Postpartum HIV Care Engagement: Challenges and Clinical Considerations

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Learning Objectives

- *Describe existing racial disparities in perinatal HIV transmission in the U.S.*
- *Discuss barriers and facilitators to HIV care engagement in the postpartum period*
- *Discuss new breastfeeding guidelines in the U.S. and understand implications for infant feeding counseling*

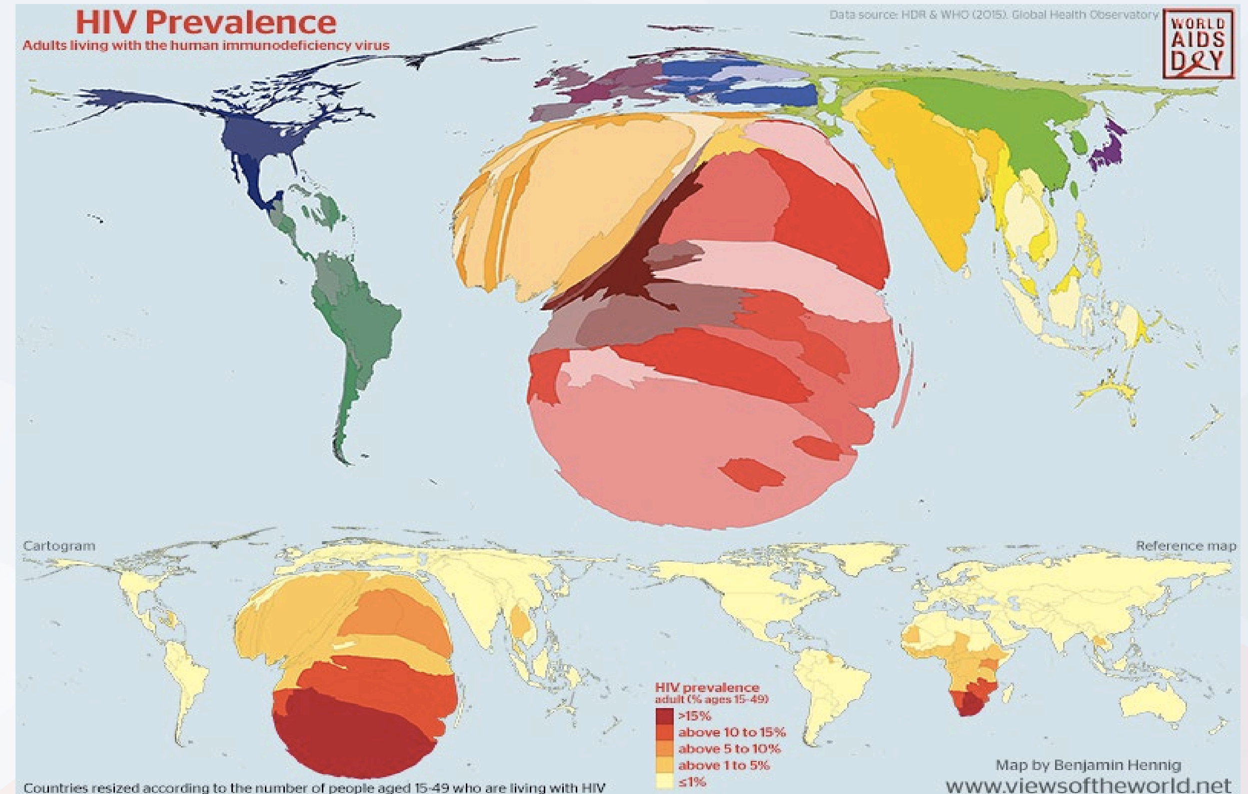
Disclosures

- *No conflicts of interest*

Epidemiology

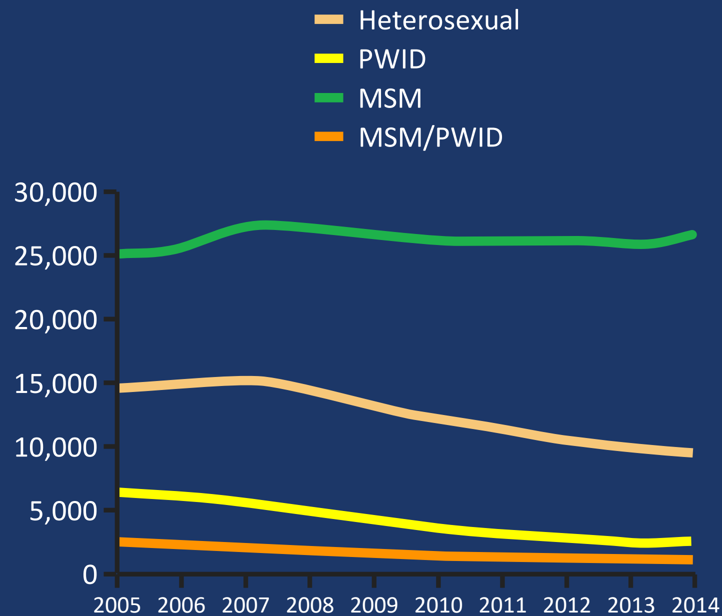
Global Perspective

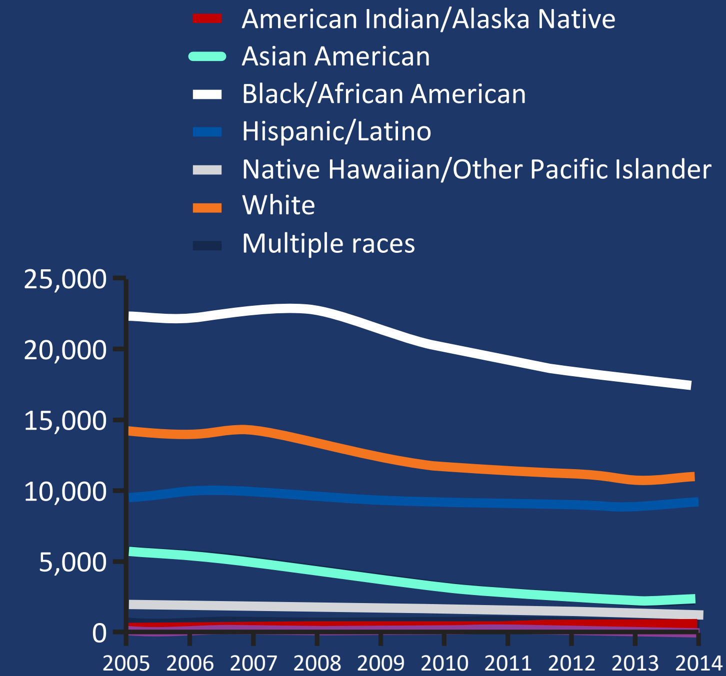
- 37.9 million people with HIV worldwide
  - 55% WOMEN
- 1.7 million people became infected with HIV in 2018
  - Women account for 20%-25% of incident in Europe and the U.S.
  - Majority of new cases in Africa (up to 79% in S. and Eastern Africa)
- Globally, 1.3 million women with HIV become pregnant each year



Global HIV & AIDS statistics — 2019 fact sheet. UNAIDS website. www.unaids.org/en/resources/fact-sheet. Accessed September 18, 2019; Facts and figures: HIV and AIDS. UN Women website. www.unwomen.org/en/what-we-do/hiv-and-aids/facts-and-figures. Accessed September 18, 2019; HIV/AIDS. World Health Organization website. www.who.int/en/news-room/fact-sheets/detail/hiv-aids. Accessed September 18, 2019.

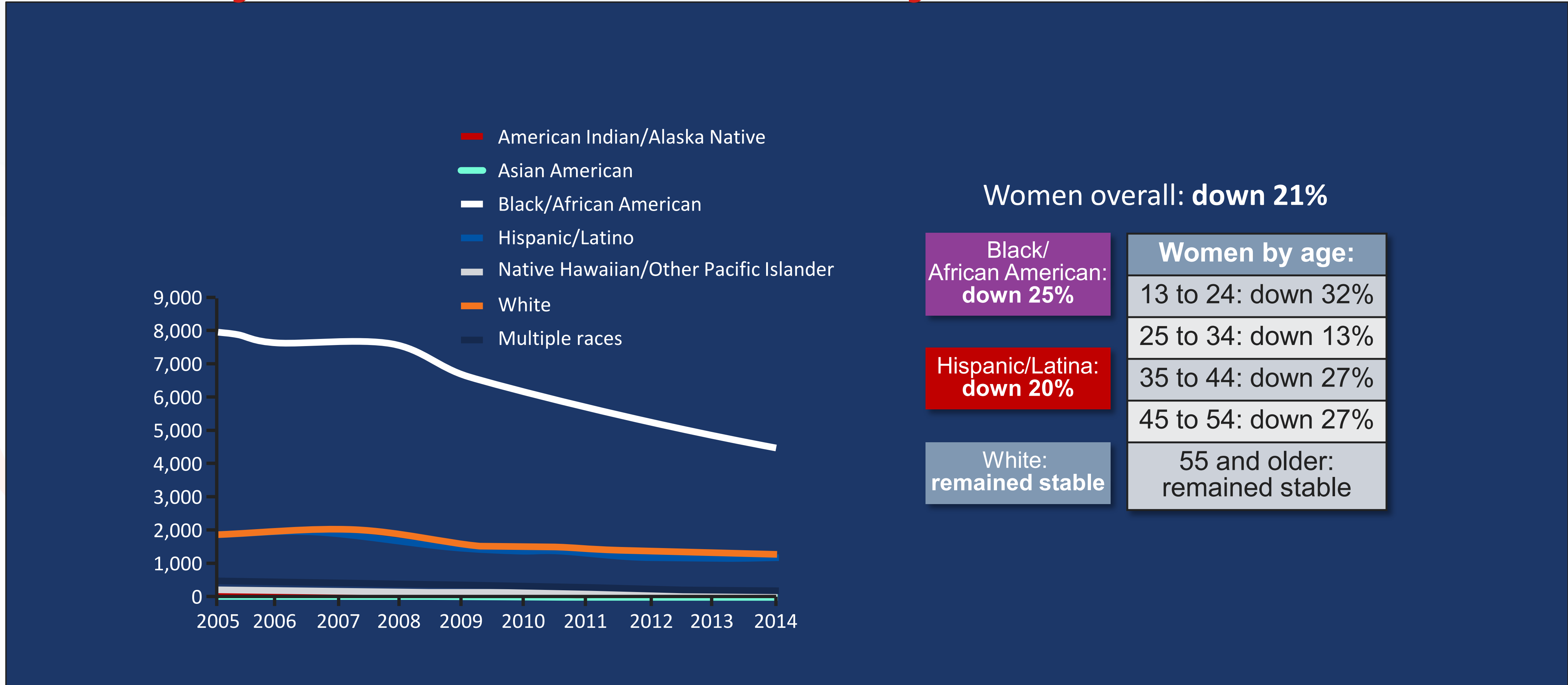
HIV Diagnoses in the U.S., 2005-2014





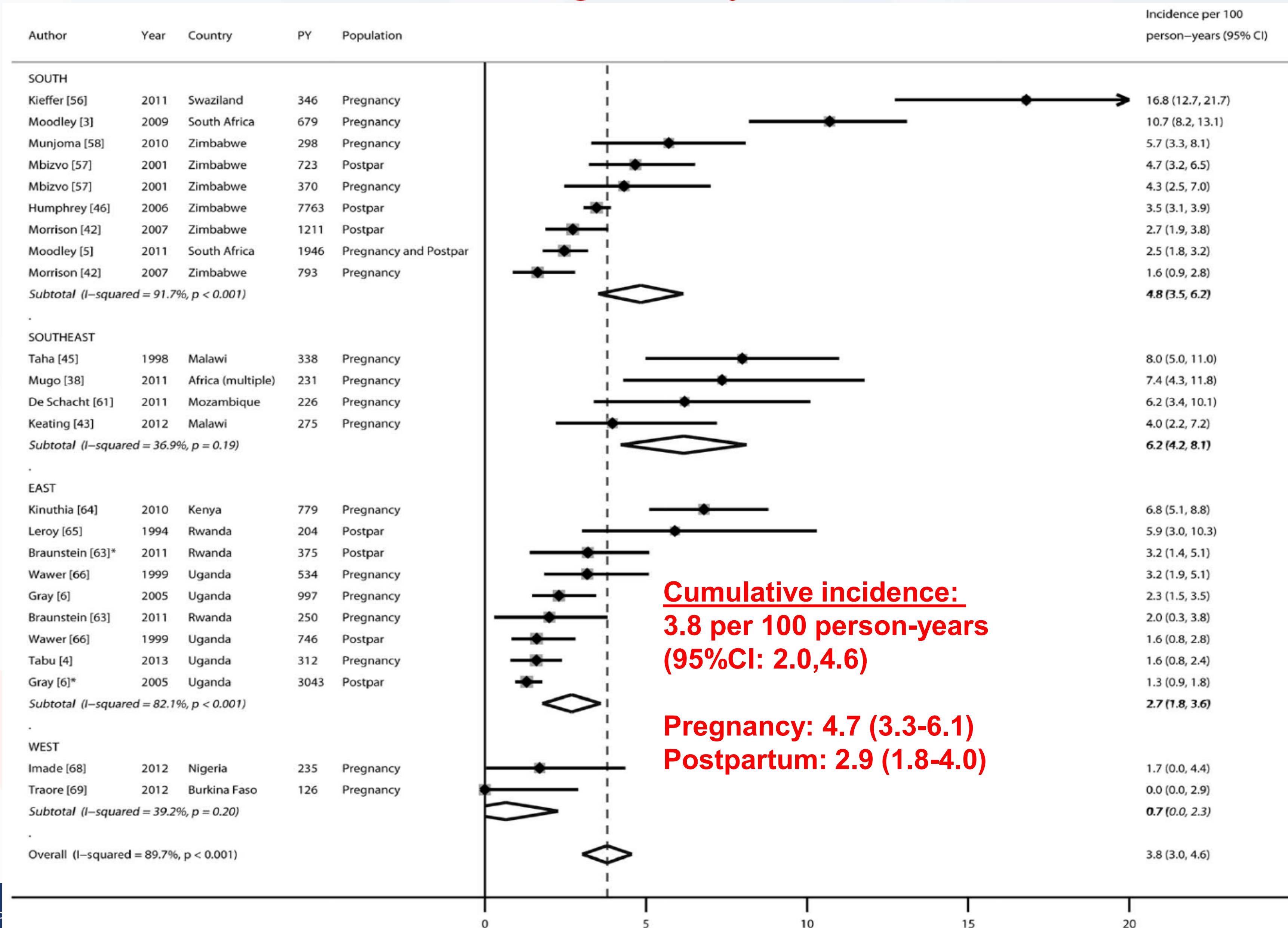
MSM, men who have sex with men; PWID, person who injects drugs.
Trends in U.S.: HIV diagnoses, 2005-2014. Centers for Disease Control and Prevention website. https://www.cdc.gov/nchhstp/newsroom/docs/factsheets/hiv-data-trends-fact-sheet-508.pdf. Accessed September 12, 2019.

HIV Diagnoses by Among Cis-gender Women by Race and Ethnicity, 2005-2014



Trends in U.S.: HIV diagnoses, 2005-2014. Centers for Disease Control and Prevention website. https://www.cdc.gov/nchhstp/newsroom/docs/factsheets/hiv-data-trends-fact-sheet-508.pdf. Accessed September 12, 2019.

HIV incidence in Pregnancy & Postpartum



Drake AL et al. PLosMed 2014;11:e1001608

Pediatric Considerations

Achieving Elimination of Perinatal HIV

Diagnosis Rate and EAPC of Perinatally Acquired HIV Among Persons Born in the United States, by Year of Birth, Overall, and by Mother's Race and Ethnicity, 2010–2019

Diagnosis Rate[a]											
Race and ethnicity	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**EAPC[b] (95% CI)**
Black/African American	6.6	6.5	8.1	4.5	5.3	5.3	5.4	4.6	3.3	3.1	−7.67 (−11.30 to −3.89)
Hispanic/Latino[c]	1.7	1.6	1.0	1.0	0.7	0.9	1.1	0.8	0.8	0.8	−8.42 (−14.77 to −1.60)
White	0.4	0.0	0.3	0.2	0.2	0.3	0.1	0.3	0.3	0.3	0.19 (−8.75 to 10.02)
Other	3.6	2.9	2.4	2.4	2.0	1.7	1.6	1.6	1.4	0.8	−12.05 (−19.43 to −4.00)
Total	1.9	1.6	1.8	1.2	1.2	1.3	1.2	1.2	0.9	0.9	−7.25 (−10.05 to −4.35)

Diagnosis rates are per 100 000 live births. CI, confidence interval.

a National HIV Surveillance System.

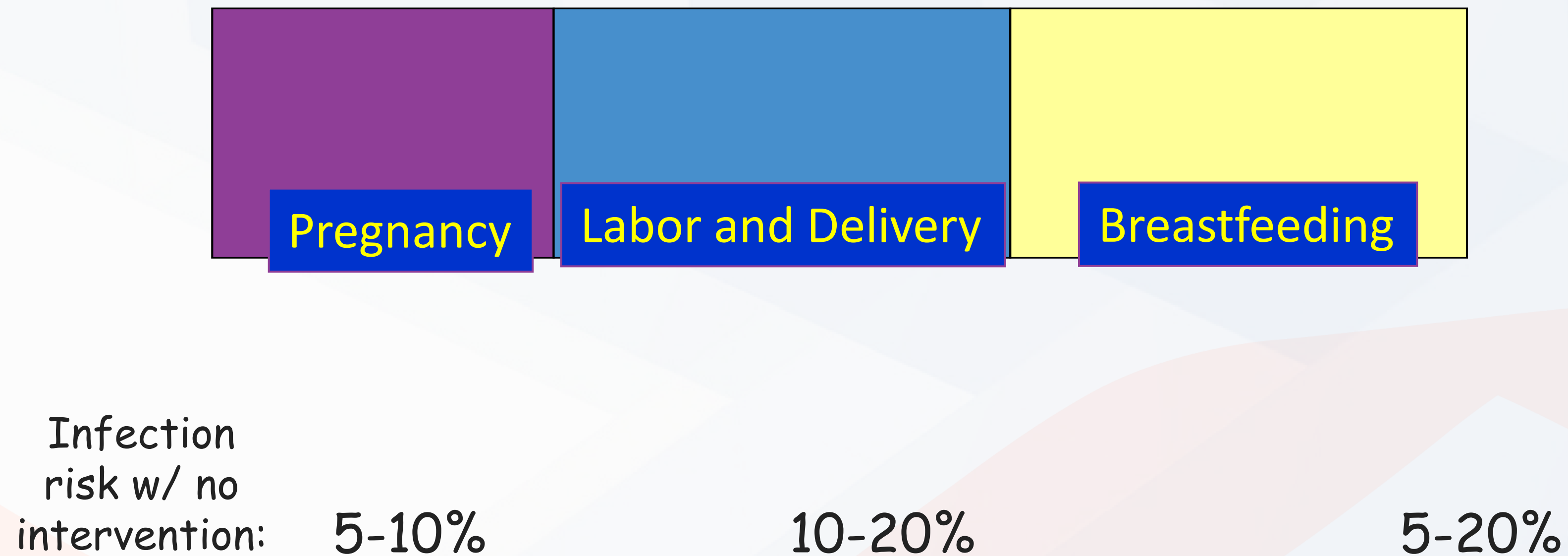
b Estimated annual percent change and 95% confidence intervals estimated using Poisson regression models.

c Hispanic/Latino persons can be of any race; other race includes American Indian/Alaska Native, Asian, Native Hawaiian/other Pacific Islander, and multiracial persons.

Have we achieved elimination of Perinatal HIV in the U.S.?

Pediatrics. 2023;151(5). doi:10.1542/peds.2022-059604

Risk for Pediatric Infections During Pregnancy and the Postpartum Period



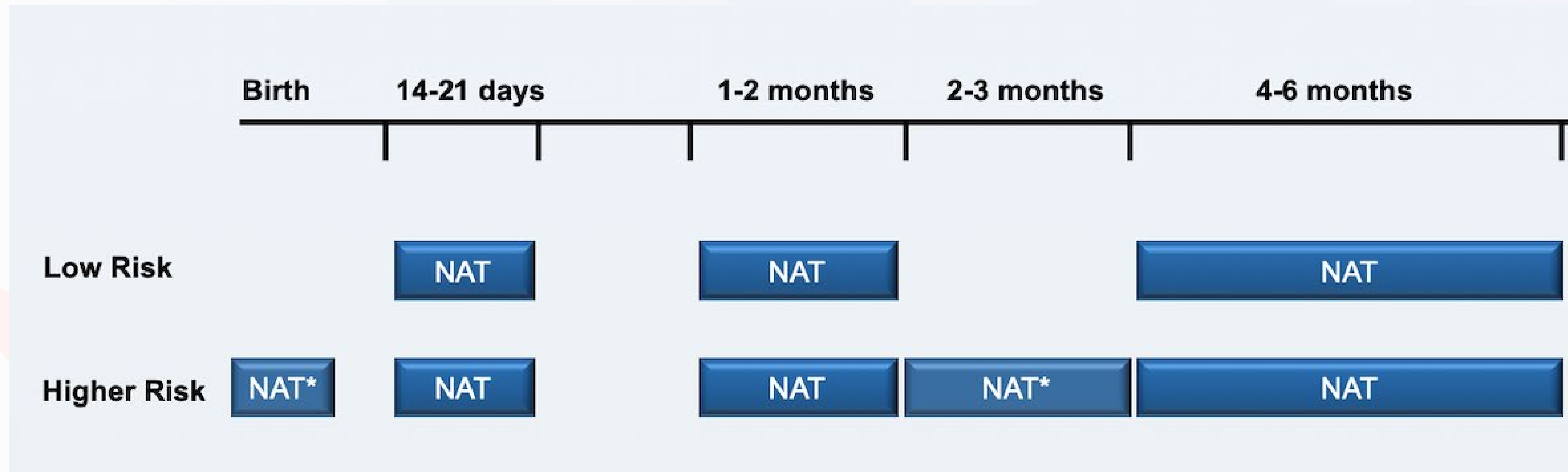
In the absence of intervention, breastfeeding accounts for ~ 40% of infant HIV infections

HIV Testing During Pregnancy

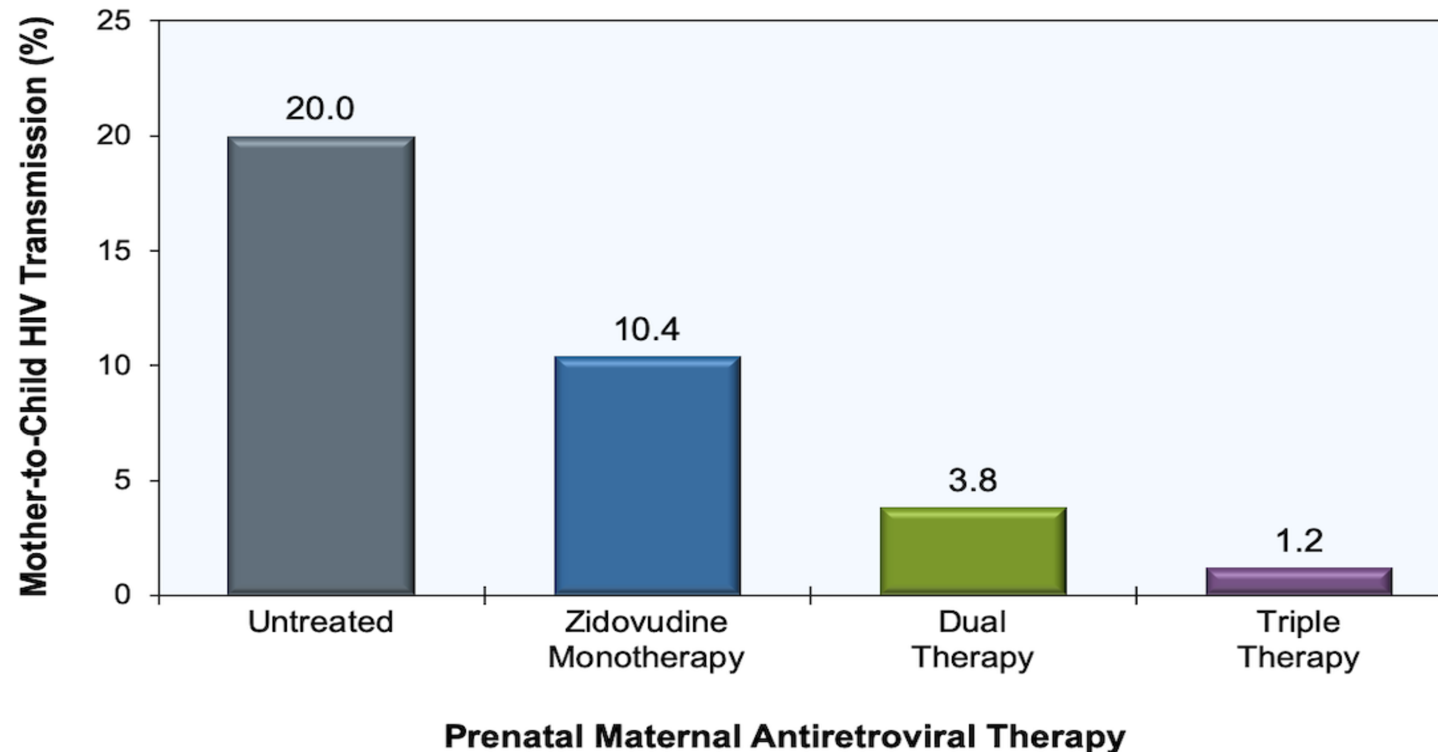
- Test all pregnant persons at the initiation of care
- Re-test during the 3rd trimester
- Rapid screening during labor if status unknown
- In those at high-risk, teach about signs/ symptoms of Acute Retroviral Syndrome (ARS)

aidsetc.org/resource/perinatal-hiv-update-screening-prevention-treatment

U.S. Recommended Virologic Testing Schedules for Infants Exposed to HIV by Perinatal HIV Transmission Risk



ART has drastically reduced perinatal HIV transmission



Source: Cooper ER, Charurat M, Mofenson L, et al. Combination antiretroviral strategies for the treatment of pregnant HIV-1 pregnant women and prevention of perinatal HIV-1 transmission. J Acquir Immune Defic Syndr. 2002;29:484-94.

//www.hiv.uw.edu/go/prevention/preventing-perinatal-transmission/core-concept/all#overview

Differences between adolescents who acquire HIV perinatally vs during adolescence (cont'd)

Differences/Similarities Related To:	Period HIV Was Acquired	
	Perinatal	Adolescence
Disclosure	• Primary caregiver knows HIV status • Caregiver needs to disclose status to adolescent if they do not already know	• Coping with new diagnosis • Coping with disclosure to primary caregiver • Coping with disclosure to partner
	Similarities: Coping with process of disclosing to family and peers	
Family Support	• Caregivers know adolescent's HIV-status and offer support	• Support system for HIV depends on disclosure
Economic Support	• May be unstable if orphaned	• May have few resources if has left home
ART	• Often on ART for many years	• May not be receiving ART yet
	Similarities: Adherence challenges in childhood and adolescence	
Stigma/Blame	• Less likely to be blamed; considered "innocent"	• More likely to be blamed because of "irresponsible" behavior
	Similarities: Face stigma	

World Health Organization. 2010. Lam PK, et al. *J Int AIDS Soc.* 2017;20(Suppl 3):21506.

Maternal Considerations

Treatment Recommendations in Pregnancy

- ART is recommended for all pregnant people with HIV, regardless of CD4 count and HIV RNA
- If pregnant person's viral load is suppressed, continue current regimen
- Preferred regimens:
  - Backbone NRTI
    - Tenofovir DF/emtricitabine or abacavir/lamivudine (if HLA-B*5701 not present)
    - TAF/FTC recommended as alternative
  - Addition of either
    - INSTI (dolutegravir or raltegravir)
    - Boosted PI (atazanavir/ritonavir qday or darunavir/ritonavir twice a day
- Assess benefits for PrEP if HIV negative

Available from https://aidsetc.org/resource/perinatal-hiv-update-screening-prevention-treatment and https://clinicalinfo.hiv.gov/en/guidelines/perinatal/intrapartum-care-for-people-with-hiv

PREVENTION OPPORTUNITIES

Primary HIV prevention for Women and girls

Adequate preconception care and family planning services

Accessible, affordable and adequate prenatal care

Universal prenatal HIV testing (routine opt-out)

Providing ART to all eligible

Delivery via C-section scheduled if maternal VL > 1000

Continued engagement in HIV care postpartum

Retention and viral suppression, Y1 and Y2 postpartum

Adapted from the CDC Perinatal HIV Prevention Cascade

Case

- Called to consult on a young African American woman diagnosed with HIV at L&D
- Her previous HIV test was negative in the 1st trimester, which was also her 1st and last prenatal visit
- Presented in labor, test had resulted right before delivery
- Overwhelmed and anxious

Case

Multi-layered issues:

- HIV- disclosure, stigma, anxiety
- Additional mental illness (depression, PTSD)
- Substance use, baby removed from custody
- SES, no income
- Postpartum care challenges: visits for HIV, primary care and mental health at separate locations

Case

Lost to care after delivery

Returned to HIV care with subsequent pregnancy 1 year later, not on ART

Re-established HIV care during pregnancy

Lost to care and died about 18 months post delivery

Postpartum Period

Clinical Infectious Diseases Advance Access published August 30, 2015

MAJOR ARTICLE HIV/AIDS

Postpartum Engagement in HIV Care: An Important Predictor of Long-term Retention in Care and Viral Suppression

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[1]AIDS Activities Coordinating Office, Philadelphia Department of Public Health, [2]Division of Infectious Diseases, Perelman School of Medicine, University of Pennsylvania, [3]Department of Epidemiology, Drexel University School of Public Health, [4]Leonard Davis Institute of Health Economics, University of Pennsylvania, and [5]Division of Infectious Diseases and HIV Medicine, Drexel University School of Medicine, Philadelphia, Pennsylvania

Specific Aims

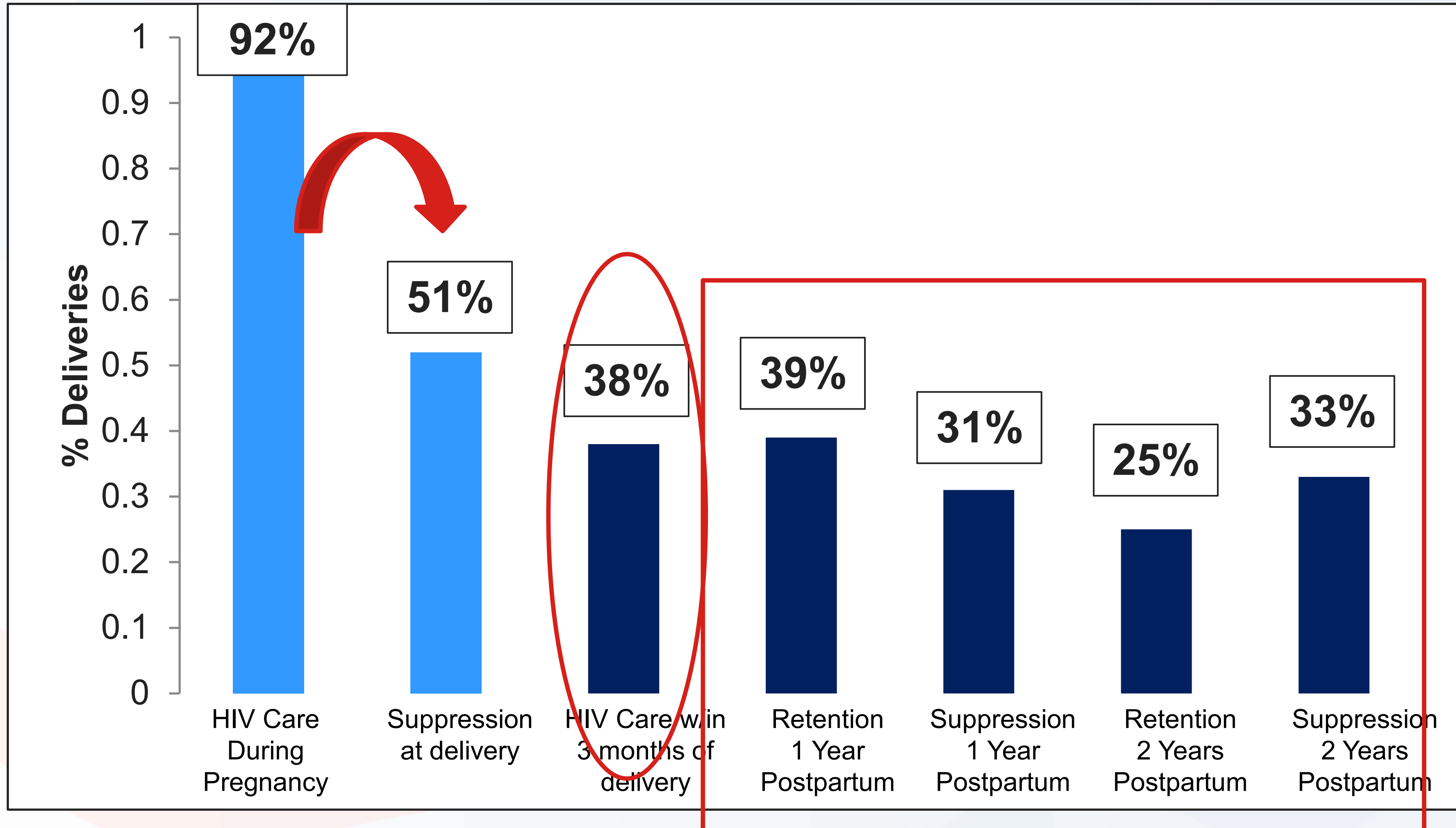
1) Describe aspects of the HIV care continuum, specifically retention and viral suppression, of women with HIV up to two years after delivery

2) Evaluate factors associated with these outcomes

Methods

- Data Sources
  - Philadelphia Enhanced Perinatal Surveillance
  - Philadelphia Enhanced HIV/AIDS Reporting System
- Study Population
  - Women with HIV who delivered in Philadelphia between 2005-2011

Care Continuum Postpartum (2005-2011)



Momplaisir, F., et al. *PLOS ONE* (2015); **Adams, JW., et al.** *Clin Infect Dis* (2015)

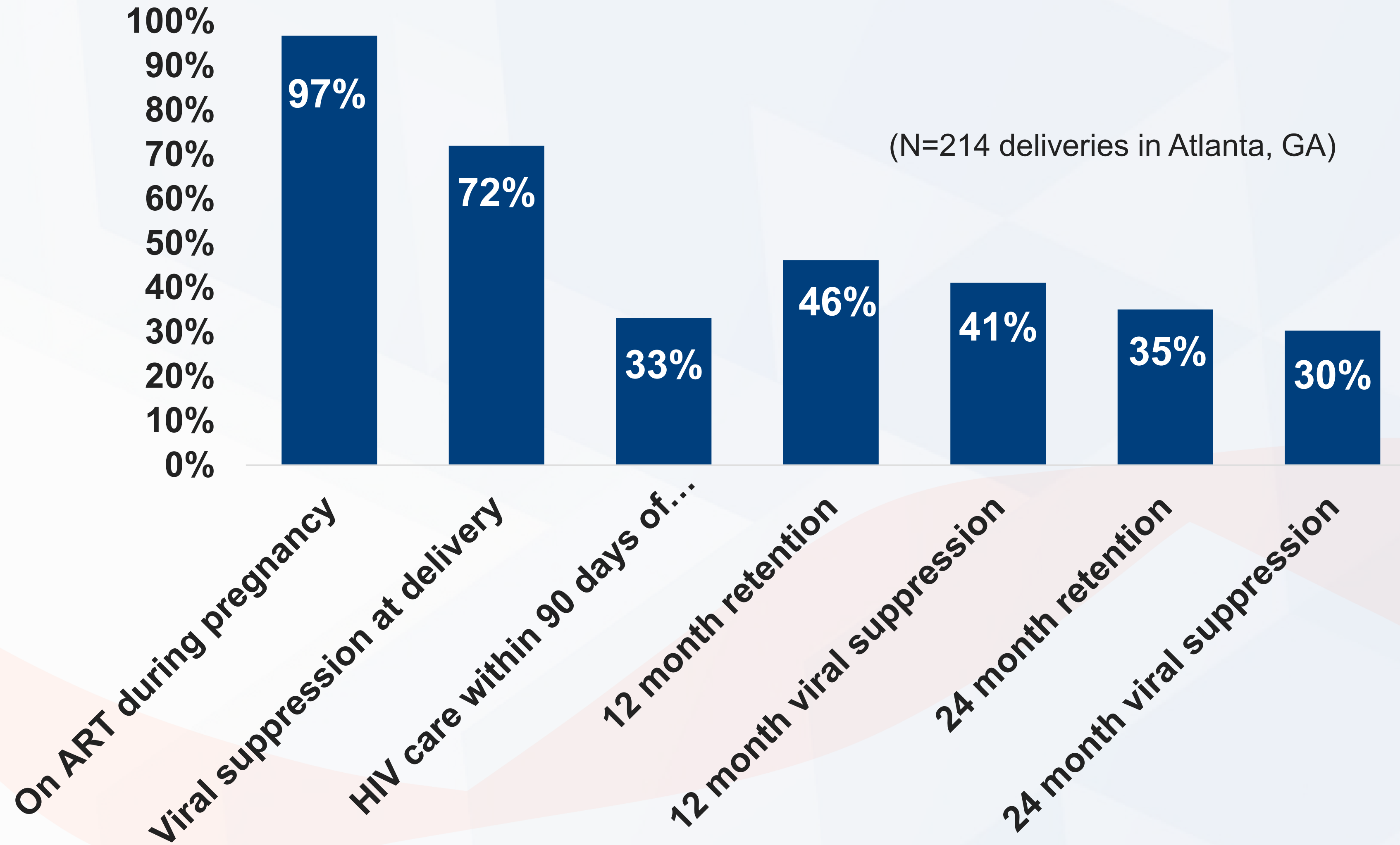
Role of Immediate Postpartum Care Engagement

	Retention in Care, 1 Year AOR 95% CI	Retention in Care, 2 Years AOR 95% CI
HIV Care Engagement Within 3 Months Postpartum (y/n)	11.1 (7.6-16.3)	6.2 (4.0-9.5)
	Viral Suppression, 1 Year AOR 95% CI	**Viral Suppression, 2 Years AOR 95% CI**
	2.6 (1.8-3.7)	1.4 (1.0-1.9)

Models adjusted for age, race, substance use, timing of HIV diagnosis, number of previous pregnancies with HIV, ART use, adequacy of prenatal care and year of delivery

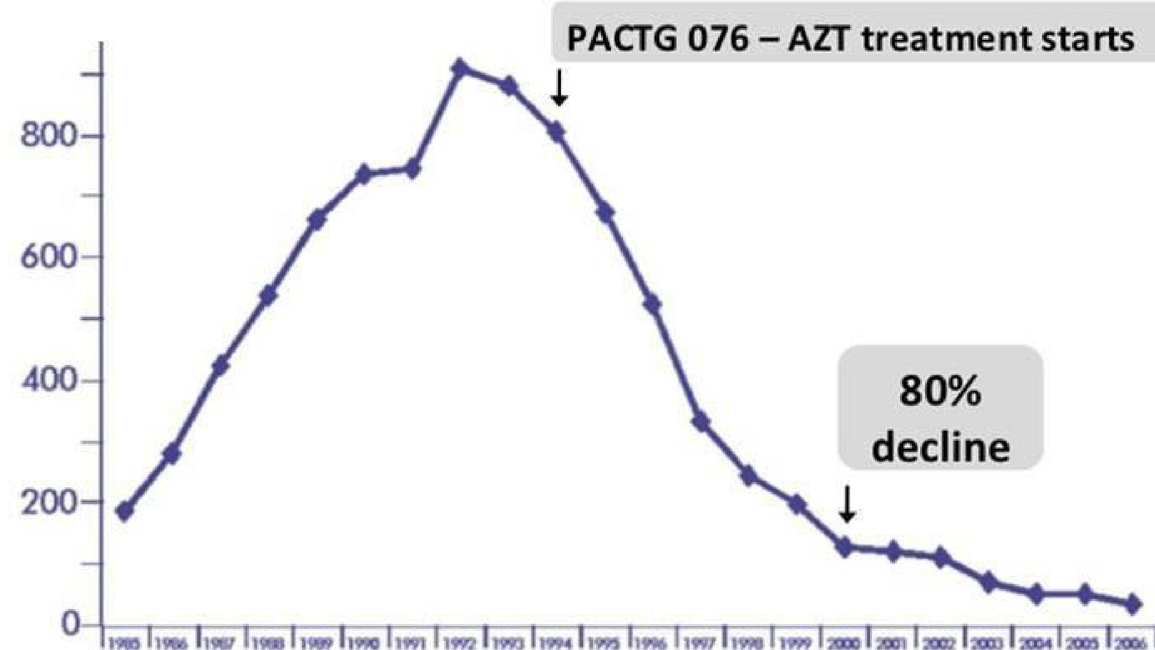
Adams, JW., et al. *Clin Infect Dis* (2015)

Care Continuum in the Southern US



Seth, A., et al. 2017 Inter-CFAR Collaboration on HIV Research in Women

Decline in Perinatal Transmission of HIV is a Success but Less Emphasis Placed on Women Postpartum



www.cdc.gov/hiv/group/gender/pregnantwomen/index.html

The Brief: Philly's Maternal Mortality Rate Is Worse Than Libya's

"So many of these tragic deaths were related to social-economic status," says one doctor.

BY HOLLY OTTERBEIN | JUNE 17, 2015 AT 8:39 AM

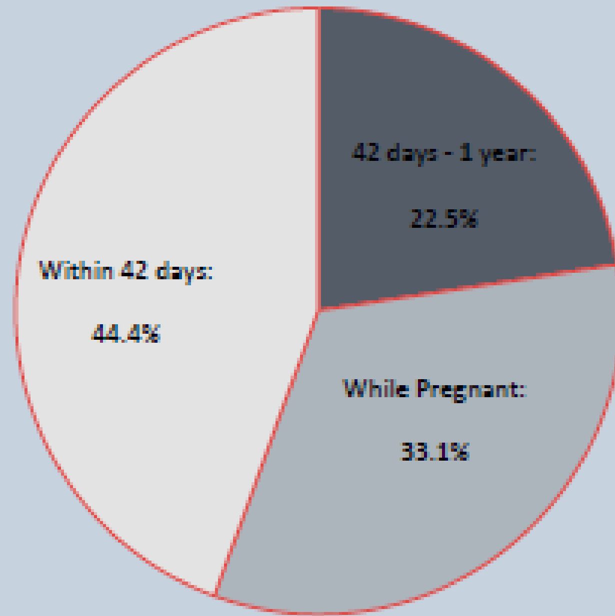
PHILADELPHIA DEPARTMENT OF PUBLIC HEALTH
MEDICAL EXAMINER'S OFFICE

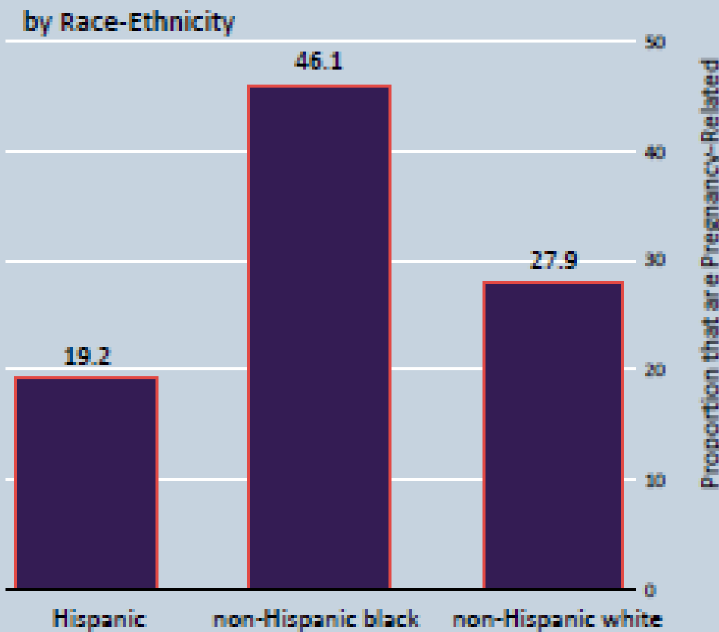
James W. Buehler, MD – Commissioner

Sam P. Gulino, MD – Chief Medical Examiner

- Philadelphia Maternal Mortality Review, 2010-2012
- Maternal mortality rate is 27.4 deaths per 100,000 births, 50% higher than national average
- 56% were black
- The prevalence of HIV was 16 times higher among these women than women living in Philadelphia

Maternal Mortality, 4 states (2008-2014)





ACOG Recommendations for Postpartum care

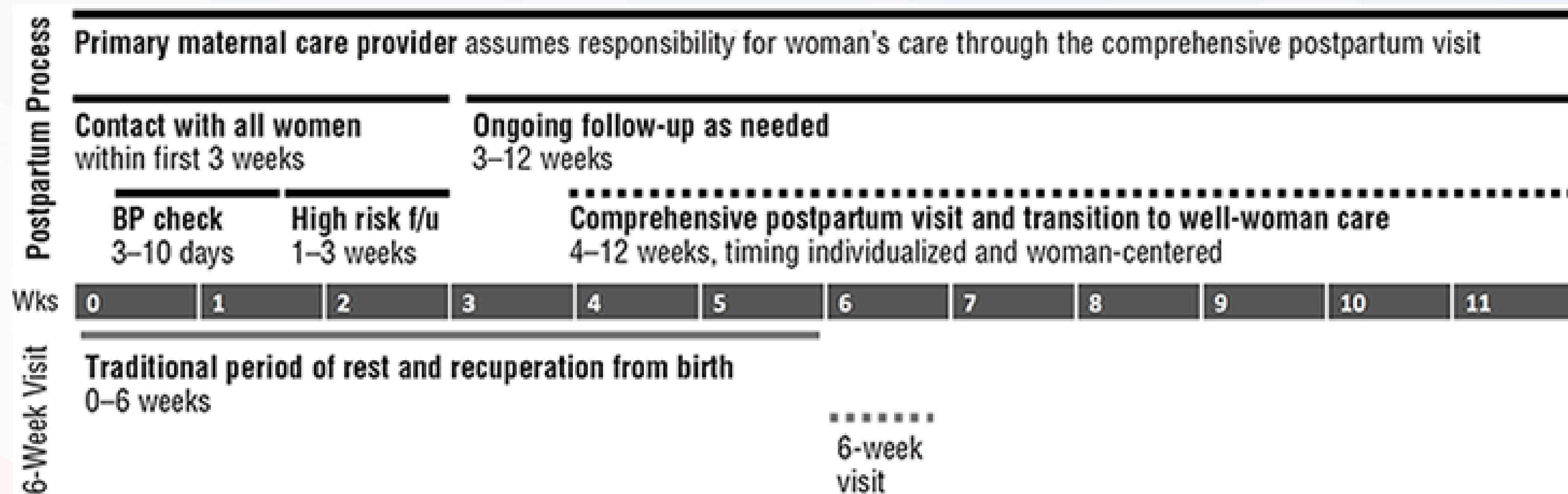


Figure 1. Proposed paradigm shift for postpartum visits. The American College of Obstetricians and Gynecologists' Presidential Task Force on Redefining the Postpartum Visit and the Committee on Obstetric Practice propose shifting the paradigm for postpartum care from a single 6-week visit (bottom) to a postpartum process (top). Abbreviations: BP, blood pressure; f/u, follow-up.

https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2018/05/optimizing-postpartum-care

Summary

- Women with HIV are falling sharply out of HIV care within 3 months of delivery
- Those who disengage in HIV care postpartum are less likely to be retained and suppressed up to 2 years after delivery
- Grave consequences for maternal outcomes
- Need to understand barriers to sustained engagement

Factors associated with Maternal HIV Outcomes

- Mixed-methods
- In-depth interviews to evaluate attitudes and beliefs influencing engagement in HIV care in the postpartum period
- Structural factors associated with maternal HIV outcomes, measured at the neighborhood level

Stigma

"**It's hard to tell someone** but it's hard. And it's where I'm at, because I want to talk to him, but **when I hear him talk about someone he knows who has it, or about AIDS**, it's like, if this is how you really feel, then if I tell you, **how will you feel about me? If you feel that towards somebody else.** That's where I'm at, so…why say anything about it…"

Depression

"It was like I am **pregnant, shelter**, and I am still working (...). Now, I am going to have the **baby which is more stress, more mental problems.** So it was just a whole lot on my last daughter. It was like, I didn't want to do nothing. I didn't want to go outside [to get food]. I didn't want to go nowhere."

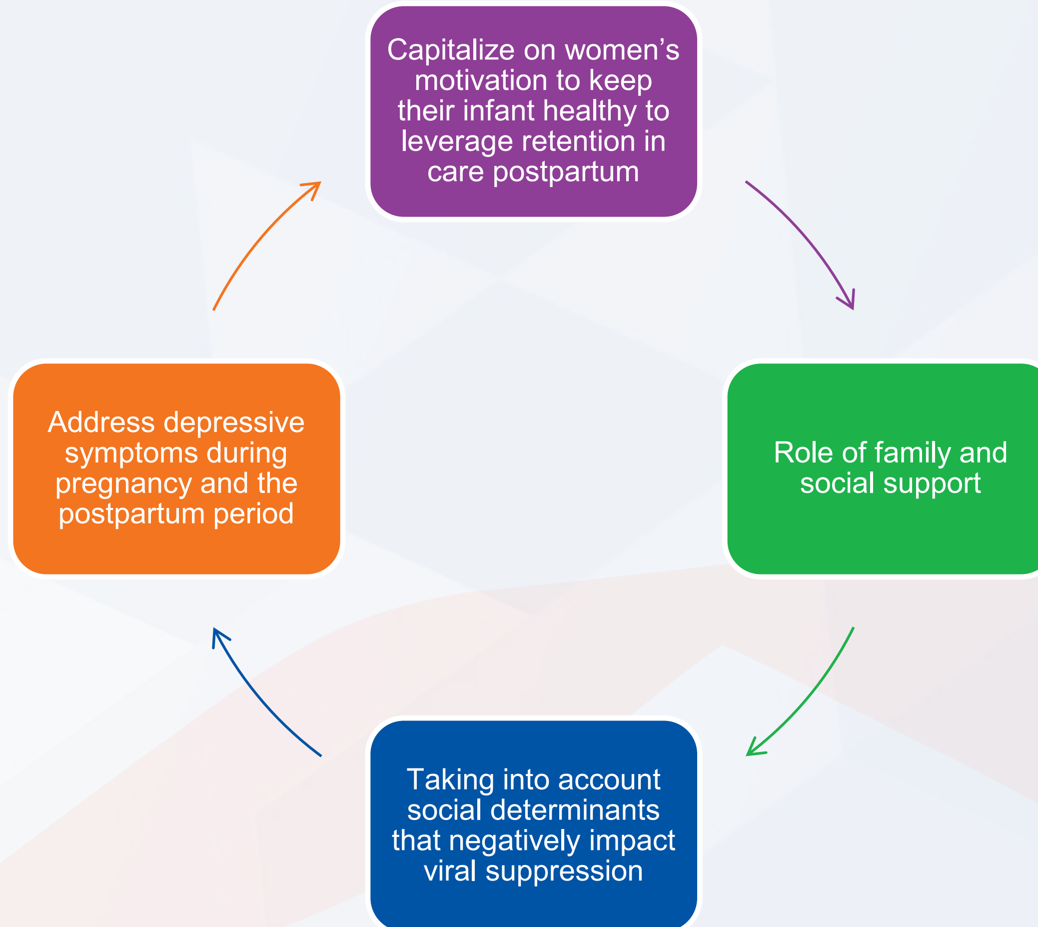
Commitment to Pediatric Health

“**I just think about the baby**. I want to take this [medicine] for the baby. If I wasn’t suppressed, I wouldn’t take the medicine to be honest. The baby is like, **I‘ve got two lives, not just mine**. So it was like, **what is more important? My baby**."

Peer Mentor Support

"…it's harder to talk about how I'm feeling so I figured if there's a community of women that has it [HIV], I'd be easier and open to express my feelings. Sometimes I'm like who can I talk to? I can't talk to my mom, I can't talk to my sister **because they don't know, they don't experience it**."

Implication for Intervention Development



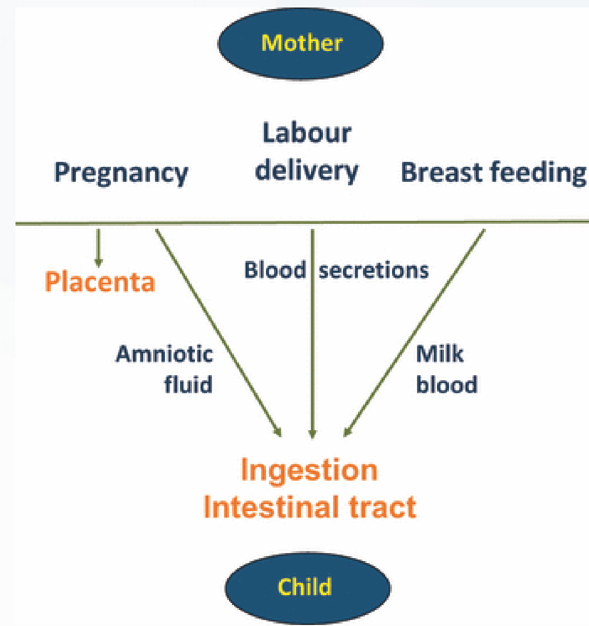
SESSION 1

Welcome to the Peer Mentor Program

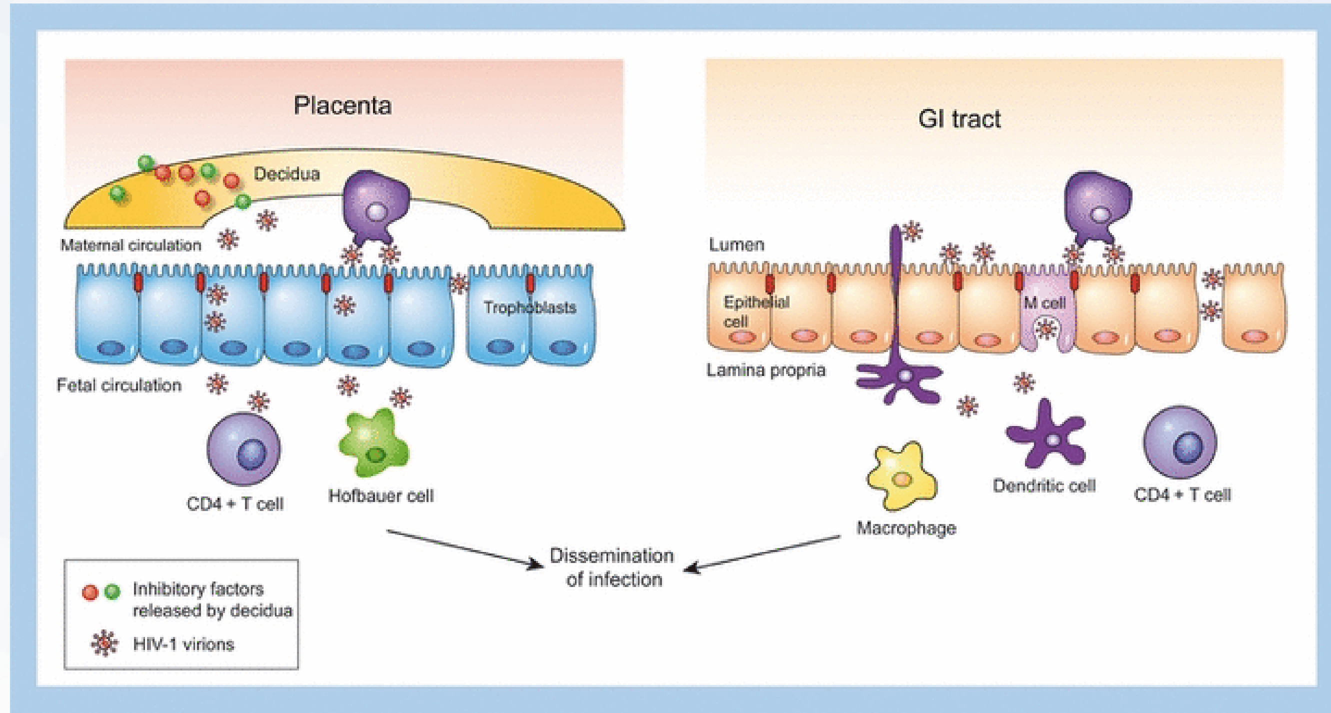
- **Welcome to WISH** (Women Involved in Supporting Health)
- The WISH peer mentor program is about support
- WISH stands for Women Involved in Supporting Health
- Your peer mentor has been where you are and will be there to support you in taking care of your health

Breastfeeding

Mechanisms of Perinatal HIV transmission



HIV-1 transmission occurs through the placenta or by swallowing large amounts of infected biological fluids such as the amniotic fluid during gestation, or blood and vaginal secretions during delivery and milk (predominantly) during breastfeeding



In both the placenta and the gastrointestinal tract, viral transmission may rely on breaches of the tissue, on direct infection of cells or transcytosis of cell-associated virus.

Journal of Internal Medicine Journal of Internal Medicine 270; 561–579.

Weighing Risks and Benefits

<u>Risk of breastmilk</u>

- Risk of HIV transmission
- Risk of more infant prophylaxis

<u>Benefit of breastmilk</u>

- Maternal antibody
- No risk of unclean water

What is the Actual Risk of Transmission with ART

- We don't have robust data from "high income" countries
- PROMISE study (Southern Africa)
  - Maternal ART vs. infant prophylaxis until 18 months or end of breastfeeding ➔ 0.3% at 6mo and 0.7% at 12mo in maternal ART arm
- Increased viral load in mom is associated with transmission to infants
  - However, we don't know the "safe threshold" for viral load
  - Cases of transmission even when the maternal HIV viral load was undetectable

Fowler et al. *New England Journal of Medicine* 375, no. 18 (2016): 1726-1737

Reminder on U=U

NEWS RELEASES

Media Advisory Thursday, January 10, 2019

The science is clear: with HIV, undetectable equals untransmittable

NIH officials discuss scientific evidence and principles underlying the U=U concept.

- "Overwhelming" evidence
  - HPTN 052: >1700 couples
  - PARTNER 1: 58,000 condomless sex acts
  - Opposites Attract: 343 MSM couples
  - PARTNER 2: 77,000 condomless sex acts in MSM couples

- We don't have the same quantity of data for breastfeeding
- Hopefully will get these data that "low income" countries guidelines recommend lifelong ART
- But in the end, it will take longer (birth is a less common event than sex!)

Social implications

- A qualitative study of mothers living with HIV in Canada found that infant feeding is a social, cultural, and emotional issue, often underpinned by HIV-related stigma.
- Some women fear that not breastfeeding will lead to disclosure of their HIV status.
- Multiple case series showing that women with HIV are breastfeeding in resource rich settings.

Khan et al. Journal of the Association of Nurses in AIDS Care 32, no. 1 (2021): 105-114;*Clinical Infectious Diseases*, p.ciad235.

Recommendations for the Use of Antiretroviral Drugs During Pregnancy and Interventions to Reduce Perinatal HIV Transmission in the United States

Panel's Recommendations

- People with HIV should receive evidence-based, patient-centered counseling to support shared decision-making about infant feeding. Counseling about infant feeding should begin prior to conception or as early as possible in pregnancy; information about and plans for infant feeding should be reviewed throughout pregnancy and again after delivery **(AIII).** During counseling, people should be informed that—
  - Replacement feeding with properly prepared formula or pasteurized donor human milk from a milk bank eliminates the risk of postnatal HIV transmission to the infant **(AI).**
  - Achieving and maintaining viral suppression through antiretroviral therapy (ART) during pregnancy and postpartum decreases breastfeeding transmission risk to less than 1%, but not zero **(AI).**
- Replacement feeding with formula or banked pasteurized donor human milk is recommended to eliminate the risk of HIV transmission through breastfeeding when people with HIV are not on ART and/or do not have a suppressed viral load during pregnancy (at a minimum throughout the third trimester), as well as at delivery **(AI).**
- Individuals with HIV who are on ART with a sustained undetectable viral load and who choose to breastfeed should be supported in this decision **(AIII).**
- Individuals with HIV who choose to formula feed should be supported in this decision. Providers should ask about potential barriers to formula feeding and explore ways to address them **(AIII).**
- Engaging Child Protective Services or similar agencies is not an appropriate response to the infant feeding choices of an individual with HIV **(AIII).**

https://clinicalinfo.hiv.gov/en/guidelines/

Policy Implications

- Supportive, nonjudgmental communication (including assessment of desire to breastfeed)
- Increasing awareness of poor postpartum care retention
- Support effective transition in care from pregnancy to postpartum
- Refine existing care coordination resources to understand and address unique needs of pregnant/postpartum women with HIV
- Organize plans and procedures for communication across disciplines and care settings
- Investing in health information exchange of electronic health records to overcome fragmentation of prenatal/postnatal, HIV, primary, and pediatric care

Acknowledgment

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Mentors: John Jemmott, Ana Diez Roux

Research team: Hervette Nkwihoreze, Fatemeh Ghadimi, Philadelphia Department of Public Health

Research participants

Thank You!