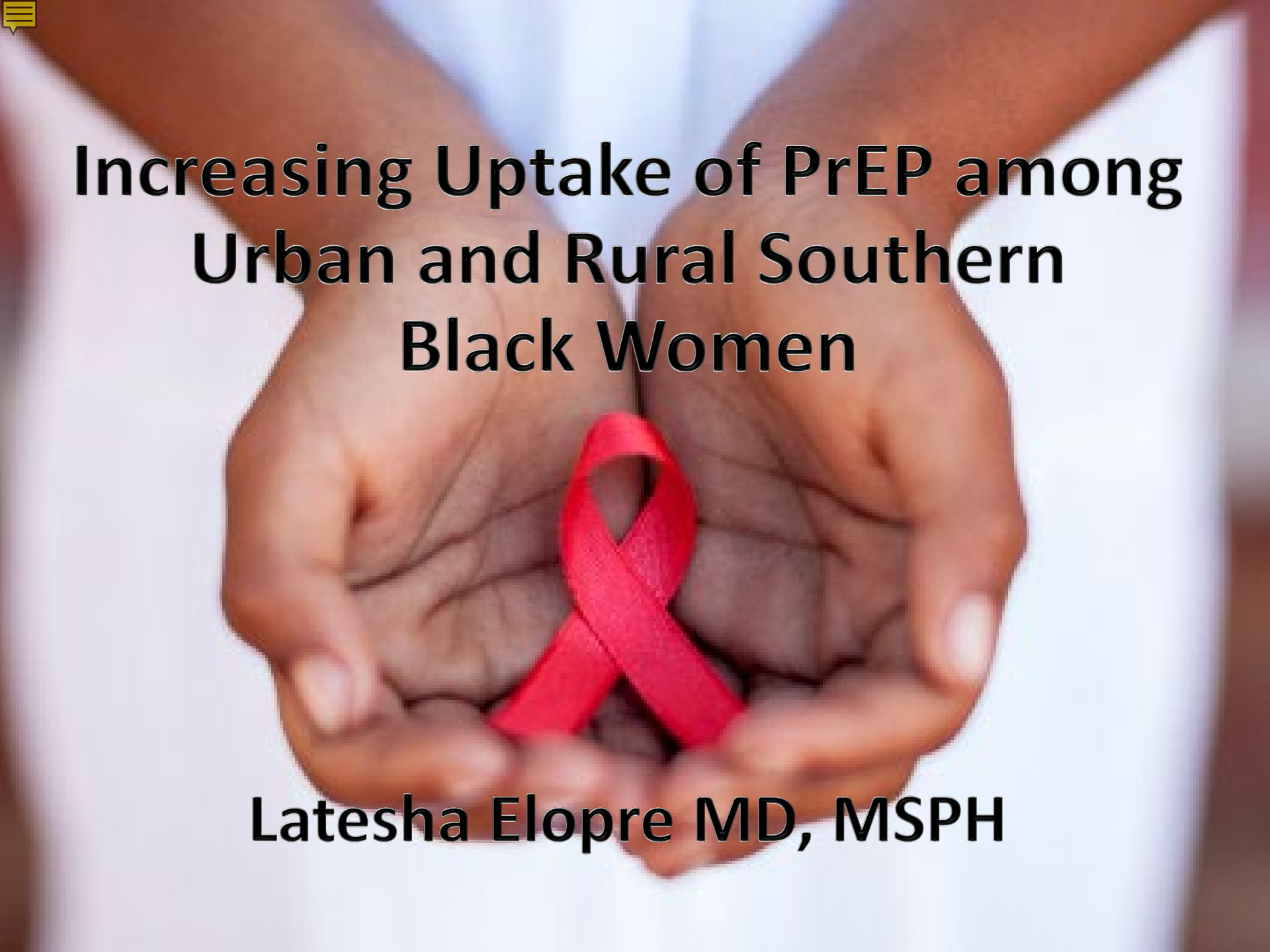

Increasing Uptake of PrEP among Urban and Rural Southern Black Women

Latesha Elopre MD, MSPH

Disclosures

Federal Grants/Funding

- NIH/NIMH 1K23MH112417-01 (Elopre PI)
- Robert Wood Johnson Foundation, Harold Amos Scholar (Elpore PI)
- Gilead

Contracts/Consultation

- MedIQ

Objectives

- Understand the indications for PrEP for heterosexual women
- Evaluate the disparate uptake of PrEP based on race/ethnicity and potential for augmented HIV health disparities
- Review the literature to understand barriers for uptake of PrEP among black women in urban and rural areas

Domestic HIV Epicenter: US Deep South

National HIV/AIDS Strategy: (Right: People, Places, Practices)

- **Black women**
- **Deep South**
- **Biomedical prevention**

CDC HIV in the Southern United States

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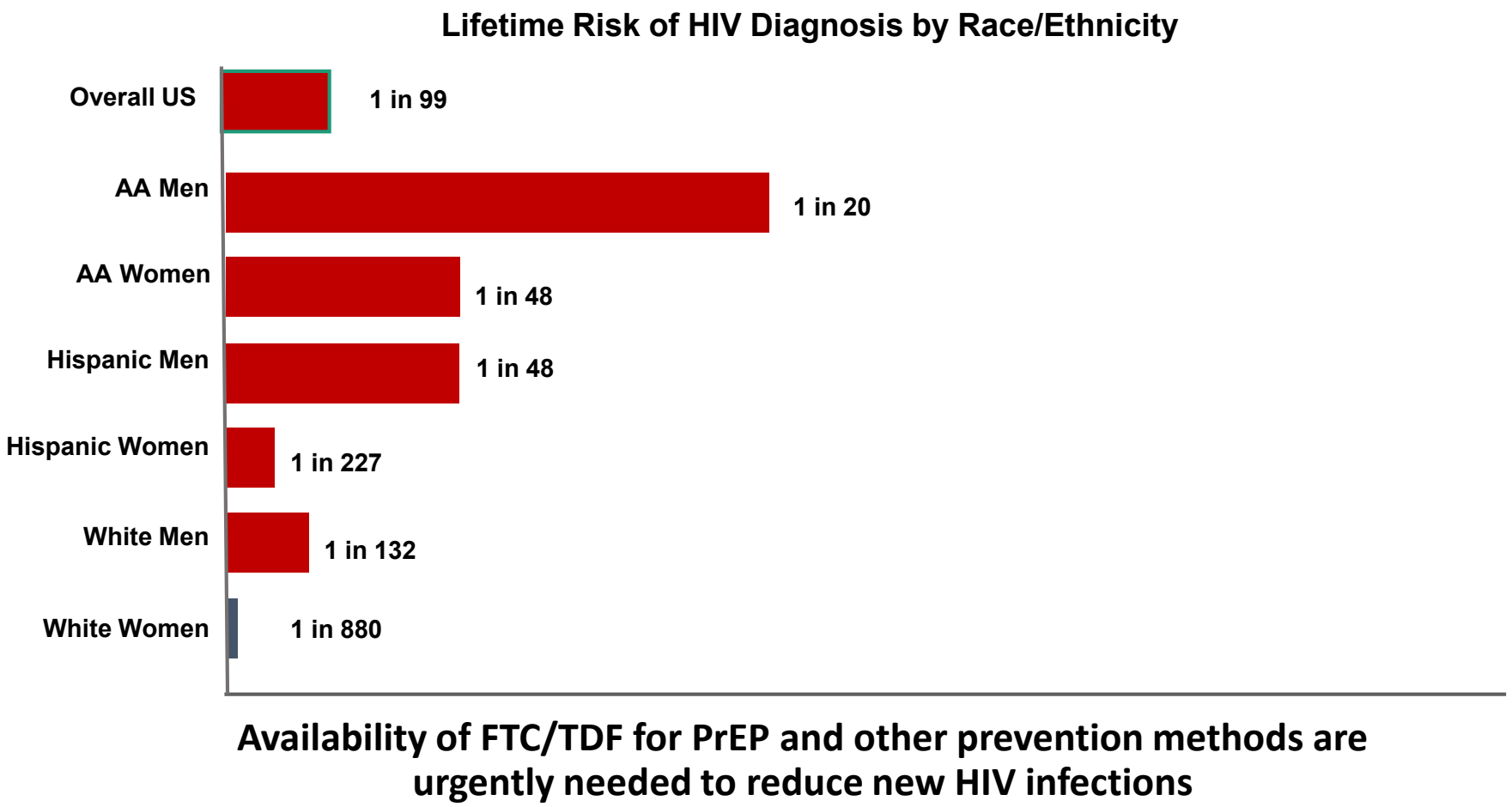
CDC HIV in the Southern United States

African-Americans Have the Highest Lifetime Risk of HIV Diagnosis



Availability of FTC/TDF for PrEP and other prevention methods are urgently needed to reduce new HIV infections

Bush S, et al. ASM/ICAAC 2016; Boston, MA. #2651
http://www.cdc.gov/nchhstp/newsroom/images/2016/croi_lifetime_risk_race_ethnicity.jpg

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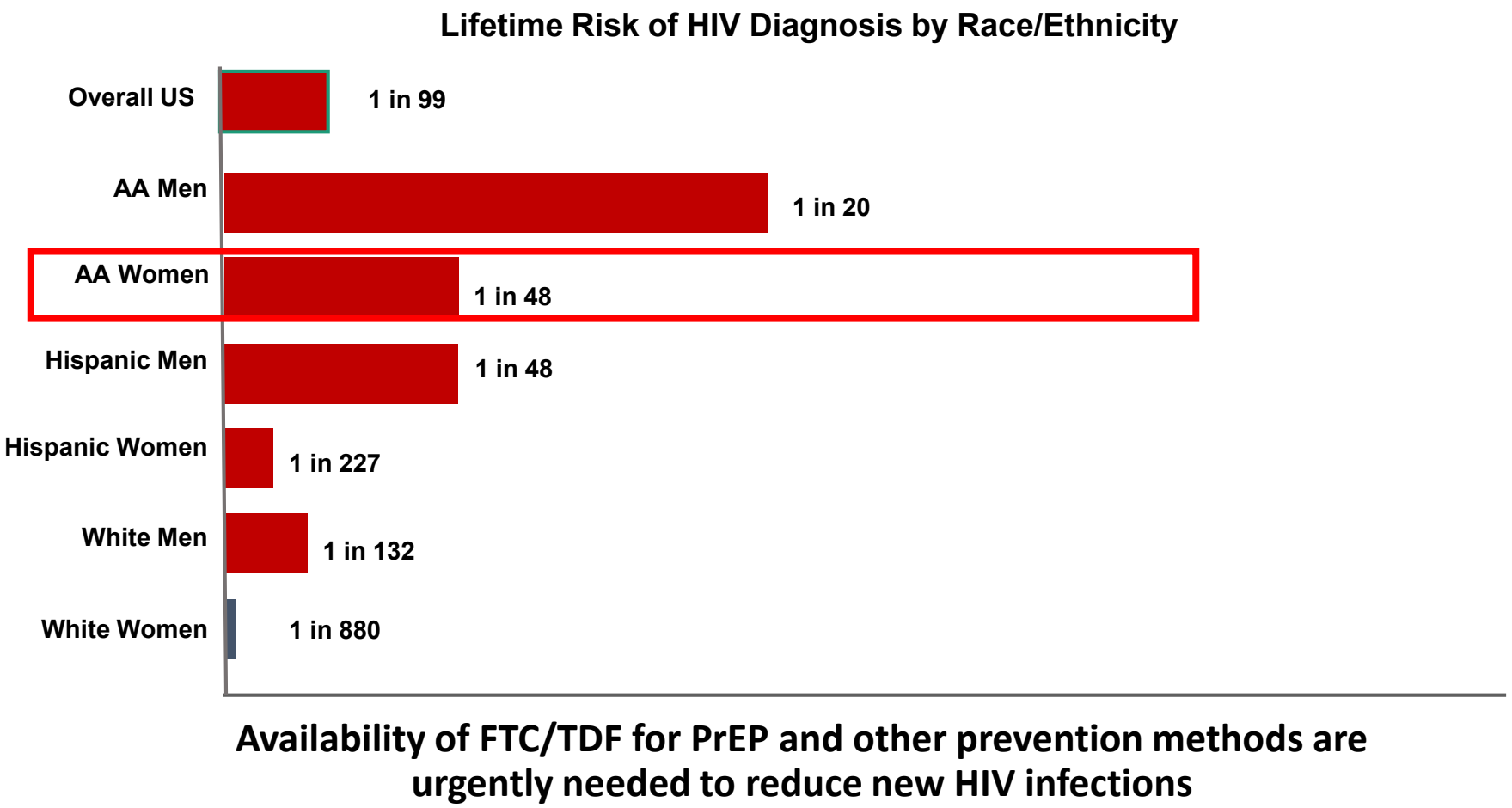

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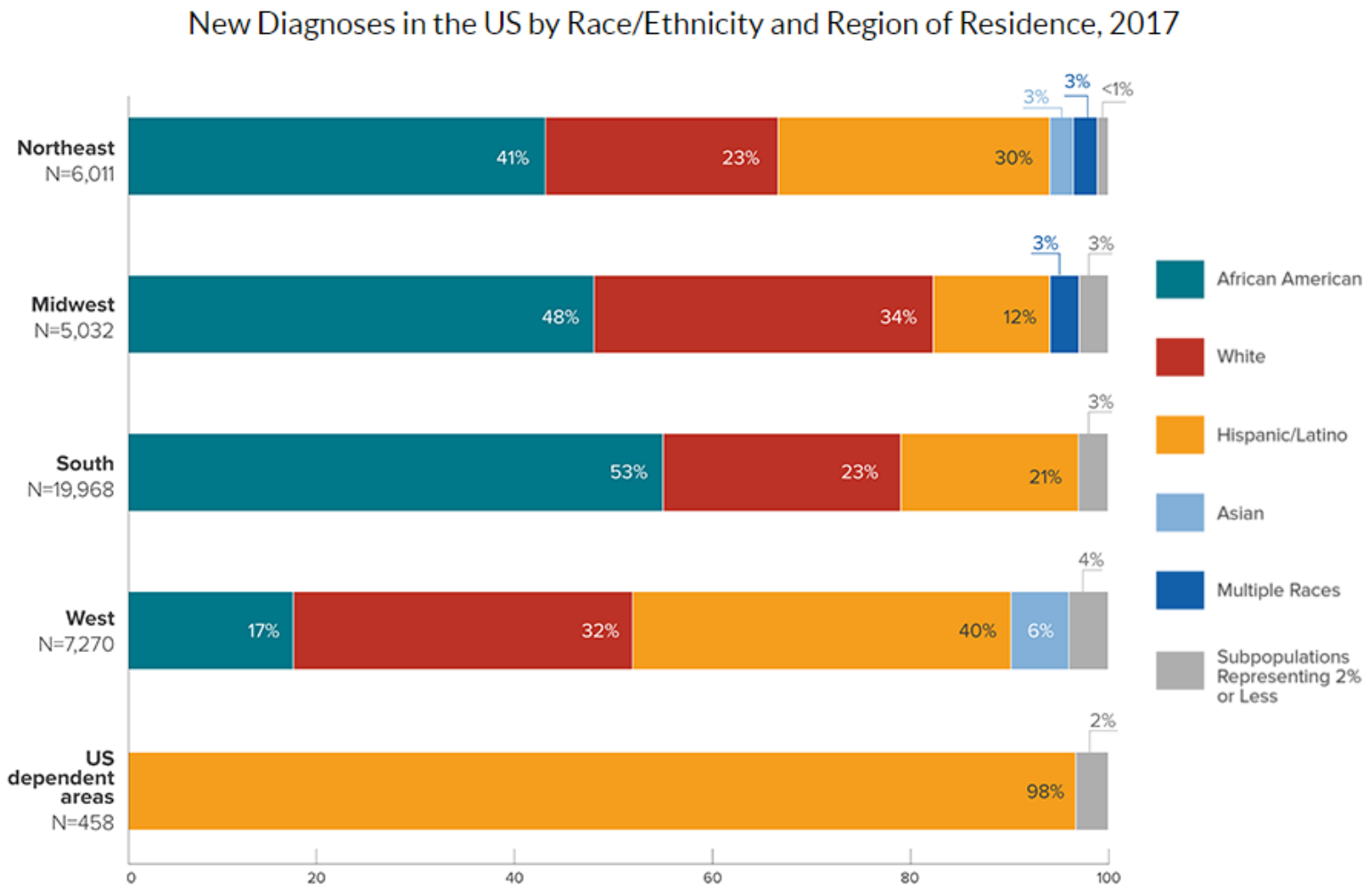
HIV in the Southern U.S.



CDC HIV Surveillance Report 2018

HIV Pre-Exposure Prophylaxis (PrEP)

- Approved July 2012 by FDA
- Tenofovir disoproxyl fumarate (TDF) and emtricitabine (FTC)
- 92% efficacy with consistent use

Estimated Number of Adults Who Could Benefit from PrEP, 2015

	Gay, bisexual, or other men who have sex with men	Heterosexually active adults	Persons who inject drugs	Total by race/ethnicity
Black/African American, non-Hispanic	309,190	164,660	26,490	500,340
Hispanic/Latino	220,760	46,580	14,920	282,260
White, non-Hispanic	238,670	36,540	28,020	303,230
Total who could potentially benefit from PrEP	**813,970**	**258,080**	**72,510**	**1,144,550**

Notes: PrEP=pre-exposure prophylaxis; data for "other race/ethnicity" are not shown

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

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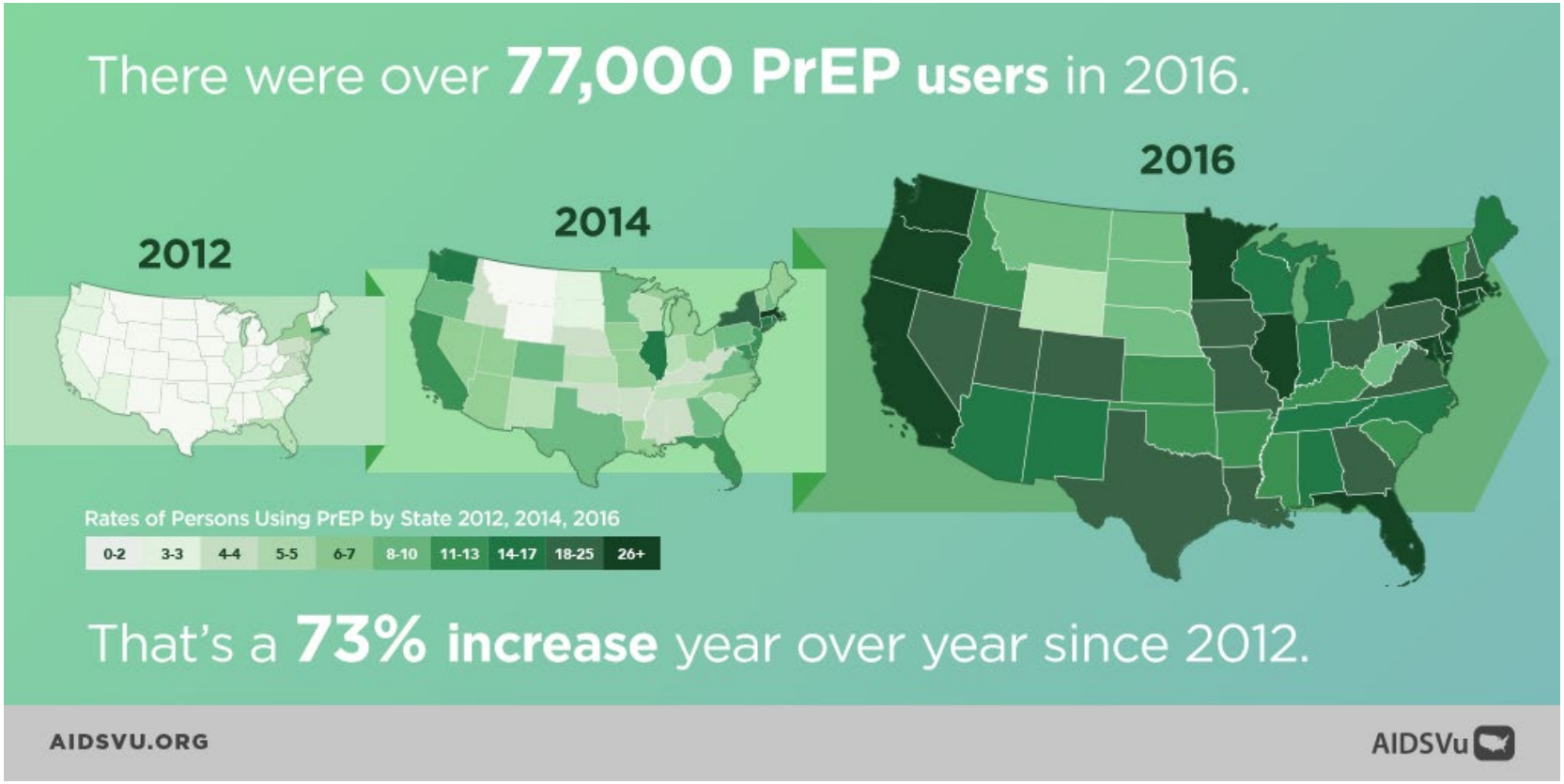
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Increase in PrEP Prescriptions in the U.S.



Disparate Utilization and Prescription of PrEP

of people who could potentially benefit from PrEP are **African American – approximately 500,000 people**…

…but only **1%** of those – **7,000 African Americans** – were prescribed PrEP*

of people who could potentially benefit from PrEP are **Latino – nearly 300,000 people**…

…but only **3%** of those – **7,600 Latinos** – were prescribed PrEP*

Smith et al. MMWR 2015
Smith et al. CID 2018

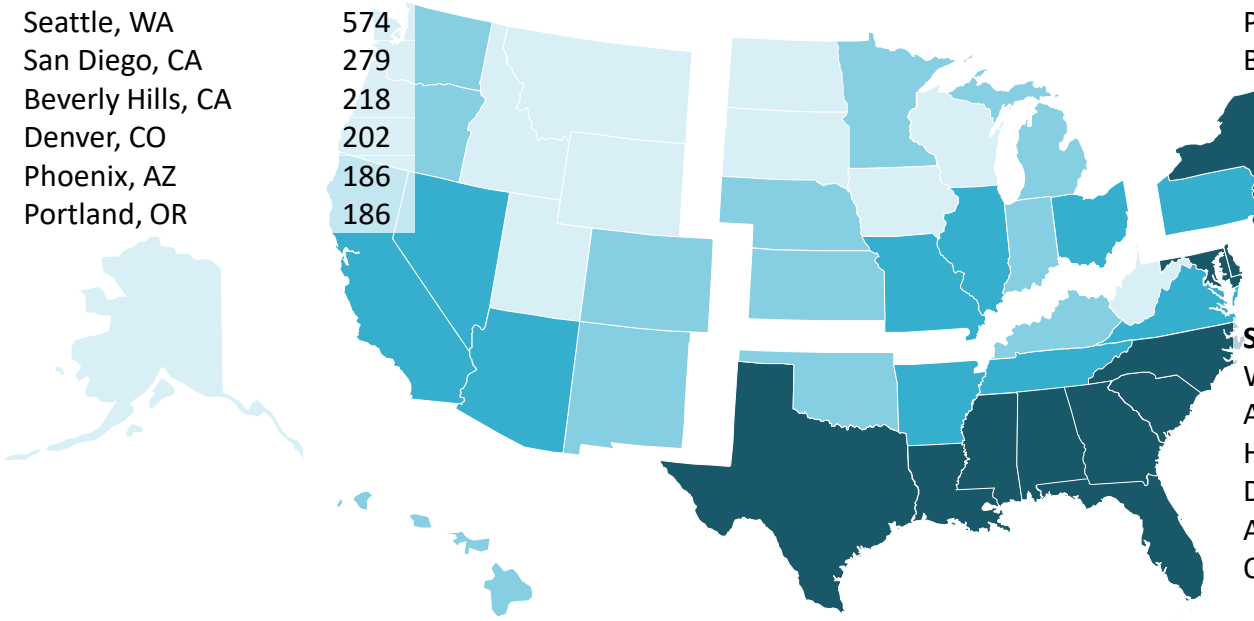
Top 20 US Cities with PrEP Use (2015)

Total Number of Individuals Prescribed FTC/TDF for PrEP in 2015

West	
San Francisco, CA	1094
Los Angeles, CA	660
Seattle, WA	574
San Diego, CA	279
Beverly Hills, CA	218
Denver, CO	202
Phoenix, AZ	186
Portland, OR	186

Midwest	
Chicago, IL	1001
Minneapolis, MN	378

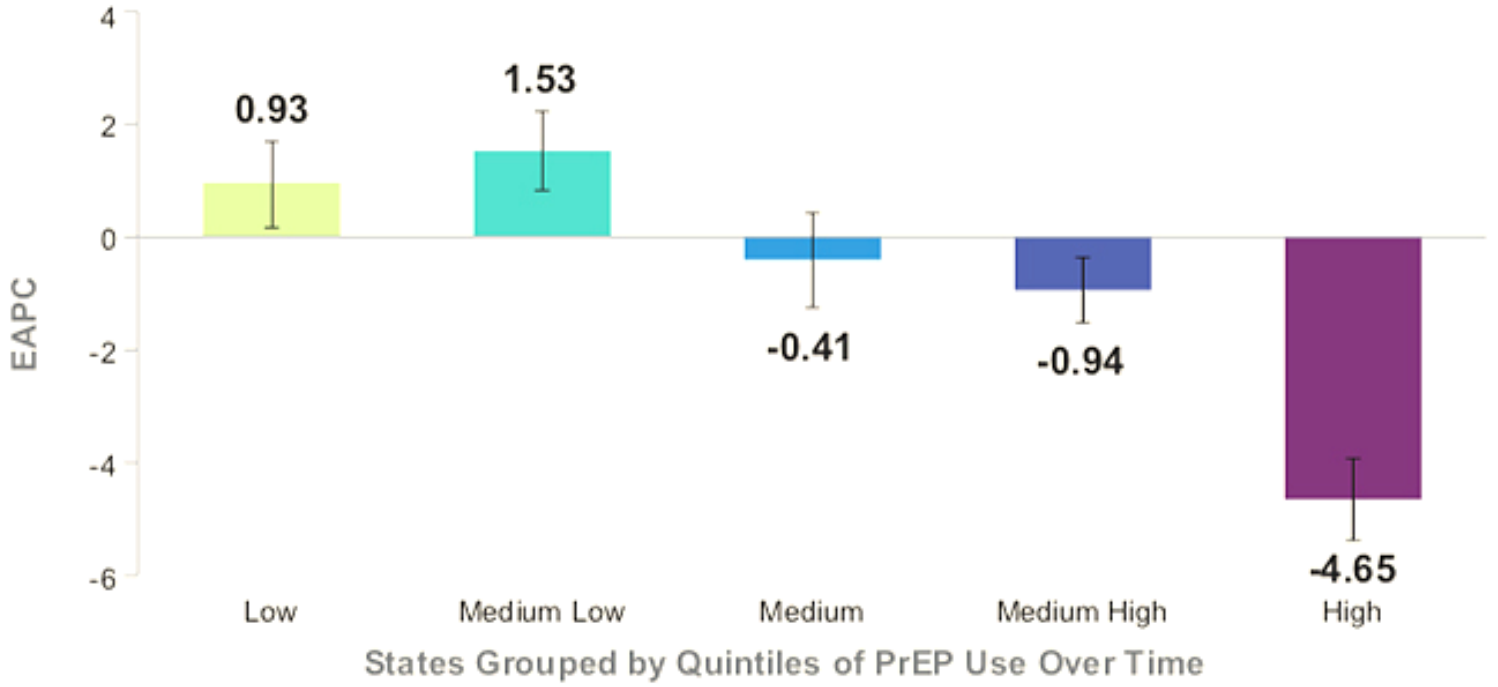
Northeast	
New York, NY	2936
Boston, MA	548
Philadelphia, PA	500
Bronx, NY	169



South	
Washington, DC	840
Atlanta, GA	524
Houston, TX	388
Dallas, TX	400
Austin, TX	286
Orlando, FL	168

2015 accounts for 39-55% of starts in each city

Decreased HIV Rates with High PrEP Use



	Low PrEP Use Quintile	High PrEP Use Quintile
Unadjusted EAPC in HIV diagnosis (95% CI)	+0.9 (+0.2, +1.7%)	-4.7 (-5.4, -3.9)
Mean prevalence of FTC/TDF PrEP use in 2016, n/N (%)	33/1000 (3.3)	110/1000 (11)

Adherence Variable among Women

Study Name	Population	N	Results	Efficacy by Blood Detection of TFV, %
FEM-PrEP Kenya, S Africa, Tanzania	Heterosexual Women	2120	FTC/TDF: **futility**	TFV levels: **35-37%** un-infected TDF/FTC
VOICE South Africa, Uganda, Zimbabwe	Heterosexual Women	5029	TDF: **futility** Vaginal TFV gel: **futility** FTC/TDF: **futility**	TFV levels: **25-30%** non-placebo group
FACTS South Africa	Heterosexual Women	3844	Vaginal TFV gel: **futility**	**20%** participants reported high adherence
Partners PrEP Kenya, Uganda	Heterosexual discordant couples	4758	TDF: **67% efficacy** FTC/TDF: **75% efficacy**	**86** (TDF) **90** (TDF/FTC)
HPTN 067 ADAPT South Africa	Heterosexual Women	179	FTC/TDF Open Label Study – **75%**daily, **63%** time driven and **53%** even driven	

1. Grant RM, et al. N Engl J Med. 2010;363:2587-2599. 2. Grant RM, et al. Lancet Infect Dis. 2014; 14:820-829. 3. Baeten JM, et al. N Engl J Med. 2012;367:399-410. 4. Thigpen MC, et al. N Engl J Med. 2012;367:423-434. 5. Choopanya K, et al. Lancet. 2013;381:2083-2090. 6. Van Damme L, et al. N Engl J Med. 2012;367:411-422. 7. Marrazzo J, et al. CROI 2013. Abstract 26LB.

Why was Adherence so Variable?

- Delivery modality for PrEP
  - Gel vs. oral (consistency of gel)
- Contextual Factors : gender roles, HIV stigma (ARV associated with illness) and social acceptance of product use
- Partner awareness and support to adhere to regimen
- Placebo-controlled trial vs. Open label
  - Unknown efficacy of products and medical distrust

Corneli et al. PlOS One. 2015

Van der Straten PLOS One 2014.

Amico et al. AIDS and Behavior 2017

Adherence Impacts Efficacy

- Sex hormones in the female genital tract leading to variable drug concentrations
- 6 doses per week are required to block HIV transmission in vaginal tissue
  - 2-3 doses per week in colorectal tissue
- Robust adherence support is necessary for women to effectively use PrEP

Shen et al. PlOS One. 2014

Cotrrel et al JUD 2016

Indications for PrEP Use for Women

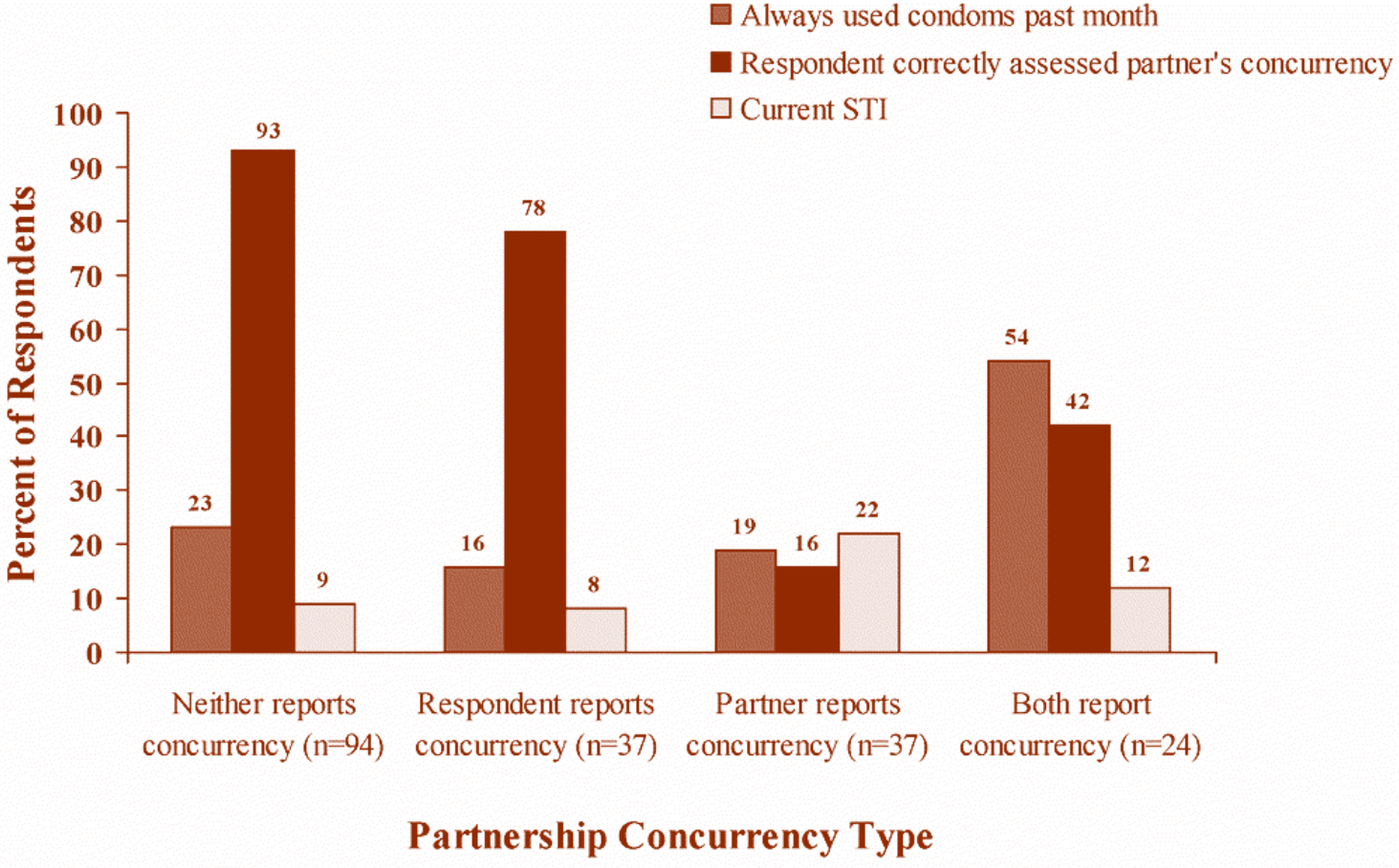
Indications for Heterosexual Women
Any sex with an opposite sex partner in the last 6 months
Not in a monogamous relationship with a recently tested HIV-negative partner
AND at least 1 of the following:
inconsistent condom use with partner(s)
STI in the pat 6 months
Serodiscordant relationship male partner

PrEP: Contraception and Pregnancy

- PrEP does not reduce contraceptive efficacy
- Peri-conception PrEP experience growing and appears safe
- Data indicates that PrEP is safe during pregnancy
  - Potential risks and benefits of PrEP medication use during pregnancy should be discussed

Mugo NR, et al. *JAMA*. 2014;312:362-71; Murnane PM, et al. *AIDS*. 2014;28:1825-30;Heffron R, et al. *Curr HIV/AIDS Rep*. 2016;13:131-9; CDC. Provider Information Sheet: PrEP During Conception, Pregnancy, and Breast Feeding. www.cdc.gov.

Do People really Know Their Sex Partners?



Drumright et al. STD 2004

High-Risk Sexual Behavior among Urban Black Women

Individual-Level Barriers:

- Protective Factors – Ethnic identity; high self-esteem in relation to condom negotiation, self-efficacy and partner communication

Partnership-Level Barriers:

- Economic inequalities, various social norms about gender and relationships that may discourage condom use, and heterosexual partnerships defined by gendered power differences

Wingood et al. Health Education Behavior (2000)

Beadnell et al. Psychologic Health Medicine (2004)

Negotiating Condom-Use

- Main partners, condomless vaginal sex
  - Predictors: IPV
  - Protectors: Positive condom attitudes and partners not resisting condom use

- Non-main partners, condomless vaginal sex
  - Predictors: IPV
  - Protectors: Greater decision-making power, partners not resisting condom use and positive condom attitudes

Broadus et al. AIDS and Behavior 2016,

What Factors Contribute to Risk in Rural Areas?

- **Individual factors** – High sexual coercion, exchange of sex for drugs/money, inability to negotiate condom use and substance abuse

- **Contextual factors** – Pervasive economic and racial oppression; lack of community recreation and boredom with resultant high substance abuse; high incarceration rates of black men leading to a male shortage with resultant concurrent sexual partnerships

KwaKwa et al. Attitudes toward PrEP in a U.S. Urban Clinic Population. AIDS and Behavior 2016

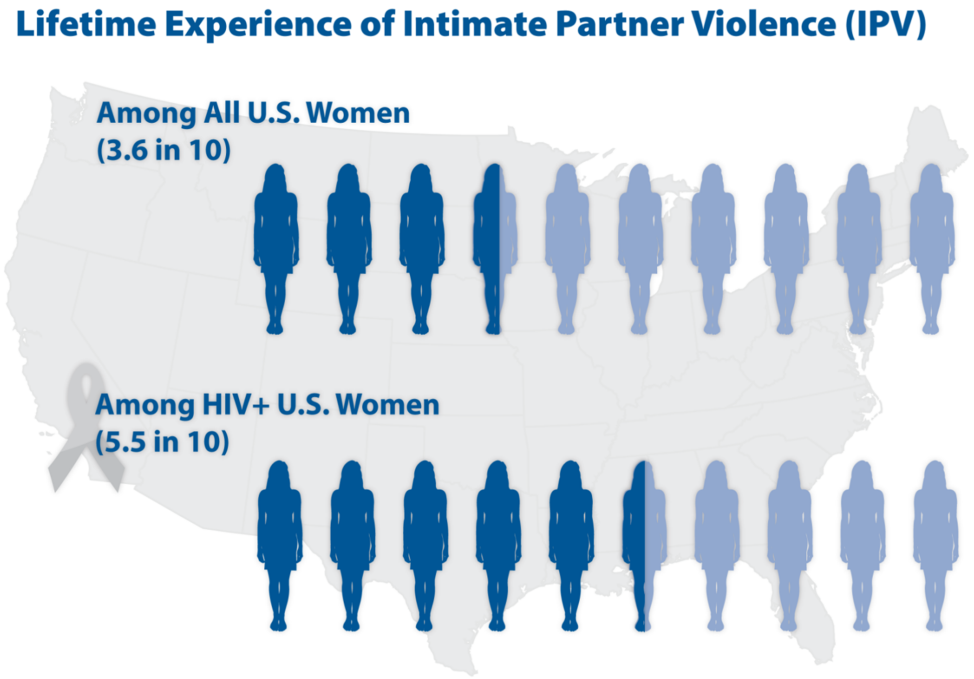
Kalichman et al..Journal of Women's Health 2009

Adimora et al. Social Context of Sexual Relationships Among Rural African Americans. Sexually Transmitted Diseases. 2001

IPV and HIV-Risk

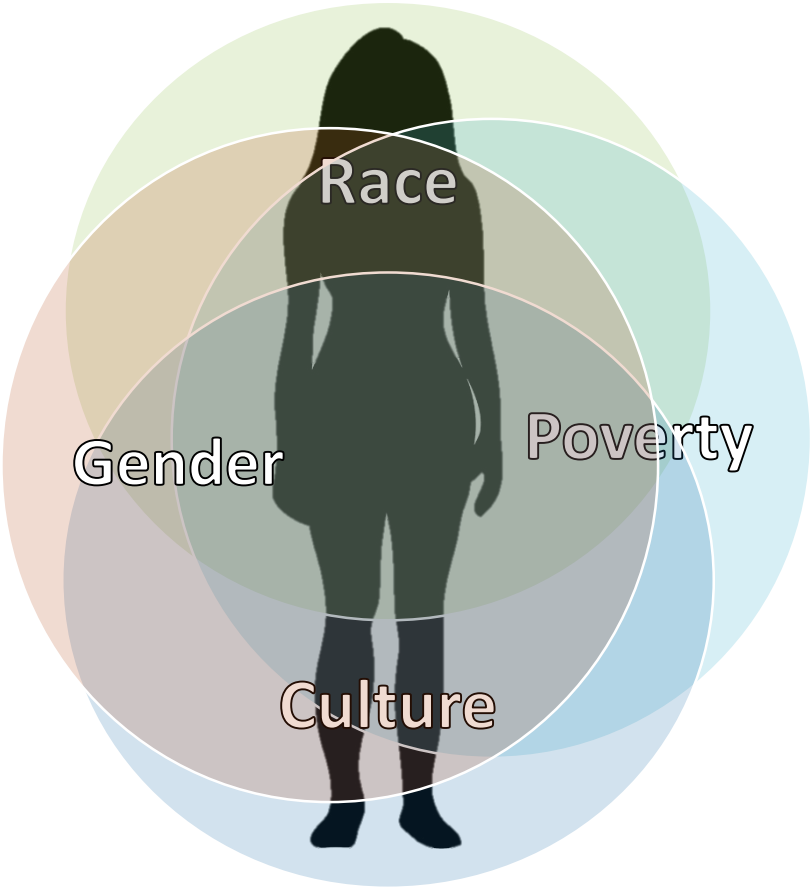
Figure 1

Experience of Intimate Partner Violence and Women, Overall and with HIV



Source: Matthew J. Breiding, Jieru Chen, and Michele C. Black. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. The National Intimate Partner and Sexual Violence Survey: Intimate Partner Violence in the United States — 2010. Atlanta, GA, 2014.; Machtinger, E.L., et al. (2012) Psychological Trauma and PTSD in HIV-Positive Women: A Meta-Analysis. *AIDS and Behavior.* 16(8): 2091-2100.

Intersecting Disparities



Evans. The Intersection of Gender, Race, Culture. 2006

Intersecting Disparities

Evans. The Intersection of Gender, Race, Culture. 2006

Provider PrEP Knowledge and Attitudes

- Natural Fit – Women's Healthcare Providers screen, counsel and offer PrEP to women at risk

- Knowledge among Family Planning Clinic Providers low
  - Only 1/3 correctly defined PrEP and knew its efficacy
  - Of those who were knowledgeable of PrEP, the majority were in the Northeast or Western U.S.
  - **Main Barrier to PrEP implementation: Lack of Training**

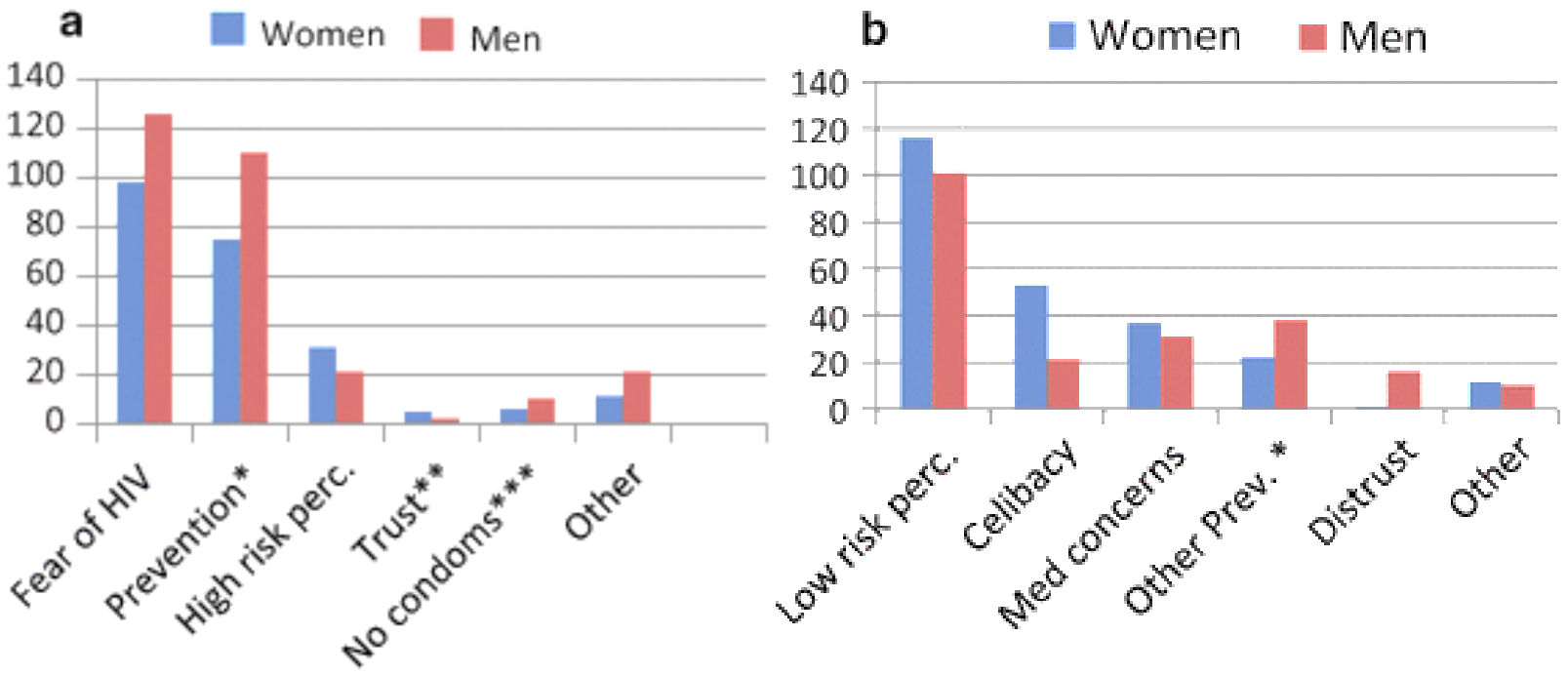
Siedman et al. United States Family Planning Provider's Knowledge and Attitudes towards PrEP: National Survey. Contraception. 2016

PrEP use in Cis-Gender Women

- In one study at a large comprehensive sexual health clinic (Dec 2014 – Aug 2016), 21/554 women receiving care were prescribed PrEP
- Majority (86%) of women were in serodiscordant relationships
  - Trying to conceive
  - Partners are on ART (two thirds virally suppressed)
- Low persistence in care
  - At 3 months, 61% in care
  - At 6 months, 38% in care

Blackstock et al. PrEP prescribing and retention in care among heterosexual women. AIDS Care 2017.

Attitudes toward PrEP at an Urban Clinic



Kwakwa et al. AIDS and Behavior 2016

Structural and Individual Level Barriers 38

- Barriers:
  - Medical Distrust
  - Cost
  - Safety and Side Effects
  - Low perceived personal risk of HIV (despite actual risk) and partner risk of HIV
  - HIV Stigma
  - Difficulty negotiating PrEP use with partners

- Facilitators
  - Partner and peer support
  - **Private** prevention control, esp. when perceived low condom use negotiation

Koechlin et al.. AIDS and Behavior 2017

Auerbach et al. 2015

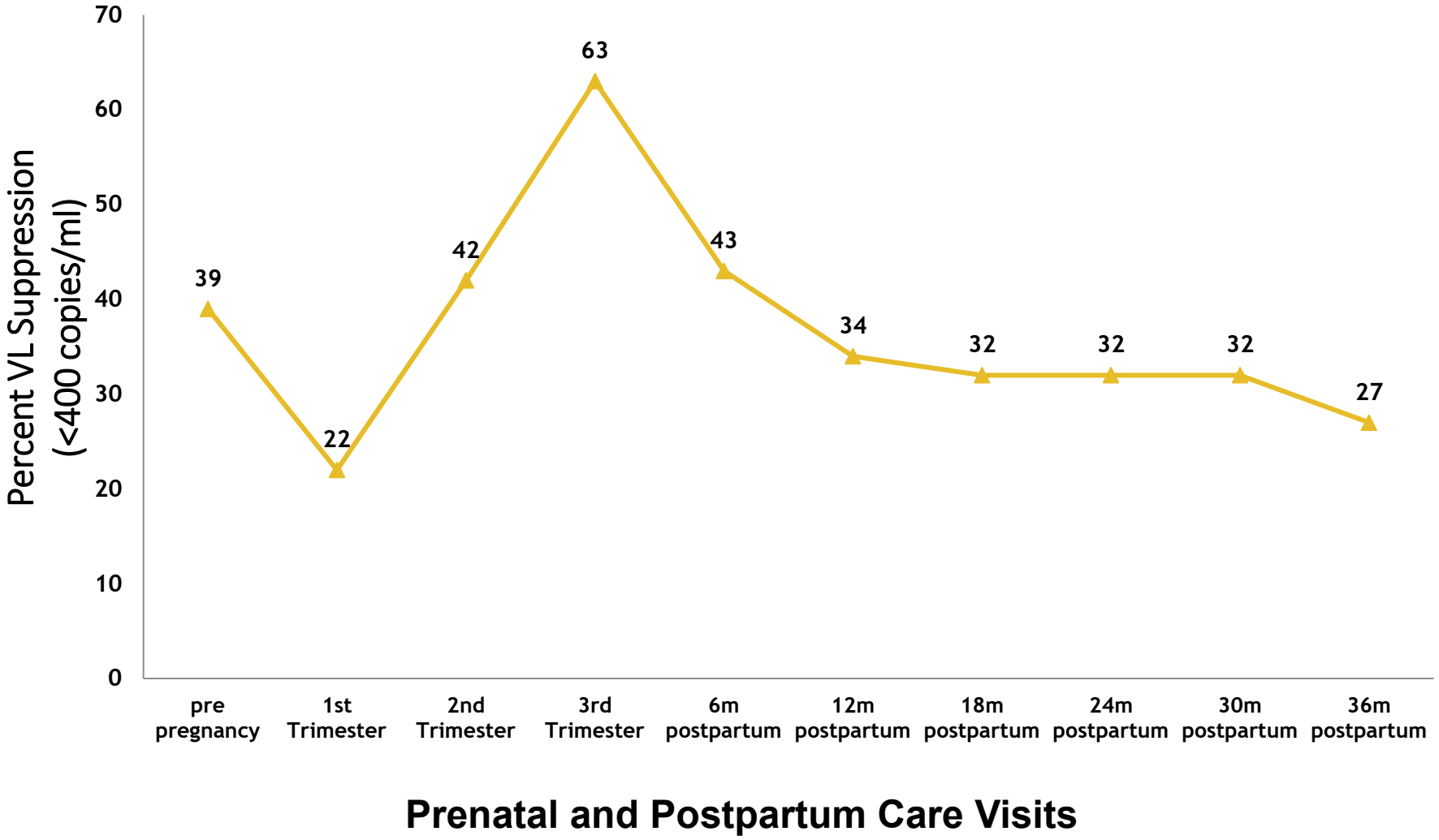
Story of STI Screening

- Annual chlamydia testing is recommended by ACOG and USPSTF for women ≤ 25 years of age annually, pregnant women and women > 25 at risk:
  - Chlamydia testing patterns in Title X Clinics – 55% of women < 25 years were tested and 42% aged ≥ 25 were tested
  - Chlamydia testing patterns, insured women – young women are under tested (34%) and older women are over tested (18%)
- Prenatal screening visits
  - Chlamydia screening – 83% of Medicaid patients and 70% commercially insured
  - Gonorrhea screening – 75% of Medicaid patients and 69% of commercially insured
- Community Health Clinic Providers in Indiana
  - Chlamydia and GC screening provided primarily at patient request despite CDC screening guidelines

Tao et al. Chlamydia Testing Patterns for Commercially Insured Women, 2008. American Journal of Preventive Medicine 2012.

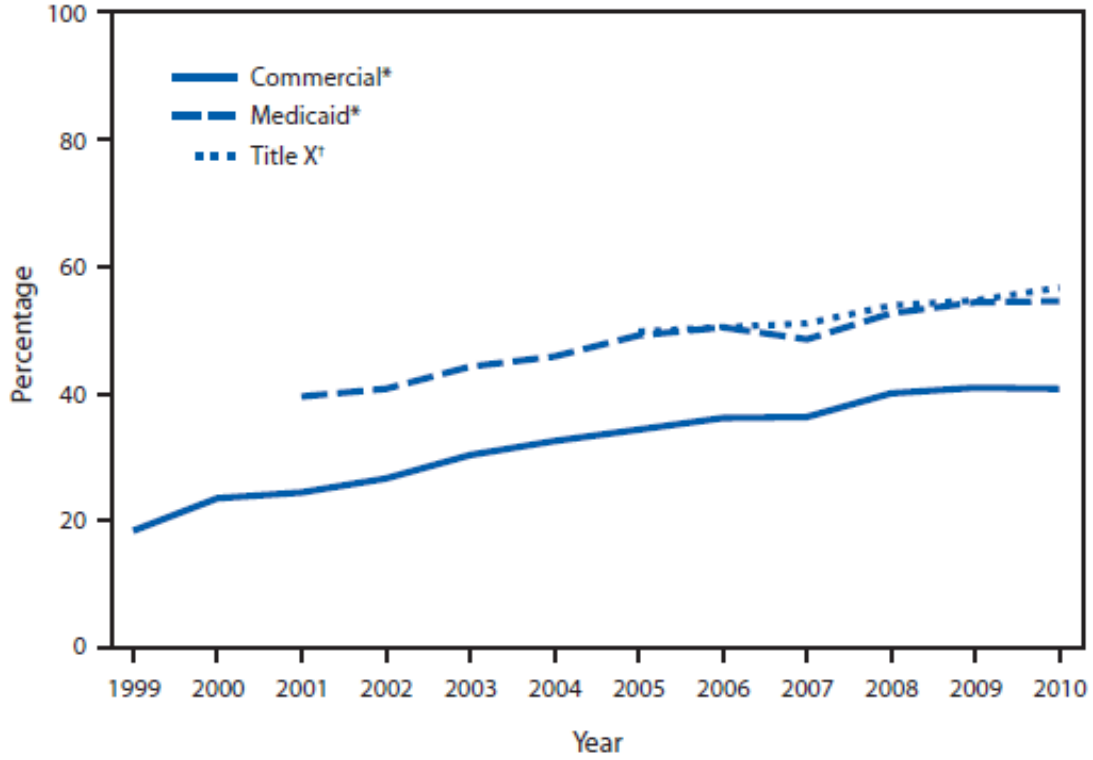
Ross et al. Screening for HIV and other STI among U.S. women with prenatal care. Obstet and Gynecol. 2015

Percent Viral Load Suppression Pregnancy and Postpartum



Successes with STI Screening

Percentage of Females Tested for Chlamydia – United States, 1999 – 2010



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Possible Implementation Strategies

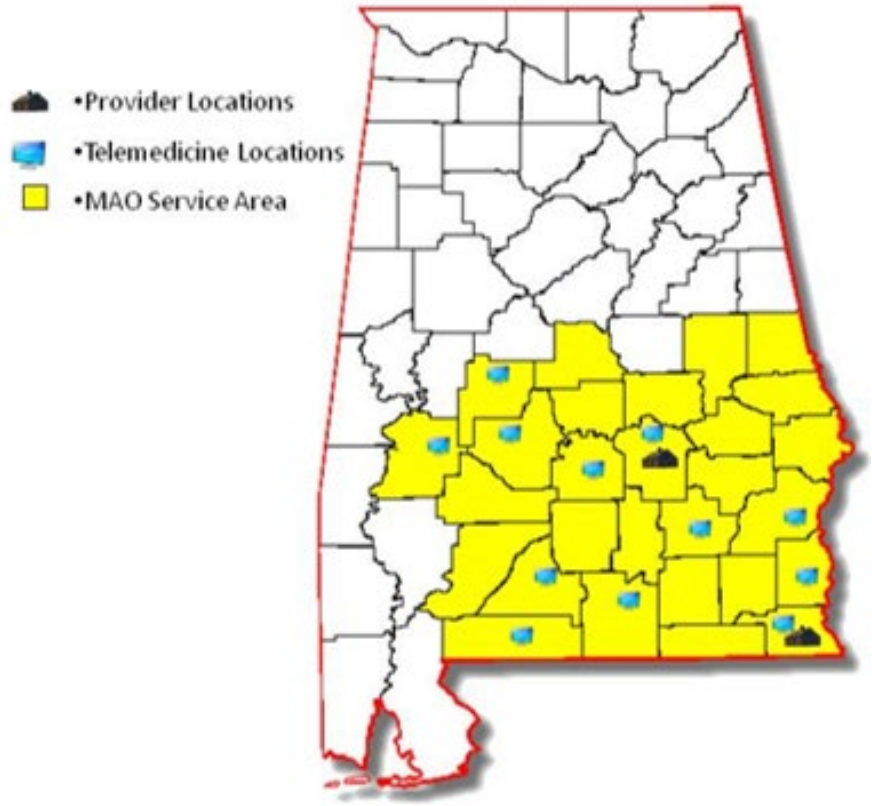
- Successful Implementation of PrEP beyond peri-conception and serodiscordant partnership as a part of global women's healthcare
  - STD Clinic referrals at Jefferson County Department of Health
  - Adolescent Health Clinics
- Effective messaging to increase awareness
  - One study suggests action messaging that is brief, referred to PrEP as a pill and not mentioning condoms or STI testing as appealing
- Effectively implementing PrEP in Southern and Rural communities
  - Family Planning and Title X Clinics
  - OB/GYN Partnerships

Willie et al. IPV and PrEP Acceptability among Low Income, Young Black Women. AIDS Behavior. 2017

Collier. Raising Awareness of PrEP among Women in New York City. J Healht Communication. 2017

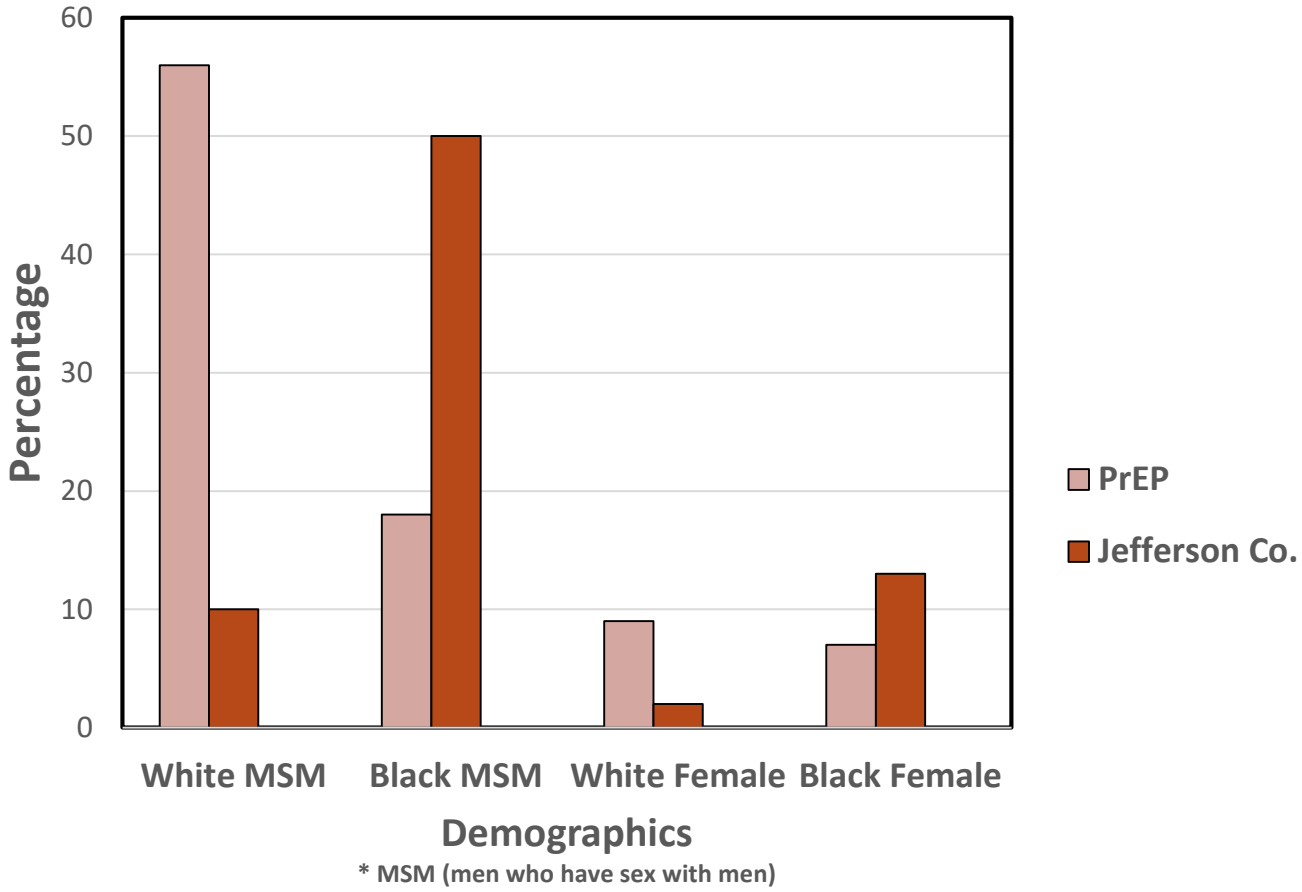
Potential Service Delivery Models for Rural South

- Telemedicine
  - Structural Barriers – transportation
  - Individual Barriers – stigma
- MAO (Medical Advocacy and Outreach)
  - Ryan White Clinic
  - 10 telemedicine satellite rural clinics
  - PrEP services started Jan. 2016 (not yet through telemed)
    - 30 people on PrEP, 6 are women in sero-discordant relationsihps
    - All insured or self-pay



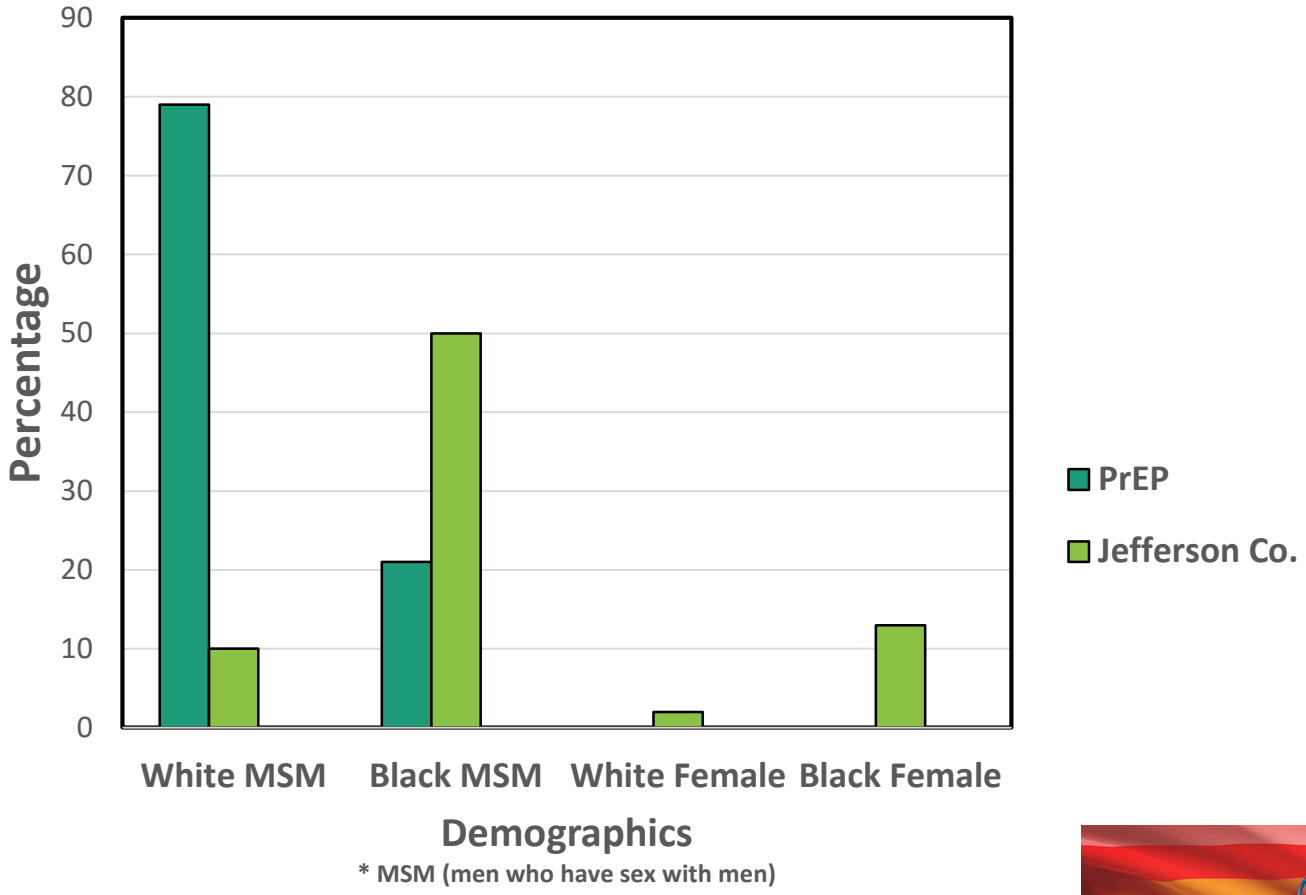
MEDICAL AIDS OUTREACH of Alabama
MAO

PrEP Clinic Demographics – 1917 Clinic



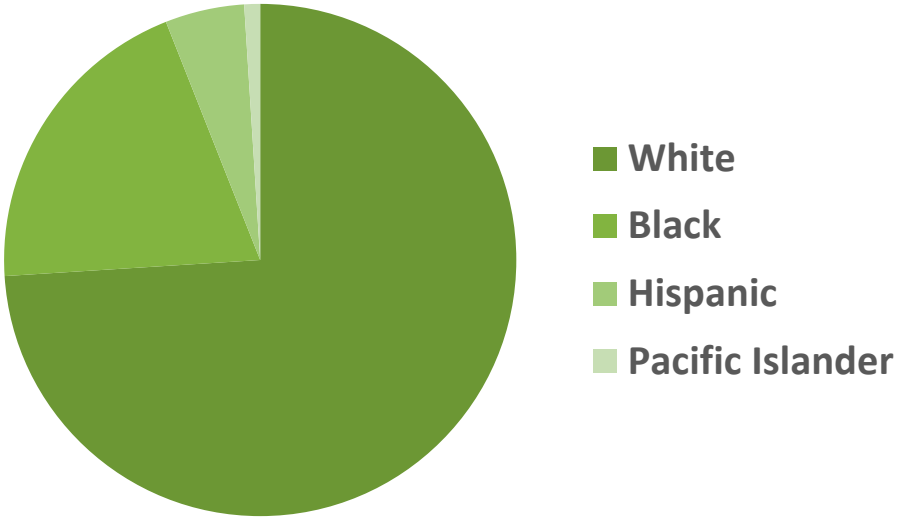
* MSM (men who have sex with men)

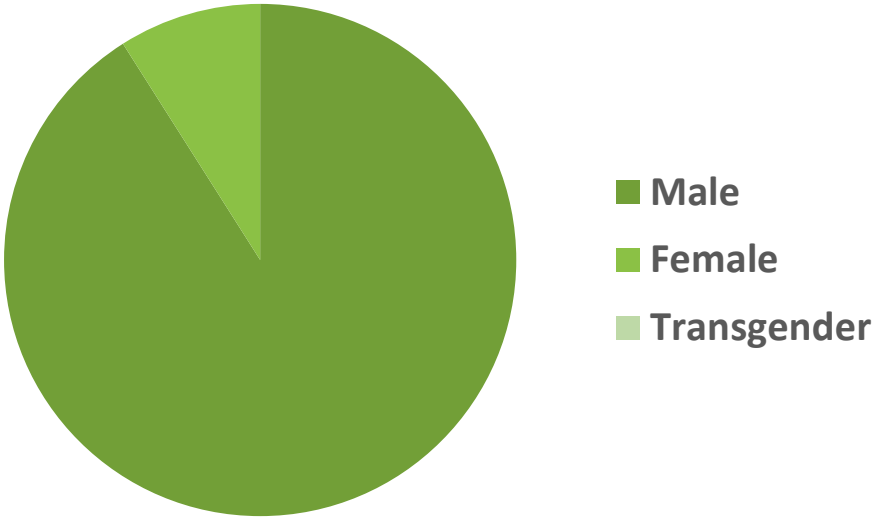
PrEP Clinic Demographics – MGWC Clinic



* MSM (men who have sex with men)

PrEP Clinic Demographics – THRIVE Clinic



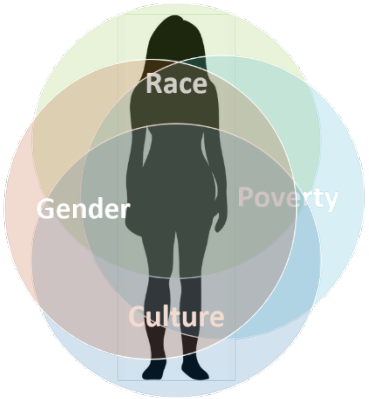


thrivealabama

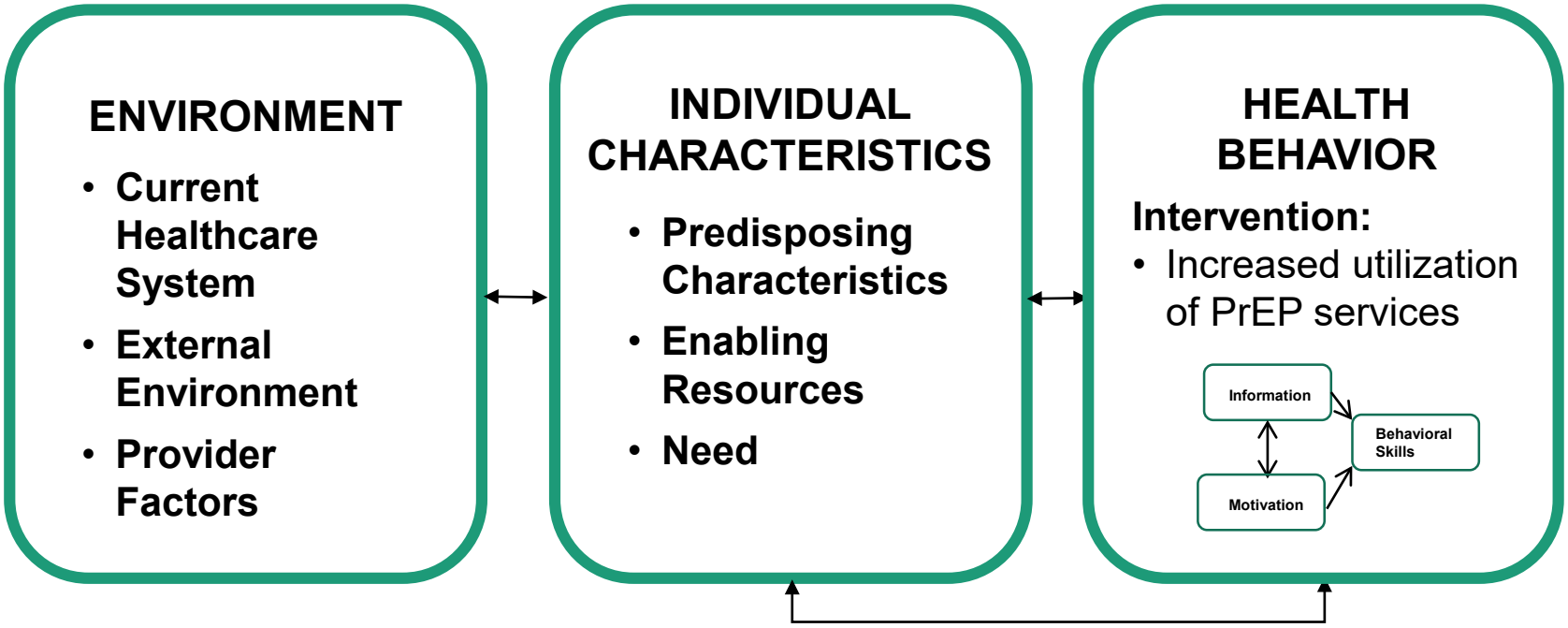
Proposal Objective

Understand PrEP awareness, barriers and delivery preferences among Black women in rural and urban areas in the Deep South

WHY? To overcome disparities in HIV infection rates among Southern Black women



Conceptual Model: ABM with sIMB Constructs



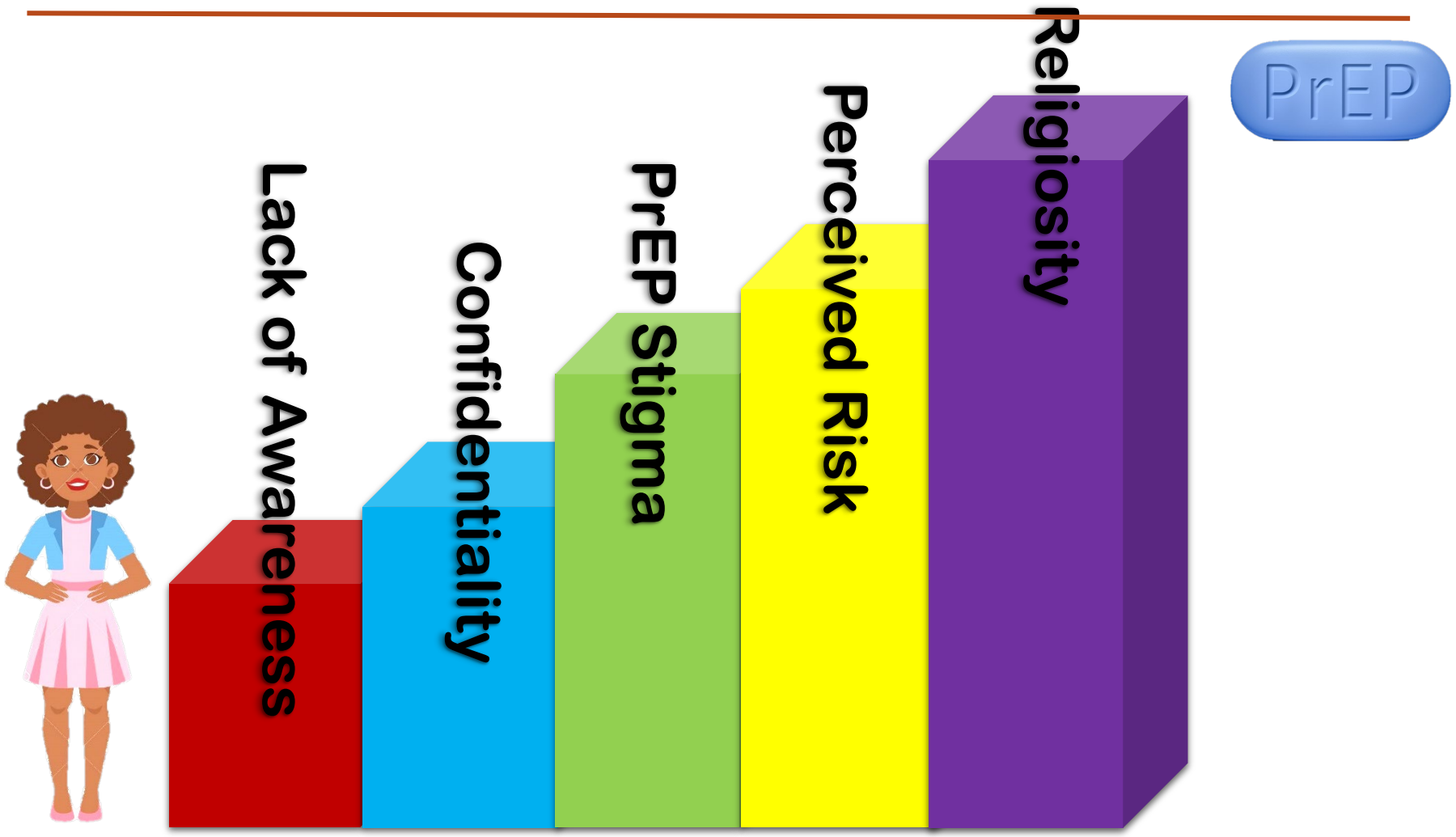
Adapted from Anderson Behavioral Model (ABM) and situated Information, Motivation and Behavioral Skills (sIMB).

Fisher, et al. *Health Psychology*. 2006
Chapman et al. JANAC 2018

Characteristics of Black Women Aged 16-65 Participating in Focus Groups

Characteristics	Rural Counties (N = 25)	Urban Counties (N = 22)
Median Age, years (range)	44, 20-65	35, 23-54
Relationship Status		
Married/Domestic Partnership	4 (16%)	7 (31.8%)
Monogamous Relationship/not married	3 (12%)	4 (18.2%)
Single, Divorced, Dating	18 (72%)	11 (50%)
Education Level		
Grade 12 or GED	7 (28%)	2 (9.0%)
Some College, Associates or Technical	9 (36%)	8 (36.3%)
Bachelor's Degree	7 (28%)	5 (22.7%)
Insurance Status		
Insured	21 (84%)	20 (90.9%)
Household Annual Income[a]		
$0-10,000	3 (12%)	1 (5%)
$10,000-24,999	9 (36%)	2 (9%)
$25,000-49,999	7 (28%)	13 (59%)
$50,000-or more	3 (12%)	4 (18%)
Employment Status		
Full-time	12 (48%)	14 (63.6%)
Part-time	2 (8%)	3 (13.6%)
Unemployed	5 (20%)	4 (18.1%)

Major Themes



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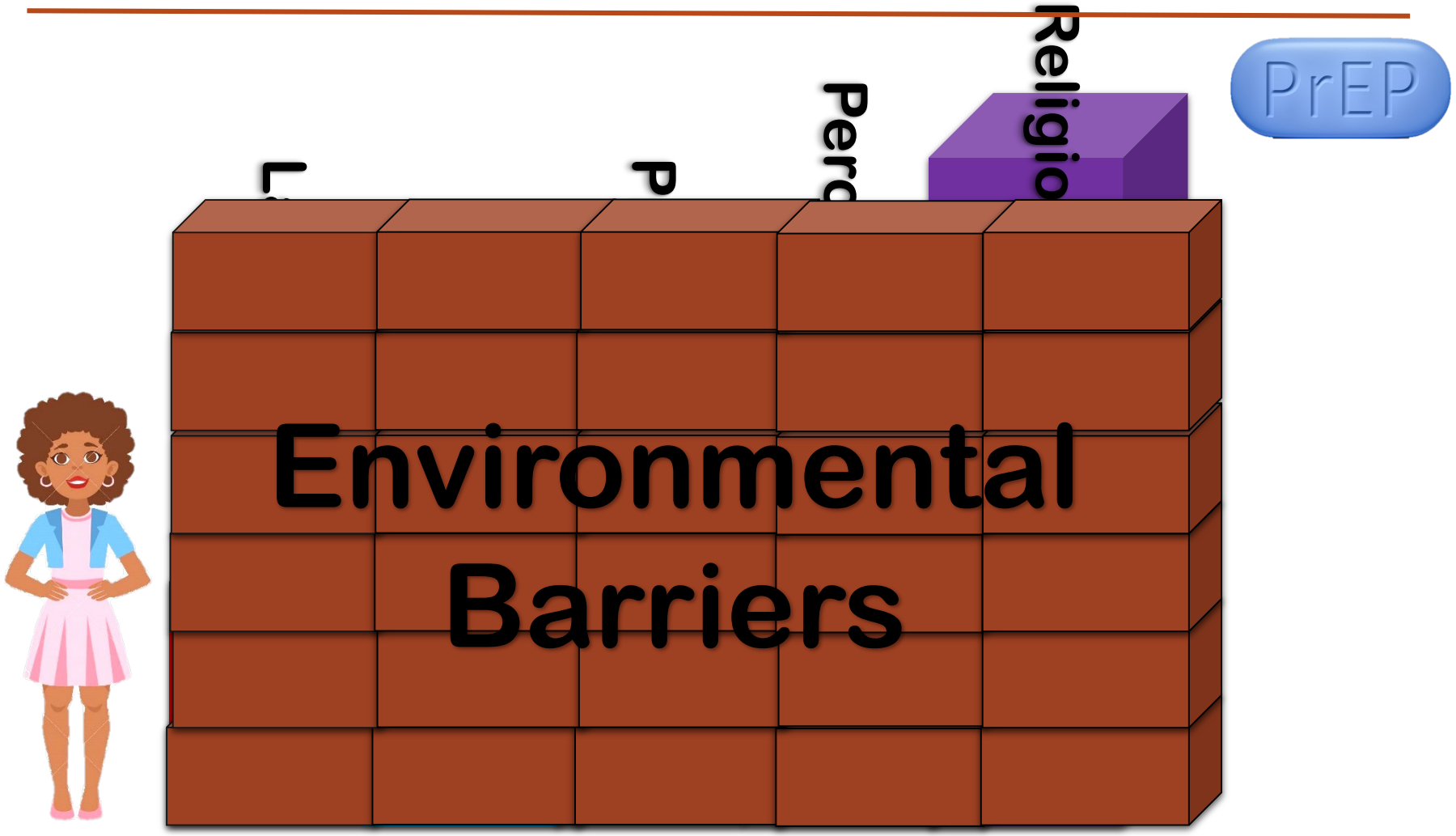

Who is PrEP For?

- *“Over sexually active people, promiscuous people”*
- *“Prostitutes.”*
- *“If you’re single and sexually active, I think you need it because you’re at risk. You’re at risk”*

Confidentiality

- *“If you live in a real small town, everybody in the pharmacy know you. Everybody knows everybody”. (Dallas)*

- *“They probably—another thing to that is that too often, some of these doctor’s offices and these pharma, these people talk, for real. Folks tell you, really.”*

Religiosity

“People talk about praying all the time, they’re really religious. They’re gonna pray it away, but I think there’s a balance between—there has to be a balance between praying and actually going to get medications that could help prevent or cure whatever the disease is that you may have.”

Case # 1

- Ashley is a 26 year old female who is a patient returning for a routine f/u visit with her Primary Care Office. She is HIV negative. When taking a sexual history, you learn that she has had 2 sexual partners in the past 6 months, but reports her relationships were not concurrent. She has engaged in vaginal sex and reports giving oral sex. She uses condoms occasionally and does not inquire about her partners HIV status.

How would you discuss PrEP and sexual health with this patient?

Case #2

- Tiffany is a 20yo F presenting to her PCP c/o yellow vaginal discharge. She denies having any other systemic symptoms. On sexual history she reports 1 sex partner in the past 12 months. They no longer use condoms and engage in vaginal and oral sex.
- Tiffany has STI screening and is positive for gonorrhea. She is treat with Ceftriaxone IM and Azithromycin and expresses she is concerned about how she got this STI.

How would you address her HIV prevention needs?

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Thank You!
Questions?