



**HPTN**

HIV Prevention  
Trials Network

# **Racial Disparities in HIV Prevalence and Composition of Risk Networks among People who Inject Drugs**

**HPTN 037**

**Florence Momplaisir, MD MSHP FACP  
Drexel University College of Medicine  
Philadelphia, PA**

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# Introduction and Data Source

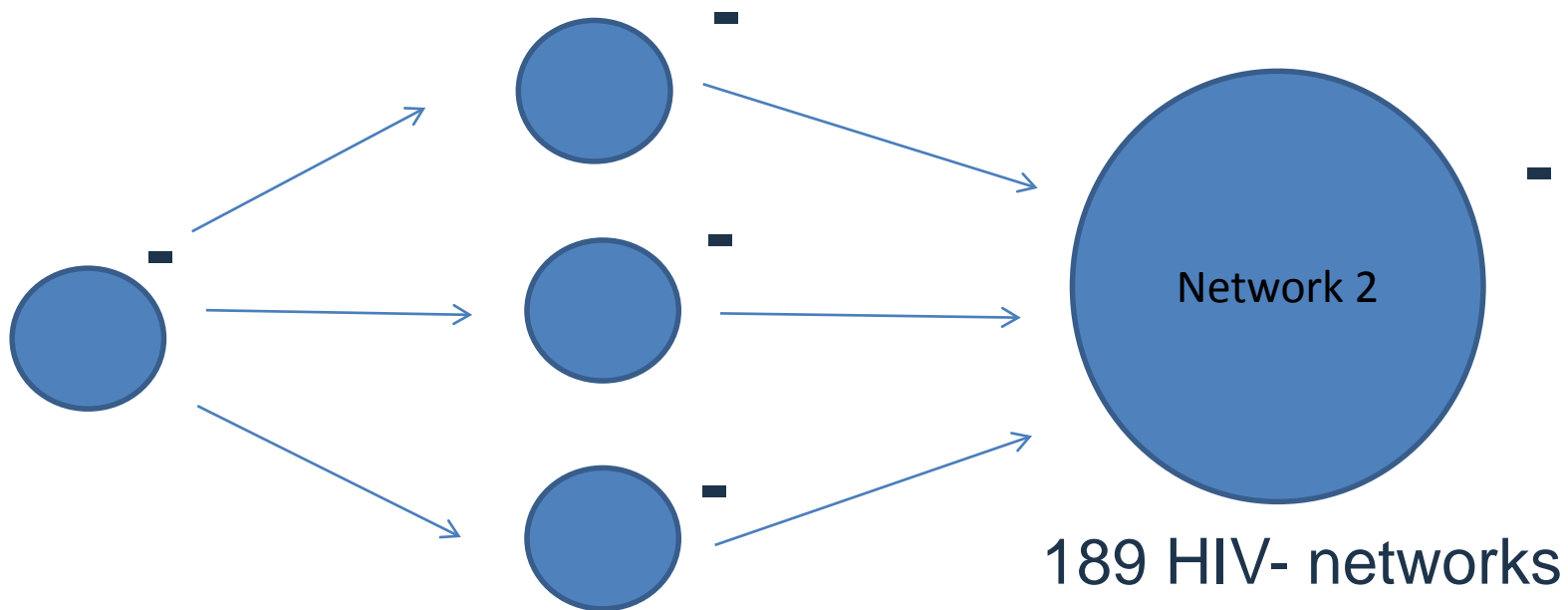
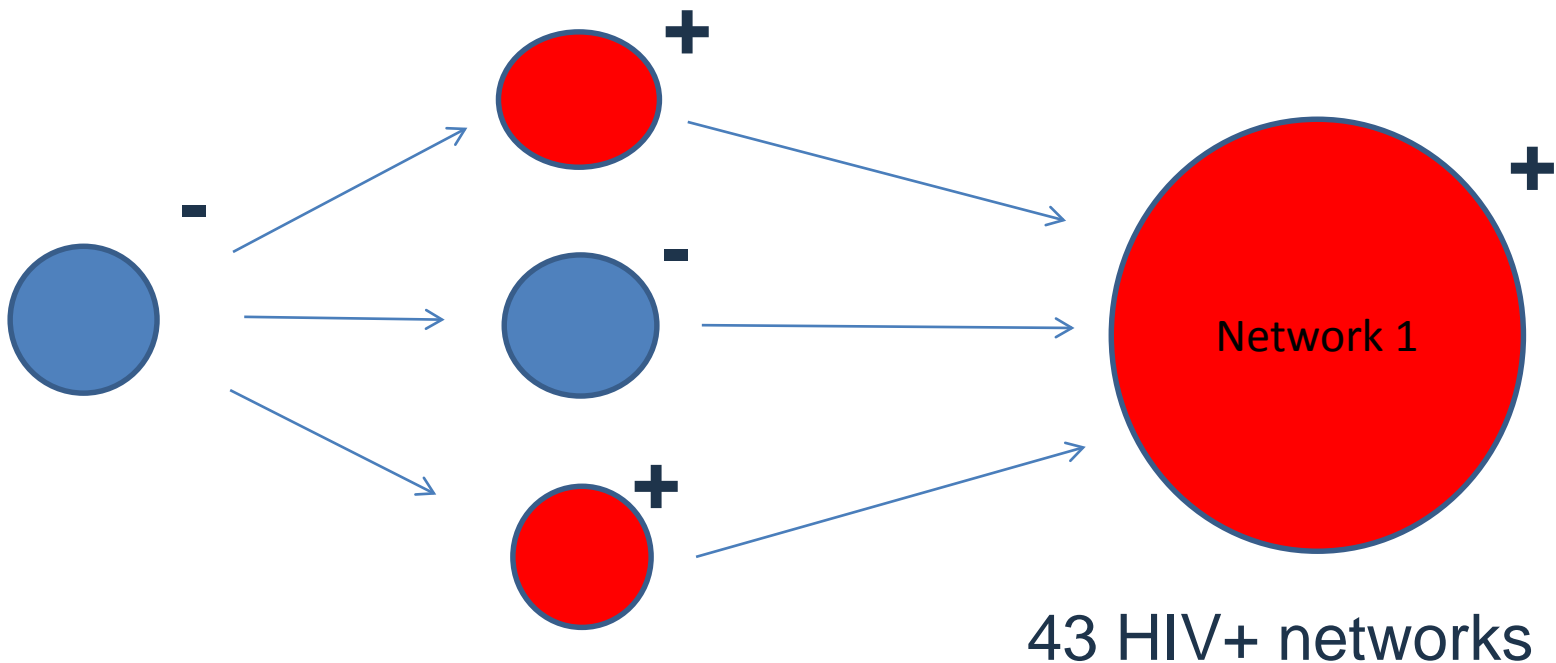
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- Racial disparities in the HIV epidemic continue to worsen in the U.S.
- Attempts to explain racial disparities focus on individual-level risk behaviors
- HPTN 037 used to evaluate how network characteristics contribute to racial disparities in HIV prevalence
- HPTN 037, network-oriented peer education intervention to reduce HIV incidence among PWID in Chang Mai, Thailand and Philadelphia

# Specific Aim

To evaluate individual and network level factors associated with

- 1) Racial disparity in HIV prevalence
- 2) HIV status



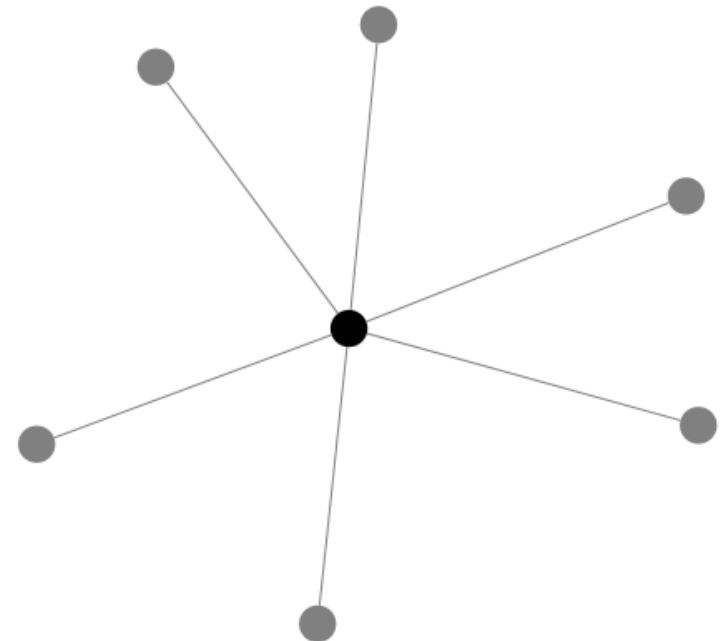
Outcome Variable	Description
Individual HIV status (42 baseline+ and 8 conversions)	Study participant's HIV status
<b>Individual Level Characteristics</b>	
Age	Average
Gender	Male; Female
Race	Black; White; Hispanic and Other
Homelessness	Living on the street, in a car, in a park, or in an abandoned building in the past 6 months
<b>Network Level Characteristics</b>	
Racial Consistency	Network where all members share the same race
Drug Risk	Mean needle sharing in the past month
Sex Risk- Unprotected Sex	Mean number of unprotected sex events in the past week
Sex Risk- Multiple Partners	Mean number of partners in past month

# Analysis

- Descriptive analysis of networks
- Logistic regression model with a random intercept to evaluate the association between HIV status, individual and network level characteristics
- Model accounts for nesting of individuals within networks

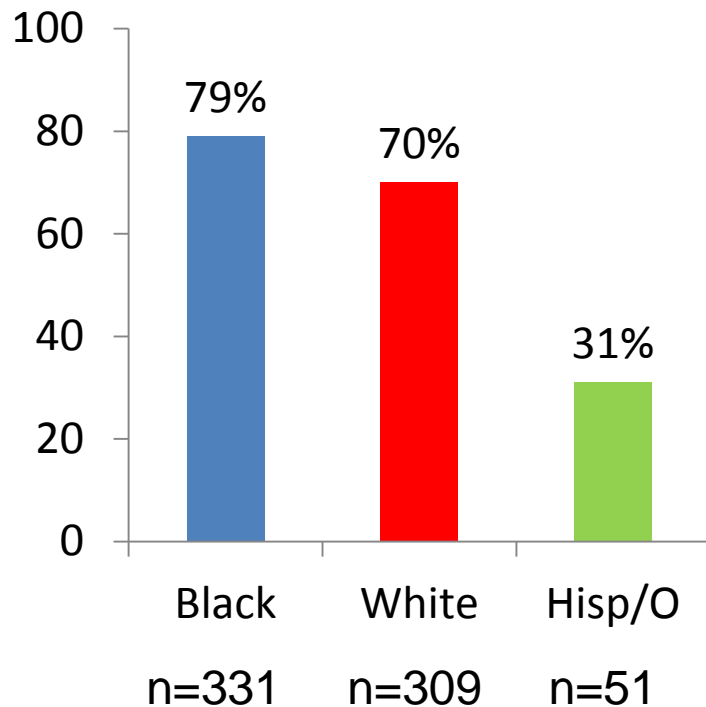
# Results

- Network Composition
- 696 participants enrolled in 232 networks of 232 indexes and 464 network members
- Egocentric
- Average network size 3.00 (SE 0.08)
- Mean age 40; 69% male; 48% black, 44% white, 8% Hispanic/other



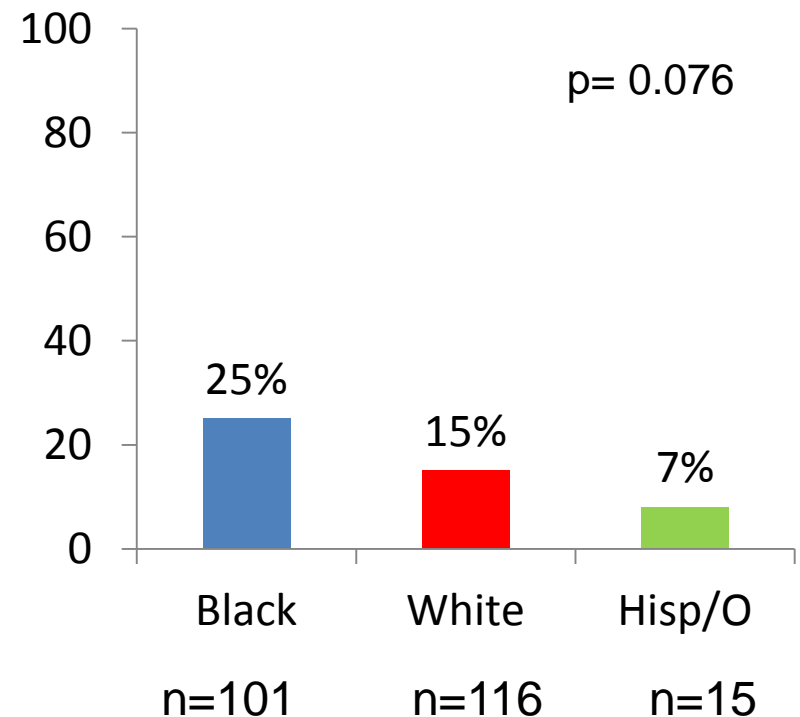
- Racial Consistency in Network Membership

**Drug/sex with Members  
of the Same Race (all  
participants)**



- Racial Disparity

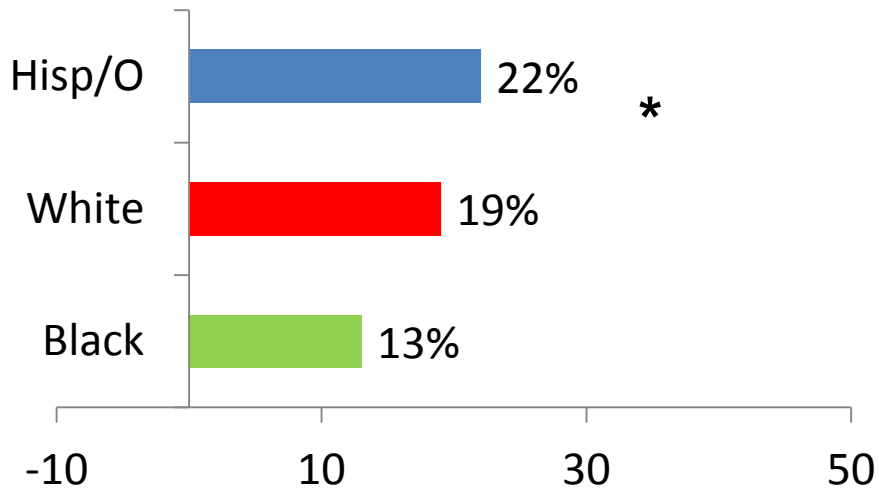
**Network HIV Prevalence  
by Race of Index  
Participant (index only)**





# NETWORK DRUG AND SEX RISK BY RACE

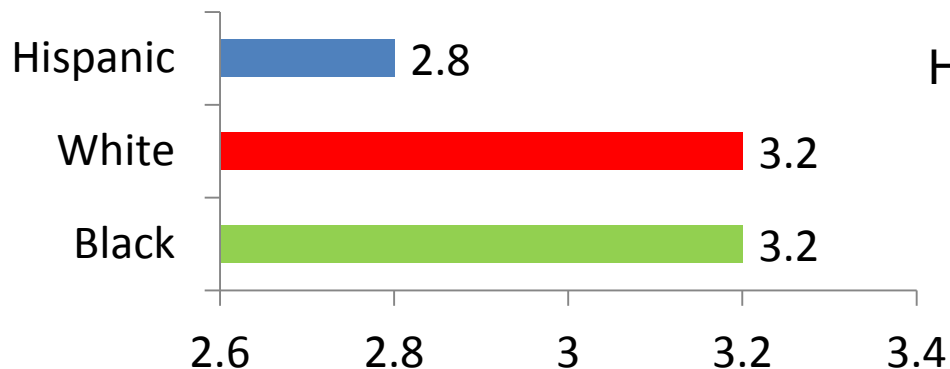
## Needle Sharing in Past Month



## Mean Unprotected Sex Events in the Past Week



## Mean Number of Partners in the Past Month



Black, n=331  
White, n=309  
Hispanics/Others, n=56

\* p-value <0.05

# RESULTS

Association between HIV Status, Individual and Network Characteristics in Logistic Regression Model with Random Intercept

	OR, 95% CI	P-value
Age	0.9 (0.9-1.0)	0.62
Female (ref: male)	2.0 (0.9-4.0)	0.06
Black (ref: white)	<b>3.8 (1.5-9.3)</b>	<b>0.004</b>
Hispanics	2.1 (0.6-7.8)	0.26
Homeless	<b>2.3 (1.1-4.9)</b>	<b>0.03</b>
Network needle sharing	0.3 (0.1-1.9)	0.23
Network unprotected sex	1.1 (0.9-1.3)	0.35
Network multiple partners	1.0 (0.9-1.1)	0.59

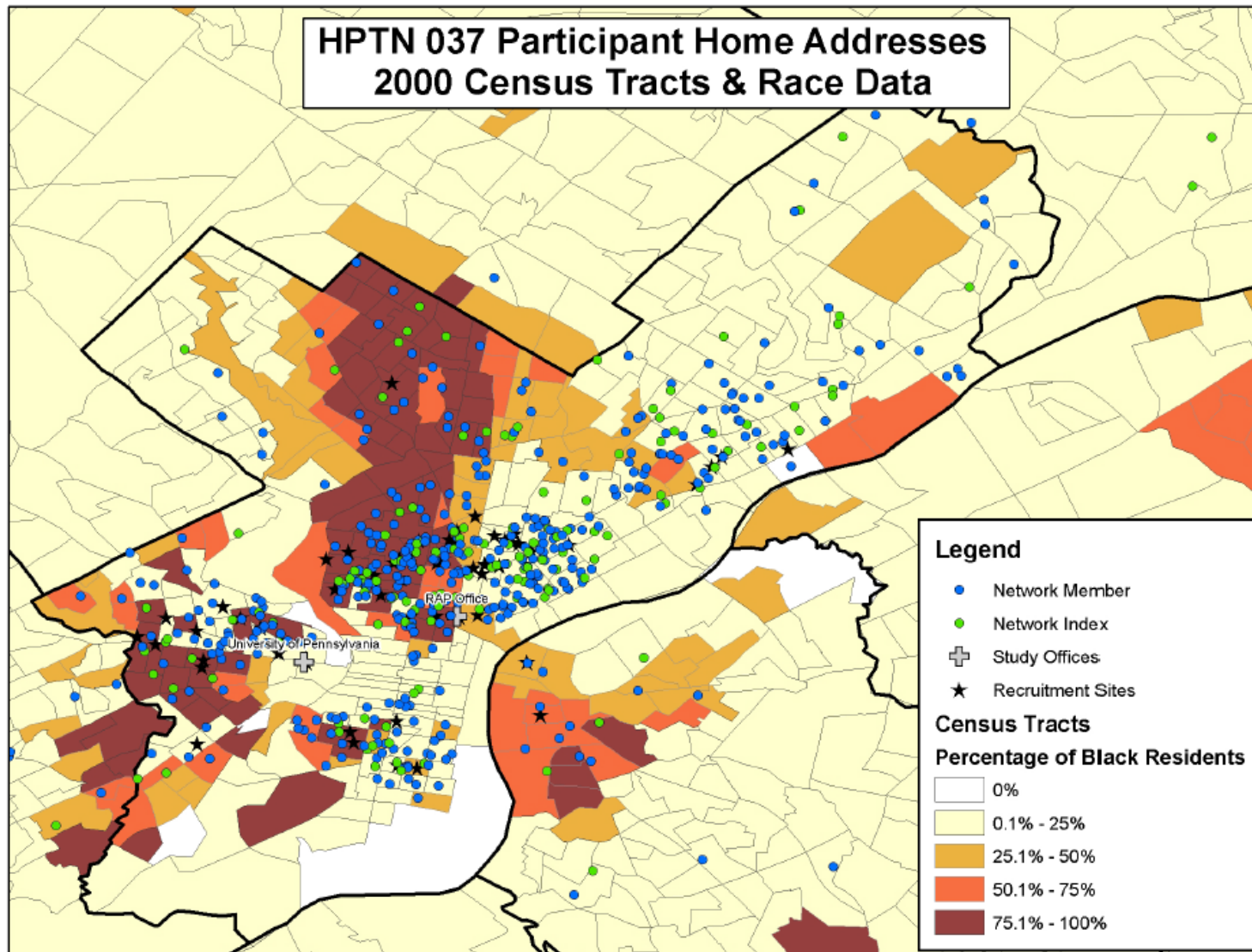
Race -network drug and sex risk interactions were non-significant

# Summary

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- Racial consistency within networks was high, particularly for blacks and whites
- Network HIV prevalence was almost twice as high in networks of black compared to white index participants, despite having lower or similar risk behavior
- Accounting for clustering within networks, blacks and homeless individuals were significantly more likely to be HIV+

# Future Direction



# ACKNOWLEDGEMENTS

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