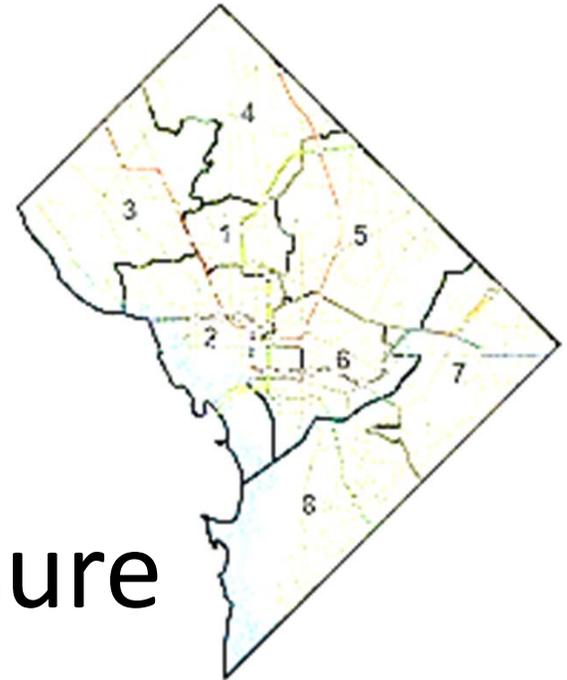


Understanding Pre-Exposure Prophylaxis in DC



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Overview

- History of PrEP
- Understanding PrEP
- Current Research Landscape
- Implementation Efforts
- Next Steps

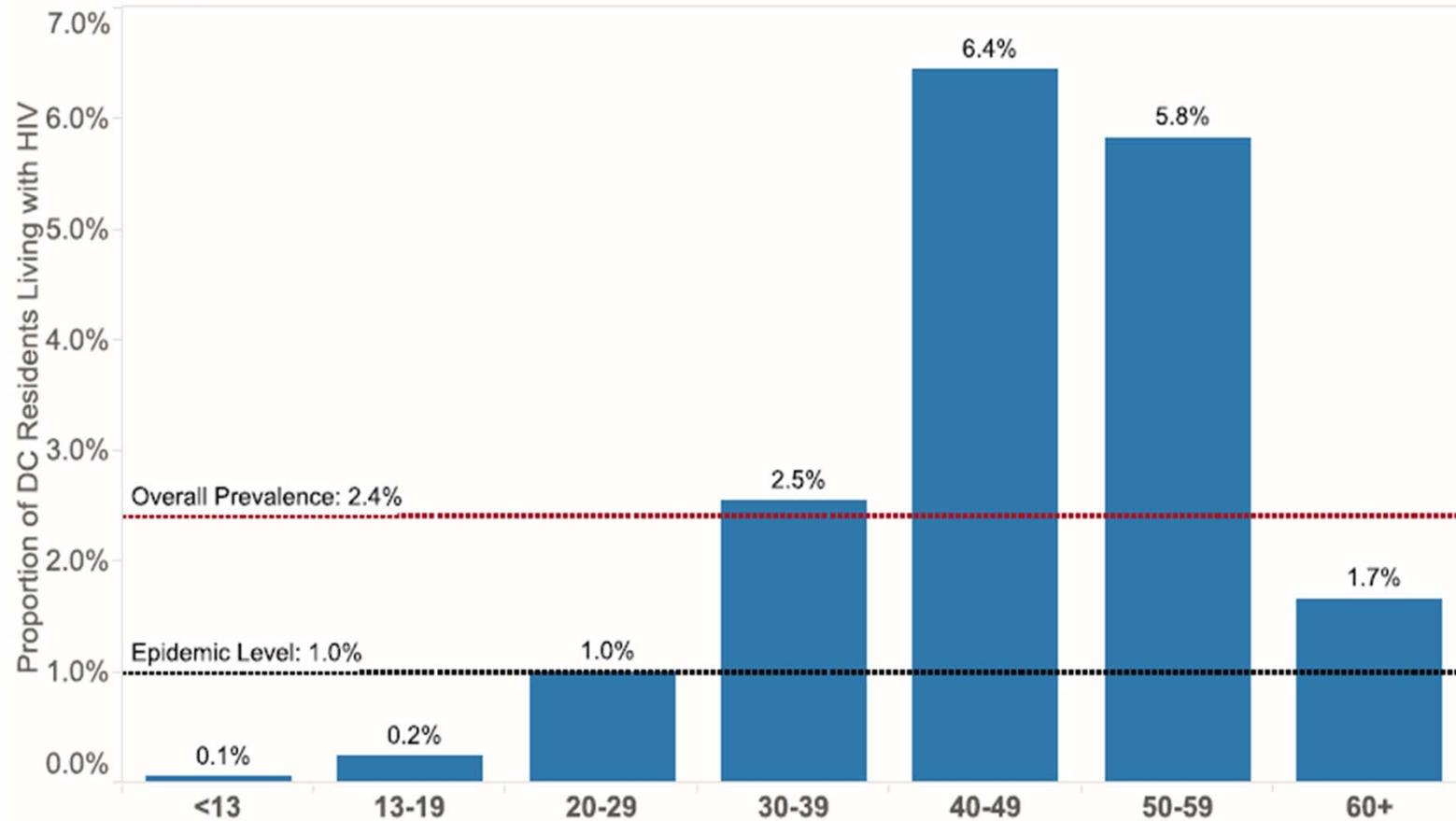


“We are winning this fight. But the fight is not over, not by a long shot... We just have to keep at it, steady, persistent, today, tomorrow and every day until we get to zero. ...we have come so far; we have saved so many lives. We might as well finish the fight.”

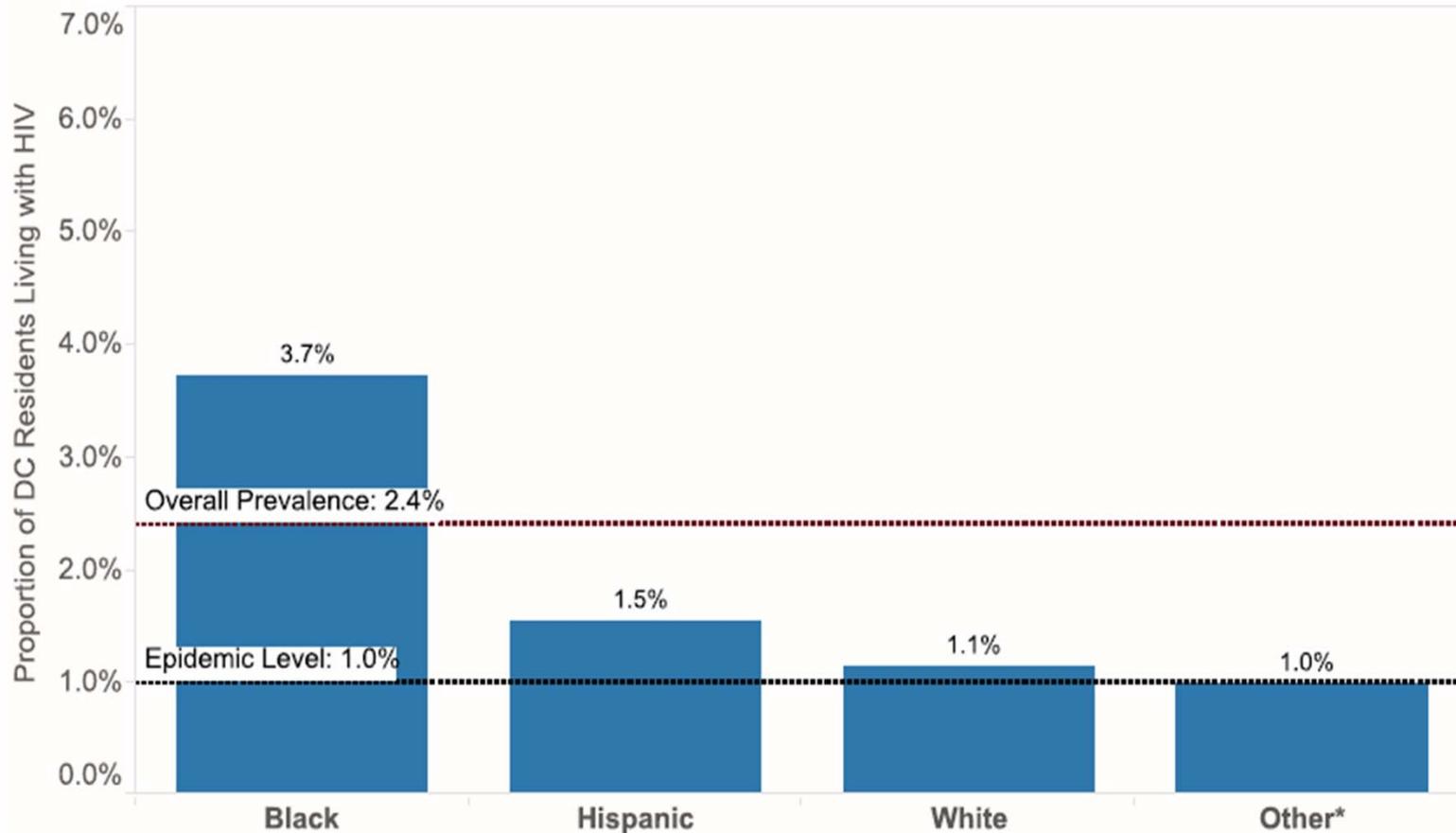
-President Barack Obama '12

Persons Living with HIV by Age

District of Columbia, 2011



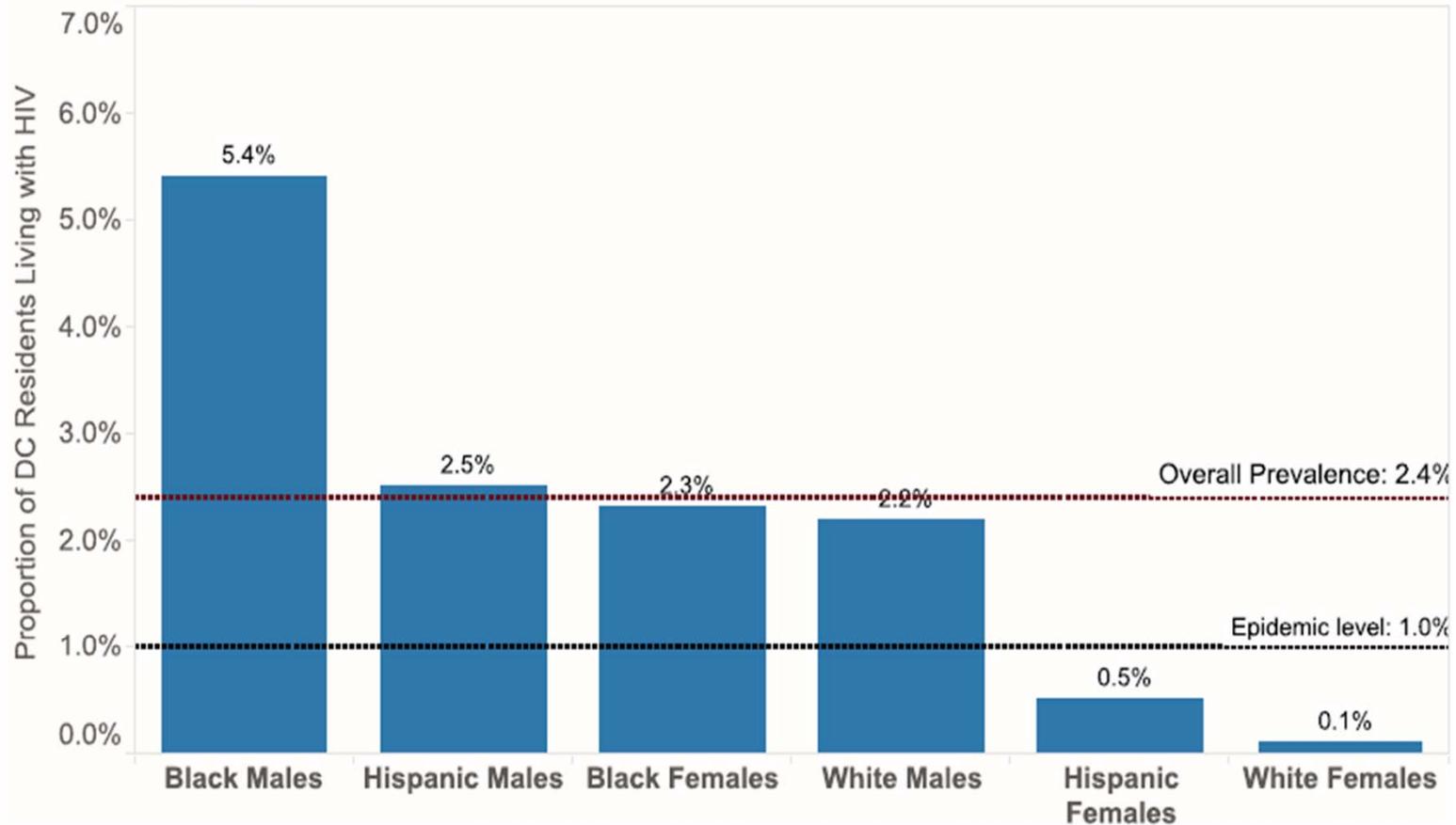
Persons Living with HIV by Race



*Other race includes mixed race individuals, Asians, Alaska Natives, American Indians, Native Hawaiian, Pacific Islanders, and unknown

Persons Living with HIV by Gender/Race

District of Columbia, 2011



Traditional HIV Prevention Activities

- Education and behavior modification
- HIV counseling and testing
- Access to condoms
- Partner notification and referral services
- Behavioral interventions (DEBIs) - individual, small-group, and community
- Substance abuse treatment and needle exchange
- Screening and treatment for other STDs

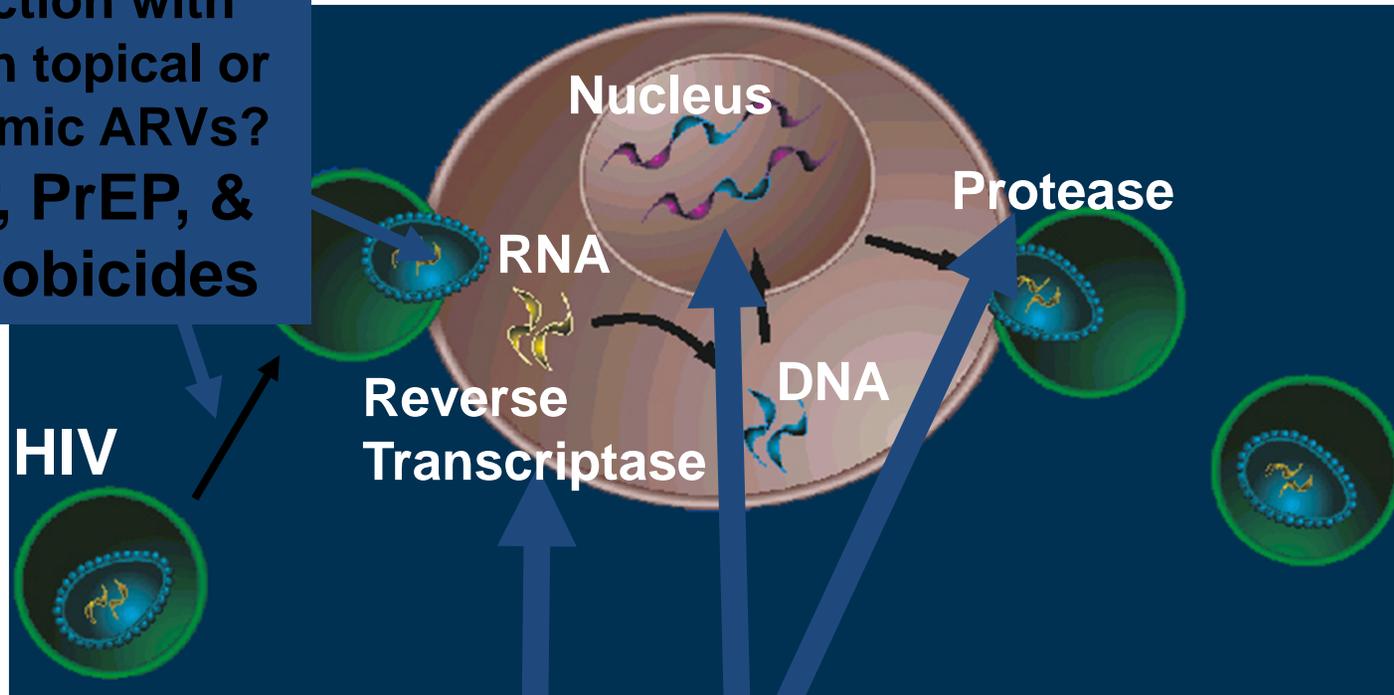
Biomedical Approaches to Prevention

- Vaccines
- Male circumcision
- Pre-exposure prophylaxis (PrEP)
- Female-controlled barrier methods/ Microbicides
- Antiretroviral treatment

Pre-Exposure Prophylaxis

ARVs for Prevention

Can we block infection with ...with topical or systemic ARVs? PEP, PrEP, & Microbicides



Can we treat the infected partner with cART and protect the sexual partner? ART for prevention

The Basics

Pre-Exposure Prophylaxis

- Daily dose
- Currently 1 FDA approved regimen (Truvada[®])
- Recommended for high-risk individuals



Pre-exposure prophylaxis (PrEP)

- Concept rooted in 4 lines of evidence

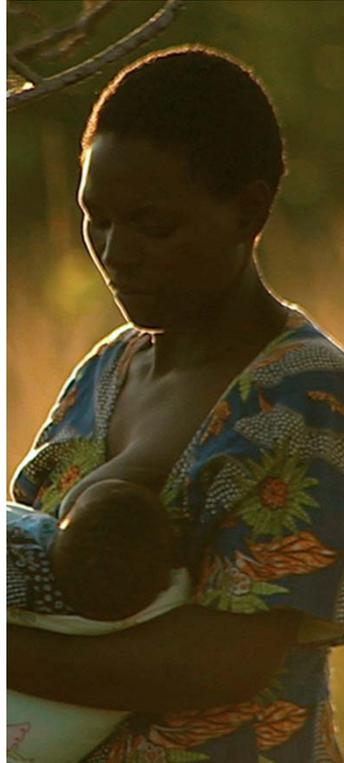
Pre-exposure prophylaxis (PrEP)

- Prophylactic use of anti-infectives



Pre-exposure prophylaxis (PrEP)

- Prevention of mother-to-child transmission



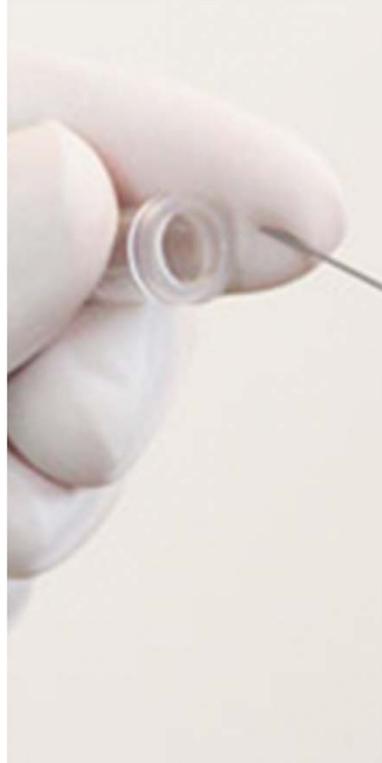
Pre-exposure prophylaxis (PrEP)

- Post-exposure prophylaxis (PEP)



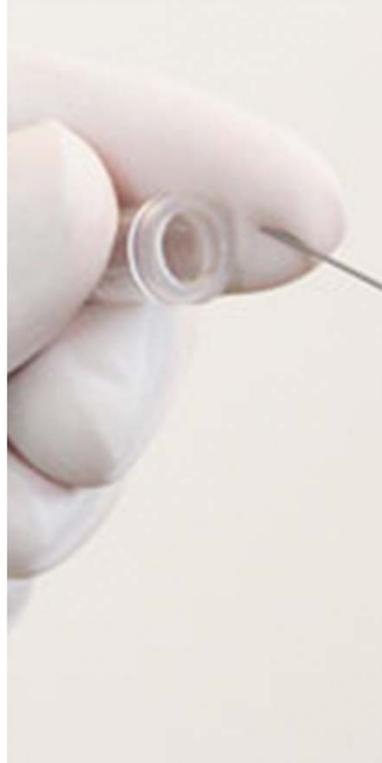
Pre-exposure prophylaxis (PrEP)

- Animal models (macaques)



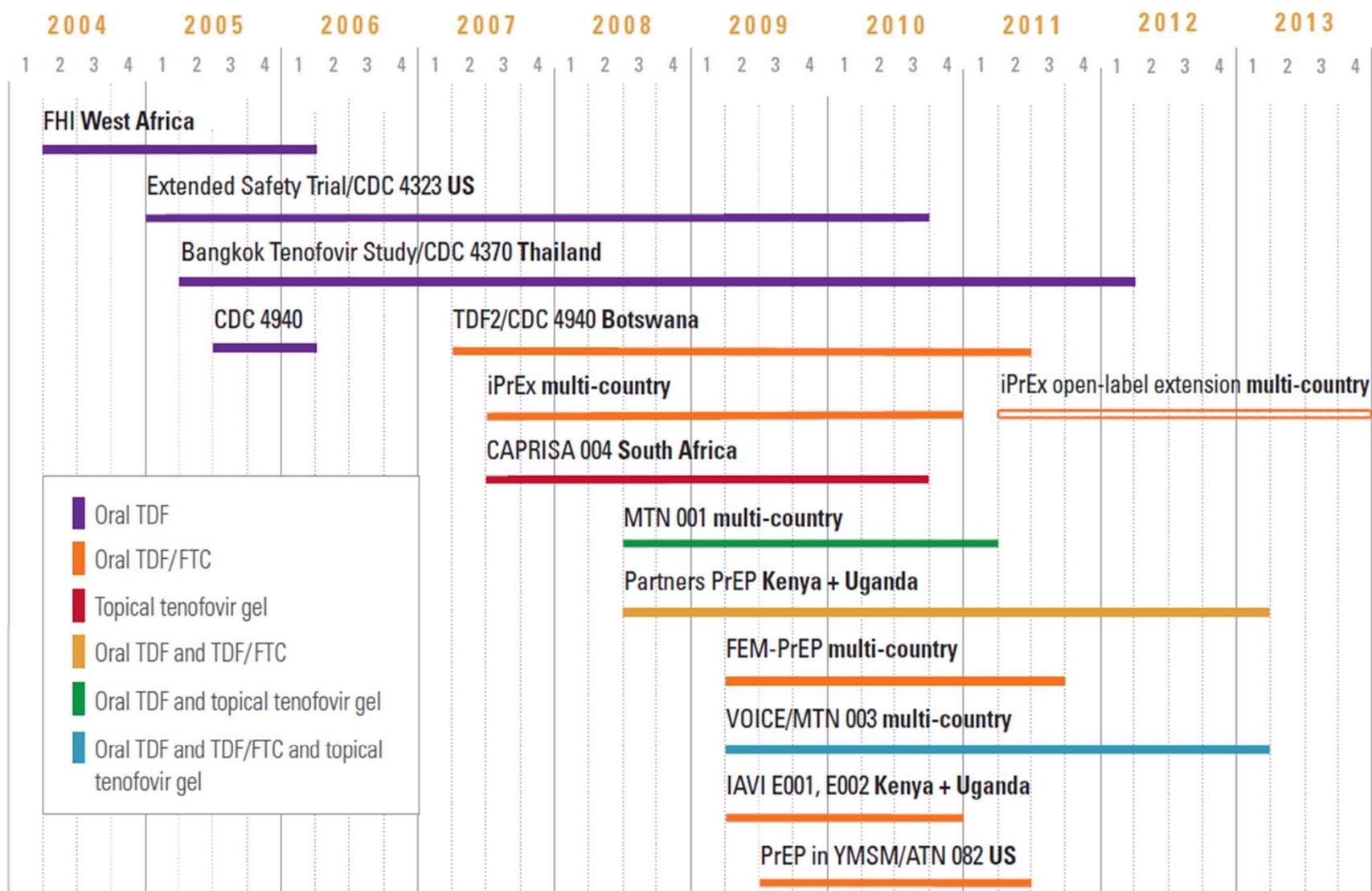
Pre-exposure prophylaxis (PrEP)

- Rooted in 4 lines of evidence



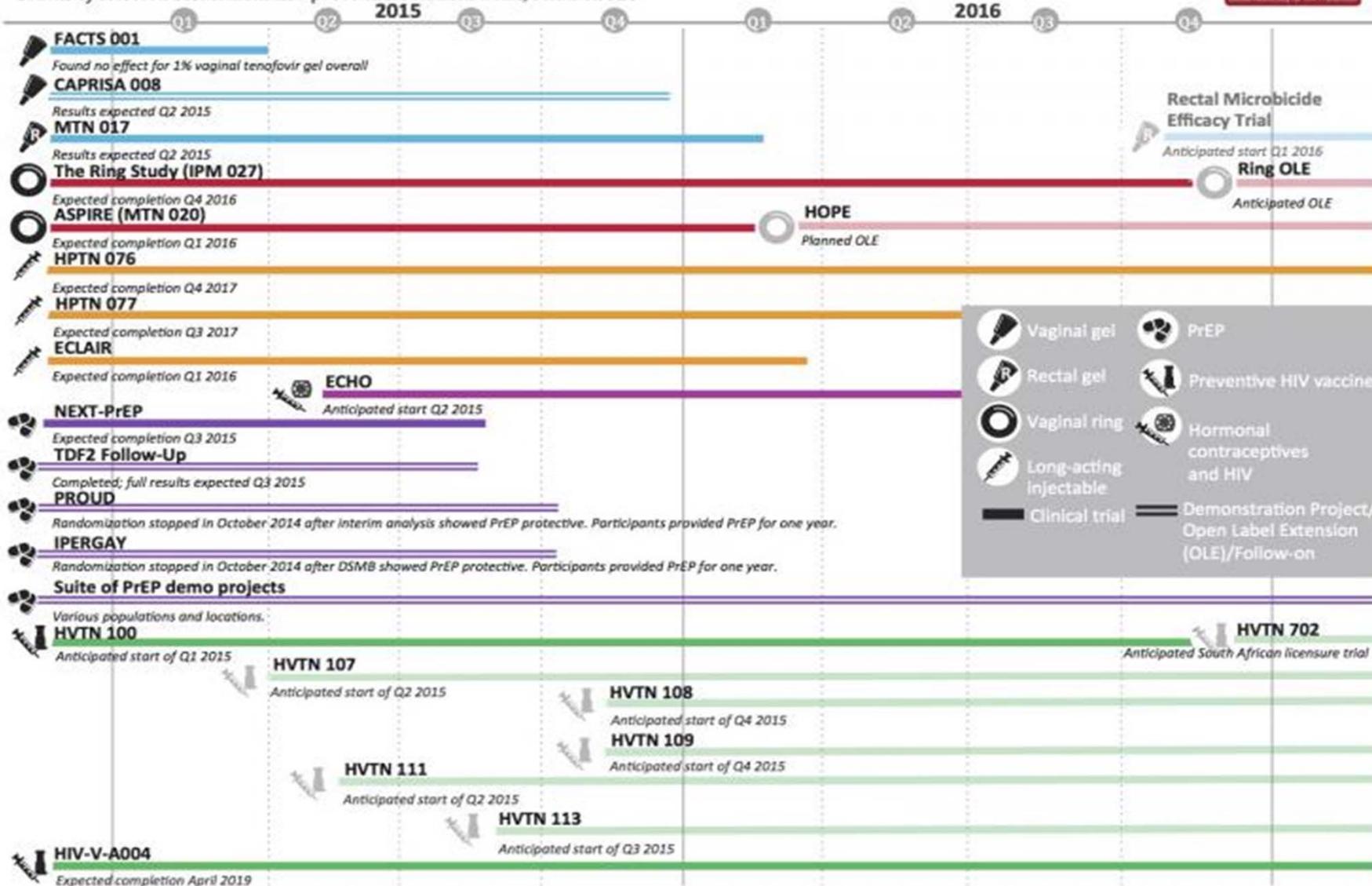
History leads to success

Oral and Topical PrEP Trials Timeline*



THE YEARS AHEAD IN BIOMEDICAL HIV PREVENTION RESEARCH

Status of selected biomedical HIV prevention clinical trials, March 2015



Study (reference)	Study population	Design	Results: Reduction in HIV Infection
Partners PREP	4758 discordant couples in Kenya and Uganda	TDF (Viread) vs. TDF/FTC (Truvada®) vs. placebo	TDF: 67% TDF/FTC: 75% (86-90% if drug levels detectable)
CDC – TDF-2	1200 Adults in Botswana (45% women)	TDF/FTC (Truvada®) vs. placebo	TDF/FTC: 62%
iPrEx	2499 Gay Men in Brazil, Ecuador, Peru, South Africa, Thailand and the United States	TDF/FTC (Truvada®) vs. placebo	TDF/FTC: 44% (92% if drug levels detectable)

Study (reference)	Study population	Design	Results
FEM-PrEP	2120 Women in Kenya, South Africa and Tanzania	TDF/FTC (Truvada®) vs. placebo	Product not proven effective in preventing HIV due to low adherence (approximately 33% adherent)
MTN-003 (VOICE)	5,029 Women in South Africa, Uganda, and Zimbabwe	TDF (Viread) vs. placebo TDF/FTC (Truvada®) vs. placebo TDF gel vs. placebo	No product proven effective in preventing HIV due to low adherence (23%-29% adherent)

HPTN 069

NEXT-PrEP:

Novel Exploration of Therapeutics for PrEP

HPTN 073: BMSM Open-Label PrEP Demonstration Project in Three US Cities



HIV PREVENTION TRIALS NETWORK



HPTN 077:

A Phase IIa Safety, Tolerability and
Acceptability Study of an Investigational
Injectable HIV Integrase Inhibitor,
GSK1265744, for PrEP in HIV Uninfected
Men and Women



HIV PREVENTION TRIALS NETWORK



HPTN 080: A Phase 2a Trial of a Combination Prevention Strategy for MSM in the Americas



HIV PREVENTION TRIALS NETWORK



Translating into Community Impact

Is it Effective?

- Premise: Cannot work if not taken
- Observation in clinical trials, variability among adherence
- There are risks involved
- Barriers are real
- Real world delivery:
 - Must have high adherence
 - Not for everyone

Determining Impact

- Risk Assessment profile
- Eligibility
- Follow-up
- Discontinuation

CDC Interim Guidance on HIV Pre-Exposure Prophylaxis for Men Who Have Sex with Men

Below is CDC interim guidance for health-care providers electing to provide pre-exposure prophylaxis (PrEP) for the prevention of HIV infection in adult men who have sex with men and who are at high risk for sexual acquisition of HIV.

Before initiating PrEP

Determine eligibility

- Document negative HIV antibody test(s) immediately before starting PrEP medication.
- Test for acute HIV infection if patient has symptoms consistent with acute HIV infection.
- Confirm that patient is at substantial, ongoing, high risk for acquiring HIV infection.
- Confirm that calculated creatinine clearance is ≥ 60 mL per minute (via Cockcroft-Gault formula).

Other recommended actions

- Screen for hepatitis B infection; vaccinate against hepatitis B if susceptible, or treat if active infection exists, regardless of decision about prescribing PrEP.
- Screen and treat as needed for STIs.

Beginning PrEP medication regimen

- Prescribe 1 tablet of Truvada* (TDF [300 mg] plus FTC [200 mg]) daily.
- In general, prescribe no more than a 90-day supply; renewable only after HIV testing confirms that patient remains HIV-uninfected.
- If active hepatitis B infection is diagnosed, consider using TDF/FTC for both treatment of active hepatitis B infection and HIV prevention.
- Provide risk-reduction and PrEP medication adherence counseling and condoms.

Follow-up while PrEP medication is being taken

- Every 2-3 months, perform an HIV antibody test; document negative result.
- Evaluate and support PrEP medication adherence at each follow-up visit, more often if inconsistent adherence is identified.
- Every 2-3 months, assess risk for reduction counseling and condom use if present, test and treat for STI and treat as needed.
- Every 6 months, test for STI and treat as needed.
- 3 months after initiation of PrEP medication, check blood

On discontinuing PrEP, concerns, or if HIV occurs

- Perform HIV testing at the time of discontinuation.
- If HIV positive, refer to HIV care.
- If HIV negative, continue PrEP.

Table 1: Assessing Significant Risk for PrEP

Type of Exposure	Source Material	Prophylaxis
Percutaneous OR Mucocutaneous OR Non-intact skin	Blood or visibly bloody fluid or potentially infectious fluid* AND source patient is potentially HIV infected	Recommended
Mucocutaneous	Other body fluids	Not Recommended

* Semen, vaginal secretions, synovial, pleural, peritoneal, pericardial, cerebrospinal, and amniotic fluids.

PEP Following Occupational Exposure in Healthcare Workers (HCW)

A. Manage exposure incident. Clean exposure site with soap and water; flush mucous membranes with water.

B. Assess severity of exposure. PEP (HAART) is recommended for all significant risk exposures.

C. Evaluate source patient

- If source patient is known:**
 - Do not delay initiation of PEP to determine HIV status of the source.
 - Seek voluntary HIV testing of source with informed consent as soon as possible after exposure. Rapid testing can determine HIV status of the source patient within 30 minutes of testing. A positive rapid test requires a Western blot confirmatory test.
 - Discontinue therapy if the source is found with certainty not to be infected with HIV.
- If source patient is unknown:**
 - Base treatment on assessment of bloodborne disease risk and type of exposure (see Table 1).

New York State Department of Health | **AIDS Institute**

New York State Department of Health AIDS Institute recommendations for PEP following occupational exposure and sexual assault are based on careful review of available studies and constitute the considered opinion of expert HIV clinicians. To access the complete guidelines, visit the NYSDOH HIV Guidelines Website at www.hivguidelines.org.

Integrating Prevention Strategies

PrEP not a stand-alone intervention, but can be a component of multi-faceted HIV prevention strategy

- Integrated with local behavioral prevention strategies
- Condom distribution
- Peer outreach and health education
- Evidence-based behavioral interventions

Integrated with other biomedical prevention strategies

- Routine STD screening and treatment (and partner services)
- Routine HIV testing and linkage to care

Integrating among at-risk populations

- Extremely diverse population
- Transient community
- Varied marginalization/segregation
- Extremely resilient community
- Varied geographical differences

Concerns

- Behavioral Disinhibition
 - Will PrEP/PEP lead to reductions in condom use?
- Long term safety
 - Effects of long-term ARV use on HIV negatives not known
- Accessibility
 - How will youth afford the pill and medical follow-up without insurance or subsidy?
- Adherence
 - How can youth be supported to maintain daily ARV regimen?
- ARV resistance development
 - Concern for sero-converters who are not diagnosed timely and d/c PrEP/PEP
 - Routine HIV testing important component for PrEP/PEP program

Next Steps

- Intermittent PrEP (Proud, IPERGAY, HPTN067)
- New formulations
- New delivery methods
 - Riprivine
 - Cabatagavir
- Increase Education/Awareness
- End of AIDS is near!

Contact Information

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WHAT ARE YOUR QUESTIONS?