PrEP, however following the video, 67.5% perceived PrEP to be "extremely good" or "somewhat good". Over half responded that they believed PrEP was safe (55%) and effective (54%) in prevention of HIV. Despite low prior knowledge of PrEP and low perceived risk of HIV, 19.5% of participants reported plans to initiate PrEP within the year.

Conclusions: Despite low prior knowledge of PrEP and low perceived risk of HIV, pregnant women in a high-HIV prevalence community reported relatively-high acceptability of PrEP. This study demonstrates high need for additional PrEP and HIV prevention education in this population.

Abstract 27

Modelling cash plus care interventions to prevent HIV among girls of school age in South Africa (HPTN 068)

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Background: Programs to provide cash to individuals through national government grants and cash transfer interventions have had mixed results on sexual behavior and HIV risk in adolescent girls and young women (AGYW). Combining receipt of cash plus other interventions to increase parental support, increase access to school, or provide adolescent sensitive clinic care may have greater impacts on HIV risk behaviors than receipt of cash alone. However, no studies have directly assessed the impact of cash plus care interventions on HIV incidence. We use data from AGYW in South Africa to determine the impact of receipt of the South African Child Support Grant plus increased school attendance, reduced depression, reduced intimate partner violence or increased parental care on HIV incidence.

Methods: We used data from the HIV Prevention Trials Network (HPTN) 068 study in rural South Africa (2011-2015). AGYW aged 13-20 years at enrollment were followed approximately annually for up to 3 years. We use the g-formula to estimate the effect of intervening on each exposure alone in relation to the observed distribution of HIV in a simulated population of 50,000. We then estimated effects on HIV when all girls received the child support grant plus each other exposure.

Results: Living in a household that received a child support grant reduced HIV risk by 1.4% at 4 years (95% Confidence Interval (CI): -1.7%, -1.1%). When pairing cash plus other exposures individually, receipt of a child support grant plus parental care had by far the largest effect on incident HIV infection RD-2.2%; 95% CI: -2.5%, -1.9%).

Conclusions: Pairing receipt of a child support grant with other psychosocial interventions had a greater impact of HIV incidence than receipt of cash alone. Interventions that included receipt of a child support grant and parental care showed the largest reductions in HIV incidence and should be combined in future interventions.

Abstract 28

Factors contributing to PrEP awareness and willingness to start PrEP among African American cis-women in Chicago

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Background: African American women in Chicago are disproportionately affected by HIV, but few are on PrEP. We examined data combined from two surveys that asked urban African American cis-women about their knowledge, attitudes and experiences with PrEP.

Methods: We combined data from the iKNOW study (administered at an emergency department (N=250) or at a Chicago Department of Public Health Sexually Transmitted Infections (STI) clinic (N=120)) with data from a women's health and family planning clinic (N=112). Site effects on independent and dependent variables were examined using multinomial logistic regression. Outcomes of interest were prior knowledge of PrEP, and being positively inclined to start PrEP. Data were analyzed at the bivariate level using chi-square or fishers exact tests. Multivariate logistic models controlling for site included dependent variables that were > 0.2 in bivariate testing. We report odds ratios (OR/aOR) and 95% confidence intervals (CI) controlled for site.

Results: Median respondent age was 28 years, 72.6% lived on the South Side of Chicago, and 85.3% reported vaginal or anal sex within the last 6 months. Respondents at the STI clinic were most likely compared to other sites to have been diagnosed with an STI recently (OR 2.81 95% CI (1.63, 4.82)) as well as most likely to consider themselves at moderate to high risk of acquiring HIV (OR 2.51 (1.25, 5.03)). About a third of participants at each site had prior knowledge of PrEP and no factors were significantly associated with this outcome. In examining positive inclination to start PrEP both a recent STI diagnosis (aOR 2.07 95% CI (1.14, 3.75)) and moderate to high worry about HIV (aOR 2.24 95% CI (1.38, 3.64)) were associated with having a positive inclination to start PrEP soon.

Conclusions: Despite differences in setting, administration, and minor differences in questions, the percentage of women who had heard of PrEP was consistently low across the three sites. The inclusion of data from multiple health care settings allowed us to examine knowledge and attitudes from a range of subjects with different HIV risk profiles, and those who had higher HIV risk profiles were more likely to be positively inclined to start PrEP.

Abstract 29

Food Insecurity and Frailty among Women in the United States

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Background: Frailty is frequently observed among older people living with HIV, and food insecurity is associated with frailty in the general population. Little is known about the associations between food insecurity and frailty among HIV-infected women, who may be particularly vulnerable to the impact of food insecurity with increased age. The goal of this study was to assess associations between food insecurity and frailty among women with or at risk of HIV-infection.

Methods: From 2017-2018, 1324 (900 HIV-seropositive, 424 HIV-seronegative) participants from the Women's Interagency HIV Study participated in the five measures comprising the Fried Frailty Index. Women were subsequently categorized as not frail, pre-frail, or frail. Participants also completed a measure of food insecurity (U.S. Household Food Security Survey Module). Multinomial logistic regression models were conducted to examine cross-sectional associations between food insecurity and frailty after adjusting for socio-demographic, behavioral, and HIV status.

Results: Over one-third (36%) of women were food-insecure, of whom 68% were women living with HIV. In the fully adjusted model including HIV-status, the relative risk (RR) of frailty for women with very low food security was 3.37 times higher than for women with food security (95% CI [1.38 - 8.24], $p < 0.01$), and the corresponding relative risk of pre-frailty was 3.63 (95% CI [1.76 - 7.51], $p < 0.01$). Higher income was associated with lower relative risks of frailty or pre-frailty ($p < 0.01$). Similarly, older age was associated with higher relative risk of frailty (RR=1.06, 95% CI [1.03 - 1.09], $p < 0.001$). Women living with HIV were not more or less at risk for frailty compared to HIV-negative women.

Conclusions: Very low food security was associated with higher risks of being frail or pre-frail among HIV-infected and at-risk women. HIV status was not an issue for frailty. Longitudinal research is needed to investigate directionality and potential mediators, such as stress and poor nutritional status.

Abstract 30

Medicaid beneficiaries with HIV have increased rates of stillbirth and premature birth compared with HIV-negative beneficiaries

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Background: To our knowledge, no study has examined birth outcomes in a nationally representative sample of women with HIV. This study compares stillbirth and prematurity rates between HIV-positive (HIV+) and HIV-negative (HIV-) mothers in the Medicaid program.

Methods: We used 12 years (2001-2012) of Medicaid Analytic eXtract (MAX) data. We included Medicaid claims from the fourteen states with the highest prevalence of HIV: California, Florida, Georgia, Illinois, Louisiana, Massachusetts, Maryland, North Carolina, New Jersey, New York, Ohio, Pennsylvania, Texas, and Virginia. Women with HIV were identified in the claims data using a previously published approach. We used propensity score based, inverse probability weights to adjust for differences between HIV+ and HIV- women. We estimated multivariate logistic regression models for the two outcomes while adjusting for potential confounding variables and clustering at the patient level. Covariates in the model included age group, race, state, year, Medicaid coverage type, basis of eligibility, substance use, rural residence, comorbid conditions, and pregnancy complications (e.g. gestational diabetes).

The study population included women who gave birth from 2001-2012 and were enrolled in a fee-for-service or managed care organization Medicaid plan. 8,660,961 total pregnancies met this criteria, including 53,500 HIV+ and 8,607,461 HIV- pregnancies.

Results: Crude rates of stillbirth and prematurity were higher for HIV+ when compared with HIV- mothers (0.9% vs. 0.7% and 8.2% vs. 6.7%, respectively, both $p < 0.0001$). After adjustment, being HIV+ was significantly associated with both stillbirth (OR: 1.25, 95% CI: 0.96-1.61) and prematurity (OR: 1.089, 95% CI: 1.00-1.19). Marginal mean differences in rates for stillbirth and prematurity were 24.21% and 8.15%, respectively. Black race was a strong independent predictor for both stillbirth and prematurity (OR: 1.65 and 1.63, respectively). Rurality and substance abuse were not associated with either outcome.

Conclusions: In adjusted models, there are large and clinically significant differences in rates of stillbirth and prematurity between HIV+ and HIV- women covered by Medicaid. Reasons for these poor birth outcomes and persistent racial disparities for HIV+ mothers need to be explored. Poor access to primary care, pre-natal care, and non-use of antiretroviral therapies will be examined in further analyses.

Abstract 31

Ethical Challenges and Lessons Learned from Qualitative Research with Low-Income African American Women Living with HIV in the U.S. South

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Background: Ethical engagement of populations unjustly burdened by poor health outcomes in scientific research is a national public health priority for reducing profound health disparities. Low-income African American women living with HIV (WLWH) in the U.S. South encounter heightened marginalization due to the complex intersections of race, gender, poverty, and HIV status, which can sharpen ethical tensions in the context of research process. Thus, ethical research engagement requires attention to the contextual realities of diverse research populations to tailor participant protections to their particular sociocultural context.

Methods: The current study categorizes the ethical dilemmas encountered during a qualitative study focused on the lived experiences of African American WLWH. Semi-structured, in-depth interviews were conducted between 2009 and 2010 with 42 African American WLWH residing in South Carolina. The current analysis applies principles from the Belmont Report—respect for persons, beneficence, and justice—to the interpretation of field notes and observations from the interviews.

Results: In light of participation barriers such as scheduling, lack of transportation and HIV/AIDS stigma (i.e., anticipated and experienced), interviews with 42 participants were conducted in various locations, including: clinics/AIDS service organizations; participants' homes; university office; first author's car; and hospital room. Three case studies reflecting the most salient ethical dilemmas underscore the need for evidence-based research ethics guidance to: 1) document the research vulnerabilities of individuals who experience overlapping marginalization; 2) resolve tensions between scientific goals and ethical duties germane to conducting research responsibly; 3) optimize research participants' preferences and moral capacity to make ethically sound decisions about research engagement; and 4) mitigate investigator biases to avoid stigmatizing, isolating, and disempowering study participants.

Conclusions: Findings suggest that immersive research engagement requires flexibility in response to unexpected ethical challenges particularly when engaging populations with intersecting vulnerabilities. Thus, investigators must be attuned to the safety, confidentiality, and economic needs of study participants in research engagement interactions. The collective experiences and narratives of African American WLWH provide a constructive lens to inform culturally responsive research ethics procedures that acknowledge the social, political, and economic systems that proliferate research vulnerability, and demonstrate respect for women's values and preferences across the research continuum.

Abstract 32

Reduced Self-Efficacy and Perceived Control toward Adherence to Antiretroviral Therapy for Women Living with HIV Entering the Postpartum Period: Prospective Evidence from a Qualitative Analysis

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Background: Women living with HIV (WLH) largely successfully engage in HIV care and adhere to antiretroviral therapy (ART) during pregnancy but many struggle to adhere following delivery, resulting in viral rebound and poor retention in HIV care. Here, we evaluate women's personal agency (self-efficacy and their perceived control) toward adherence to ART and report salient factors influencing these behavioral constructs, an important step for intervention development.

Methods: WLH affiliated to an urban academic care center in Philadelphia completed in-depth interviews in the 3rd trimester of pregnancy, were followed prospectively and had repeat in-depth interviews at 3 to 6 months postpartum to understand how their experience in the perinatal period facilitated or interfered with ART adherence. Codes were developed and applied to all transcripts, and matrices were used to facilitate comparisons across different types of participants.

Results: We completed nineteen interviews: twelve during pregnancy and seven postpartum. Two women were lost to care postpartum and three have not yet reached the 3-6 month postpartum period. The degree of personal agency expressed by participants predicted behavioral outcomes. During pregnancy, WLH displayed a high degree of self-efficacy and perceived control to ART adherence, mostly with the goal of preventing perinatal HIV. Women's strong desire to prevent perinatal HIV helped them cope with social determinants such as housing instability and issues related to mental health and HIV stigma. After delivery, they became susceptible to the negative effects of these social determinants and to postpartum-specific challenges such as demands related to infant care. Indeed, the majority (5/7) of WLH interviewed in the postpartum period displayed a lower degree of personal agency which contributed to their difficulty in consistent adherence. Social support and reminder strategies mitigated barriers to ART adherence.

Conclusions: WLH exhibited lower self-efficacy and perceived control toward ART adherence during the postpartum period. Multi-level interventions providing social support, emphasizing the link between maternal and infant health, and addressing social determinants might help sustain maternal adherence to ART postpartum.

Abstract 33

Structural Vulnerabilities and HIV Risk among Sexual Minority Female Sex Workers (SM-FSW), by Identity and Behavior, in Baltimore, MD

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Background: Research suggests sexual minority female sex workers (SM-FSW) face elevated structural vulnerability and HIV risk compared to their heterosexual counterparts. This study examines the association between sexual minority status, by identity and behavior, and structural vulnerability and HIV risk among a sample of street-based FSW.

Methods: The current study utilizes baseline data from the SAPHIRE Study, a prospective cohort of cis- and transgender-FSW in Baltimore, Maryland, recruited through targeted time-location sampling from April 2016-January 2017. The current analysis focuses on cisgender women. The baseline survey ascertained demographics, substance use, intimate partner violence (IPV), and sex work characteristics. Separate multivariable models were conducted for each vulnerability outcome using self-identity and behaviorally-defined sexual minority status.

Results: Of participants (N=247), 25.5% (n=63) self-identified as a sexual minority by identity (e.g., gay or bisexual), and 8.5% (n=21) reported SM behavior (e.g., same-gender sexual behavior) in the past 3 months. In multivariable logistic regression models, SM status by identity was associated with increased odds of injection drug use, binge drinking, homelessness, physical IPV, and being a minor at sex work entry. SM status by behavior was associated with increased odds of binge drinking, homelessness, ever having a pimp, and being a minor at sex work entry.

Conclusions: The study indicates disproportionate structural vulnerability and heightened HIV risk among SM-FSW, by both identity and behavior, with slight differences in their HIV risk profile. Findings suggest a need for nuanced interventions tailored to these populations.

Abstract 34

Attitudes towards male partner HIV testing among low-income, minority pregnant women and their partners

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Background: Maternal HIV seroconversion during pregnancy is a source of maternal morbidity and major risk factor for maternal to child HIV transmission. Primary prevention of maternal seroconversion requires knowledge of the HIV status of sexual partners, but testing rates, particularly among urban minority heterosexual males, remain low. We implemented a quality improvement program offering free male partner HIV testing in a low-income urban prenatal clinic but had poor uptake of testing. This study was initiated to understand the attitudes of pregnant women and their partners surrounding partner HIV testing.

Methods: This is a qualitative study of non-Hispanic black and Hispanic pregnant women receiving publicly funded prenatal care in a large urban hospital located in a high HIV prevalence area and their partners. All English-speaking pregnant women and their partners were eligible for individual interviews about HIV testing. Semi-structured interview guides were used to elicit participant attitudes. Analysis was organized by whether participants desired or declined partner HIV testing. De-identified transcripts were analyzed using the constant comparative method to determine themes and subthemes. Individuals were recruited until analysis achieved saturation.

Results: Of 45 total participants, 26 were pregnant women and 19 were male partners of female participants. Two-thirds of participants (18 women, 12 men) desired male partner HIV testing. Reasons for desiring or declining HIV testing aligned within three themes within each patient type: risk perception, logistical, and testing history. Subthemes were organized by male and female participant preferences. For example, female reasons for desiring test included fetal safety, knowledge of partner's outside relationships, easy availability, and lack of recent male test. One cross-cutting theme was of the pregnant woman taking responsibility for the health of the family, which could serve as either a motivator to test (e.g. male willingness to test due to female request) or reason to decline (e.g. male perception that female test confirmed his negative status).

Conclusions: Pregnant women are often the linchpin of prevention of horizontal and vertical HIV transmission in the family unit. These data inform strategies to engage pregnant women and their partners in high prevalence areas to improve implementation of partner HIV testing in the prenatal setting.

Abstract 35

Types of Stigma Affecting Decisions about PrEP for Black Transgender Women in Chicago

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Background: Stigma manifests both overtly and discretely as acts of verbal, emotional, or physical violence that seek to harm minority-identified individuals. Stigma is a leading contributor to health disparities including increased HIV vulnerability among minority communities; Black transgender women (BTW), who are highly impacted by HIV, are especially affected by stigma due to intersectional minority identities (i.e., racial/ethnic, gender, and sometimes sexual minorities). Stigma affecting BTW includes racial/ethnic-, gender-, transgender-, HIV and PrEP-based stigma. These stigmas lead BTW to additionally experience stigma prospectively in the form of anticipated stigma. BTW are especially likely to face anticipated stigma in settings, including healthcare practices, where they have experienced stigma before. Here, we use the social ecological model (SEM) to understand the multiple levels at which stigma takes place – the individual, interpersonal, organizational, community, and policy levels – and how each contributes to decisions about PrEP.

Methods: Semi-structured interviews (n=24) and two focus groups (n=14) were conducted with BTW between 2016-2017. Participants were asked about discrimination in the community, healthcare experiences, patient-provider relationships, discussions about HIV pre-exposure prophylaxis (PrEP), and making decisions about PrEP with their healthcare provider. We used a modified SEM as a framework to organize participant responses.

Results: Using a modified SEM, we found that our participants face both experienced and anticipated stigma at multiple levels: individual, social network, community/ organizational, and policy. SEM recognizes a person's lived experiences as situated within a complex web of individual, social, organizational, and structural factors. This approach reveals that experienced and perceived stigma are endured by BTW not just individually but also across myriad levels so as to produce a composite effect with adverse health outcomes. We demonstrate that stigma within healthcare settings, PrEP-related stigma, and stigma directed at BTW appearance/ passing and identity are particularly detrimental to engaging in decisions about PrEP with their healthcare provider.

Conclusions: Recognizing and valuing BTW's lived experience with stigma is essential for understanding the social and structural factors that contribute to decision-making about PrEP within the BTW community and reducing HIV-related healthcare disparities.

Abstract 36

“Kuwapa tumaini kwa maisha/Giving them hope on life”: Perspectives from community-embedded peer educators on barriers and facilitators to HIV, hepatitis C and addiction care among women who inject drugs in Nairobi, Kenya

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Background: In Kenya, people who inject drugs (PWID) disproportionately contribute to the HIV/AIDS epidemic, with higher HIV prevalence in women (>40%) compared to men (15-20%) who inject drugs. Support for Addictions Prevention and Treatment in Africa (SAPTA), a non-profit organization, coordinates HIV, hepatitis C (HCV), and addiction services through trained peer educators who are former PWID. Through qualitative inquiry, this study characterizes (1) unique HIV/HCV risks among women who inject drugs (WWID) and (2) barriers/facilitators to accessing HIV, HCV and addiction care in Nairobi, Kenya.

Methods: Semi-structured in-depth interviews (IDI, n=20) and focus groups discussions (FGD, n=2) were conducted from November-December 2017 with male and female peer educators. Purposive sampling techniques allowed for oversampling of female peer educators from two SAPTA sites. IDI and FGD were conducted in Swahili and translated to English, ranging from 25-45 minutes and 65-110 minutes, respectively. Female-specific themes emerged during early study discussions, prompting a thematic analysis using Theory of Gender and Power and Modified Social Ecological Model as underlying frameworks.

Results: Average participant age was 37 years, with female representation in IDI (30%) and FGD (35%). Peer educators characterize WWID as having unique risks for HIV/HCV acquisition and transmission via survival mechanisms like sex work, transactional sex, and needle-sharing to avoid *roosto* (withdrawal symptoms). Physical and sexual violence perpetuate drug use and increase HIV/HCV risk among WWID. Barriers to HIV, HCV and addiction services include poor mental health, stigma, lack of integrated medical services and absence of daily necessities (e.g., housing, food, shelter). Poor mental health was attributed to (a) violent experiences through sex work, intimate partners, police and/or community members and (b) the inability to care for their children. Facilitators to care include convenient and low-cost services, family support, child reunification, non-judgmental healthcare providers, and positive reinforcement from peer educators.

Conclusion: Peer educators who serve WWID offer unique perspectives on HIV/HCV risks and healthcare access, through lived experiences and intimate knowledge of community needs. Findings highlight strategies to improve services for WWID, including low-cost interventions that promote education, safety and health using a multidisciplinary, multisectoral approach to address HIV, HCV and addiction care.

Abstract 37

HIV Treatment Adherence among Pregnant and Postpartum Women in Cape Town, South Africa: Using Transition Theory to Analyze Longitudinal Qualitative Data

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Background: In South Africa (SA), one third of pregnant women attending public clinics are HIV positive. While universal antiretroviral therapy (ART) eligibility has been widely adopted, there is major concern about disengagement from care postpartum (the postpartum “cliff” of the HIV care cascade) after mothers transfer from antenatal clinics to regular adult HIV care and the ability of women to adjust to lifelong treatment for new initiators. We investigated the multiple critical transitions during pregnancy and postpartum that may lead to suboptimal treatment adherence.

Methods: As part of an ongoing longitudinal qualitative cohort in Cape Town, SA, we conducted in-depth interviews with women during pregnancy and again at 6-8 weeks postpartum. Guided by Transition Theory, interview agendas elucidated participants’ experiences of pregnancy and postpartum and changes that occurred during this time. Data were analyzed qualitatively both across participants at each time point and within participants across time.

Results: Thirty pregnant women living with HIV and on ART enrolled in the study and 26 (86%) completed follow-up at 6-8 weeks postpartum. Self-reported adherence on the Visual Analog Scale was high during pregnancy (M=92.9%, SD=10.8) and at 6-8 weeks postpartum (M=91.9%, SD=10.9). Most women seem to have successfully transitioned, at least in terms of the initial transition from pregnancy to early postpartum. Factors that appeared to facilitate this transition include supportive partners and families during pregnancy and postpartum and a sense of preparation during pregnancy. Factors that seemed to inhibit successful transition include unsupportive partners or a change in partner support from pregnancy to postpartum and lack of financial support.

Conclusions: In our cohort, participants’ successful motherhood transition from pregnancy to early postpartum may have contributed to consistent ART adherence and engagement in care, at least at 6-8 weeks postpartum. Additional transitions in the postpartum period had not yet occurred for most women including transfer from antenatal clinics to adult care, infant HIV testing/results and transitioning back to work. Analysis of these cohort data is ongoing and findings from the 6-12 month postpartum period will provide further insight into successes and challenges for how these women experience the postpartum cliff.

Abstract 38

Misperceptions about recent HIV testing among women and men: a population-based study of sex differences and social norms in rural southwestern Uganda

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Background: Previous research has suggested that misperceived social norms about getting tested for HIV may be an important predictor of never getting tested. However, the extent to which sex differences exist in accuracy of perceived norms about recent HIV testing among men and women is unknown.

Methods: This study assessed whether 1628 adults across 8 villages in rural southwest Uganda reported being tested for HIV within the past 12 months and measured their perceptions about the prevalence of such testing among men and women in their village. The actual prevalence of recent HIV testing by sex and village was aggregated from self-reports. If more than 50% reported having been tested, then recent testing was considered to be the actual norm.

Results: The majority of women (59-76%) and the majority of men (52-66%) in every village reported having been tested for HIV in the past 12 months. However, women on average estimated that only 32% of women in their village had been tested recently whereas men on average estimated that 37% of women had been tested ($p < .001$). Similarly, women on average estimated that only 19% of men in their village had been tested recently whereas men on average estimated that 27% of men had been tested ($p < .001$). Overall, 81% of women vs. 75% of men erroneously perceived HIV testing within the past 12 months as not the norm for women in their village despite it being the norm ($p = .005$). Likewise, 94% of women vs. 89% of men misperceived it as not the norm for men in their village ($p < .001$). These misperceptions were present across sociodemographic categories.

Conclusions: Despite routine antenatal care including free HIV testing in Uganda, many women (as well as men) underestimate the prevalence of getting tested for HIV within the past 12 months and do not realize that it is actually a typical behavior among adults in their village. Communicating locally accurate information about the commonness of recent HIV testing as part of HIV prevention programs might be a novel way to increase uptake of yearly testing, reduce stigma, and decrease silence between partners around getting tested for HIV.

Abstract 39

Perspectives on Pre-Exposure Prophylaxis among Women in an Opiate Intervention Court Program

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Background: Intersecting with women's rising representation in opioid use disorders is their increasing presence in the justice system and related risk behaviors for HIV infection. There is growing concern that the opioid and HIV epidemic paths could converge to disrupt recent trends in decreased HIV incidence, particularly among women. Few studies have qualitatively examined HIV prevention, including pre-exposure prophylaxis (PrEP), from the perspective of female opioid users within the criminal justice system.

Methods: To better understand HIV risk trajectories, we conducted semi-structured interviews with women recruited from a specialized drug court. The specific aims were to gain greater understanding of PrEP knowledge, attitudes, and perceptions for personal and partner use. We enrolled English-speaking women in an Opioid Intervention Court, a judicially-supervised triage program linking participants with behavioral and medication-assisted treatment upon an opiate-related arrest. Interviews (N=21) were audio-recorded, transcribed, and coded by a multidisciplinary qualitative analytic team using thematic content analysis.

Results: The sample was primarily heterosexual (71%) or bisexual (24%) women with a mean age of 31.3 (SD=7.9). One-third reported chlamydia and/or gonorrhea diagnoses and 67% reported Hepatitis C diagnosis. Most women (57%) were aware of PrEP conceptually, though knowledge regarding its use, access, and efficacy was limited. Three themes emerged regarding PrEP uptake. First, women reported low perceived risk for HIV transmission related to either sexual inactivity or discontinuation of substance use. Second, women described multiple scenarios that would facilitate PrEP initiation (e.g., condomless sex with new/multiple partners, relapse/return to injecting drug use, reengagement in commercial sex work). Third, women were moderately supportive of PrEP use by sexual partners (e.g., indication of partner infidelity or partner engagement in high-risk substance use or sexual behaviors).

Conclusions: Participants reported rates of bacterial STIs and Hepatitis C higher than the general population, indicating increased HIV risk. They described PrEP interest and motivation for use, impacted by various factors influencing the decision to initiate PrEP or comfort with partner use. Findings provide meaningful insight for the development of future programming efforts to optimize PrEP uptake among women opioid users. This is of particular interest, given the increased HIV risk for women in the criminal justice system.

Abstract 40

Acceptability of a Salon-Based Intervention to Promote the Awareness and Uptake of Pre-exposure Prophylaxis (PrEP) among Black women living in the United States South

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Background: Black women face a disproportionate HIV burden, comprising only 13% of US women but accounting for nearly two-thirds (64%) of new HIV infections. Pre-exposure Prophylaxis (PrEP) is a biomedical prevention tool that has been shown to reduce the risk of HIV infection by up to 92% in people who are at high risk. However, awareness and uptake of PrEP among Black women is substantially lower than other at-risk groups. Social connections have been proven to affect physical health and interventions that target social networks enhance effectiveness, sustainability and reach to those most in need. The purpose of this study was to assess acceptability of and preferences for a salon-based intervention to promote awareness and uptake of PrEP among Black women. We explored the influence of social networks of women in beauty salons in promoting awareness and uptake of PrEP.

Methods: In this qualitative study, we conducted 6 focus groups: 3 with stylists from Black serving salons (n=23) and 3 with Black women clients (n=24). We also conducted individual interviews with salon owners who served primarily Black women customers (n=6). Theory-guided focus group questions were used to explore participants' beliefs, interests, and preferences associated with the proposed intervention.

Results: Across all subgroups, participants were supportive of a salon-based intervention to promote awareness and uptake of PrEP among Black women, citing reasons such as the common health discussions in salons and the belief that, with proper training, stylists could deliver PrEP information to their clients. Stylists would benefit from courses that provided continuing credit education approved by the State Board of Cosmetology. Women could share PrEP information with other women in their social networks. Stylist focus groups focused more heavily on content-related issues, such as specific information and delivery mechanisms to be used.

Conclusions: The findings from this study offer encouragement and important groundwork for the development of a multi-level, salon-based intervention to promote awareness and uptake of PrEP among Black women in the US south. The use of trusted venues to promote the uptake of PrEP through networks of women also has the potential to have a widespread reach.

Abstract 41

Pre-exposure prophylaxis (PrEP) indication, use, adherence, and experiences among transgender women in a multisite cohort of eastern and southern US cities: Interim findings from LITE, 2019

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Background: Transgender women (TW) in the US are disproportionately burdened by HIV. Effective and acceptable prevention interventions are needed, such as pre-exposure prophylaxis (PrEP). LITE is a multi-site cohort of TW across eastern and southern US cities assessing HIV acquisition. This analysis aims to describe baseline PrEP use, adherence, and experiences among TW enrolled to-date.

Methods: Adult TW are recruited and enrolled into a baseline cohort screening visit in-person in six cities or online in more than 50 eastern and southern cities. Participants complete a socio-behavioral survey (English or Spanish), HIV screening with confirmatory testing referrals, and STI testing (gonorrhea, Chlamydia, syphilis). HIV-uninfected participants who meet behavioral risk criteria are eligible to participate in the prospective cohort, which includes app-based surveys, HIV tests every 3 months, and STI testing at 12 and 24 months.

Results: Enrollment for the in-person cohort launched in March 2018 and in January 2019 for the online cohort. As of June 2019, 1,125 TW completed a baseline visit (70% in-person, 30% online). Of these 21% were living with HIV and 857 continued into the HIV-uninfected cohort. Among baseline HIV-uninfected participants, 41% met modified CDC indications for PrEP: 11% laboratory-confirmed STI, 26% last act condomless receptive anal sex, 2% HIV-infected partner, 20% sex work in last 3 months. Of those PrEP indicated, 24% reported PrEP use within the last 30 days (13% of all HIV-uninfected TW) and 6% reported PrEP within the last 3 months. 65% of current PrEP users reported adherence based on zero missed doses in the prior 7 days. Reported experiences among 208 who reported lifetime PrEP use included: 39% daily medication dislike, 37% side effects, 37% perceived promiscuity, 30% perceived low HIV risk, 30% partner unwillingness to use condoms, 24% dislike clinical visits/testing.

Conclusions: Almost half of HIV-uninfected TW in this study met clinical indications for PrEP, but current use was low. Findings highlight the need to address concerns about PrEP and investigate demand generation and distribution for this population. Monitoring of PrEP use over time among cohort participants will provide insight into PrEP use patterns and adherence among TW in the U.S.

Abstract 42

“When you walk in the door, it’s all about you”: Perspectives of U.S. Women Living with HIV on the Quality of Care they Desire and Receive

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Background: Ending the HIV epidemic in the U.S. requires that women living with HIV (WLWH) have the ability and appropriate conditions to engage in regular HIV and related health care, with attention to their needs and preferences in the face of unique social and structural challenges. Existing literature documents many reasons why WLWH may not regularly engage in health care. However, women’s perspectives on the quality of care that they desire and receive are understudied.

Methods: We conducted twelve focus groups and three in-depth interviews with minority WLWH enrolled in the Women’s Interagency HIV Study in Atlanta, Birmingham, Brooklyn, Chapel Hill, Chicago, and Jackson from November 2017 to May 2018. We used a semi-structured format to facilitate conversations about satisfaction and dissatisfaction with prior health care engagement experiences, and suggestions for the future, that were audio-recorded, transcribed verbatim, and coded using thematic analysis.

Results: Study participants (n=92) largely identified as Black (90%) and non-Hispanic or Latina (89%). The majority were diagnosed with HIV over 10 years prior (65%), were over 50 years of age (57%), and earned \$1000 or less monthly (53%). Women shared varying degrees of satisfaction with the health care that they receive. Several salient quality of care factors emerged as potential drivers of women’s health care satisfaction or dissatisfaction at the provider, clinic and systems levels. Women’s care satisfaction was described as driven by the degree to which providers treat women equitably and respectfully; are consistently attentive and available during scheduled visits; are accessible outside of clinic appointments via phone or walk-in; and are willing to listen to and address women’s personal care needs and preferences. Women were concerned with the extent to which health clinics and systems optimize patient flow, protect patient privacy, coordinate care across specialties, avoid unnecessary or excessive care, and aid in the achievement of improved or maintained health. Participants described situations where care dissatisfaction adversely affected their engagement in care.

Conclusions: Findings highlight aspects of health care that matter to WLWH across key domains of quality of care (effectiveness, efficiency, equity, patient-centeredness, and timeliness), the improvement which may aid in fostering regular care engagement

Abstract 43

The influence of male partners on young women's PrEP use in Siaya County, Kenya: a qualitative formative study

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Background: Oral pre-exposure prophylaxis (PrEP) has the potential to reduce HIV acquisition among adolescent girls and young women (AGYW) in sub-Saharan Africa. However, violence and opposition from male partners may create significant challenges to PrEP use. To inform the design of an intervention to increase PrEP uptake and adherence among AGYW, this study sought to understand how male partners influence PrEP use and to solicit recommendations to reduce violence and build male partner support.

Methods: Using techniques such as storytelling and drawing, we conducted in-depth interviews with 24 DREAMS participants aged 15-24 in Siaya County, Kenya. Half of participants had previously reported violence to DREAMS staff, and 15 had used PrEP. A socio-ecological framework was used in analysis to identify themes to inform intervention development.

Results: Nearly all participants attributed their decision to use or refuse PrEP to their male partners. Among PrEP users, about half said their partner's support was central to adherence. Four more used PrEP despite their partner's disapproval, hiding their pills to avoid violence, while three discontinued PrEP due to partner opposition. Many non-users feared that PrEP use would incite violence from their partners, or reported that their partners had forbidden it outright. When asked how DREAMS can help AGYW use PrEP, two-thirds suggested strategies to directly educate men about PrEP, either together with their female partners or in male-dominated settings. Participants recommended having male staff deliver this education to increase its credibility. They also called for strategies to help AGYW talk about PrEP with their partners, including skills-building and provision of materials to initiate the discussion. Finally, participants requested support with strategies to use PrEP without partner knowledge, and alternative packaging or delivery routes to facilitate discreet use.

Conclusions: Male partners had a strong influence over AGYW's decision and ability to use PrEP, and AGYW faced challenges in winning partner support on their own. To increase PrEP uptake and adherence, interventions should address these challenges by providing education targeted towards men and couples as well as counseling to support AGYW in deciding whether to disclose PrEP use and/or how to gain their partner's approval.

Abstract 44

Sexual Behavior, HIV Risk and Attitudes about Microbicide/PrEP Use during Pregnancy and Breastfeeding: A Multisite Qualitative Evaluation in Africa

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Background: Pregnant and breastfeeding (P/BF) women in sub-Saharan Africa are at heightened risk of HIV acquisition and perinatal transmission due to biological and behavioral factors. In preparation for phase 3b prevention trials with P/BF women, we explored perceptions of HIV risk and attitudes about the use of two prevention methods, a microbicide vaginal ring and oral PrEP, among potential users in Malawi, South Africa, Uganda and Zimbabwe.

Methods: We conducted 16 focus group discussions (FGDs) with two community-recruited groups: HIV-uninfected women aged 18-40 (8 FGDs; 2 per country), who were currently or recently P/BF, and men aged 18+ (8 FGDs; 2 per country) whose female partner was currently or recently P/BF. Participants completed a behavioral questionnaire, viewed an educational video and handled placebo products. Audio files were transcribed and translated into English, coded in Dedoose using a socio-ecological framework and analyzed thematically.

Results: Women (median age 26) and men (median age 30) deemed pregnancy and breastfeeding as times of high HIV transmission risk primarily because male partners have multiple concurrent sexual partners (MCP) during these times. MCP follow from beliefs that sex may harm the baby, perceptions that P/BF women have lower libido, and from culturally prescribed periods of abstinence during P/BF; indeed, 69% of women and 60% of men reported sexual abstinence with their partner during at least one trimester of pregnancy. These periods of abstinence for women encourage men to seek other partners, a behavior that is consistent with cultural norms and corroborated by 47% of pregnant participants. Participants also expressed that a weakened immune system during P/BF augments HIV transmission risk. Despite concern about side effects and potential effects on the baby, new prevention options were seen as valuable during P/BF, particularly given men's reluctance to use condoms and to test for HIV.

Conclusions: Understanding the unique risk profile of P/BF women will inform strategies to engage this at-risk population in future HIV prevention research. Involving partners in product sensitization efforts may help to recruit and retain P/BF women in future trials. Messaging should address the important cultural beliefs regarding sexual practices and their potential impact on product use during P/BF.



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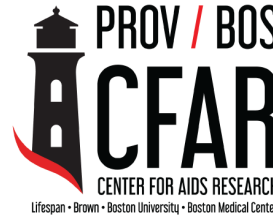


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