EMPIRICAL RESEARCH OVERVIEW FOR HIV/STI PREVENTION AMONG MSM:

Study designs, measurement methods, outcomes

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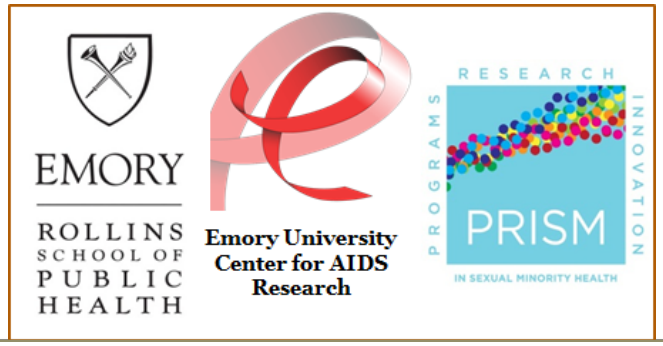


Outline for this session

- Epidemiology of HIV infection in United States and among MSM
- Studies to Understand Racial Disparities in HIV Infection among Atlanta MSM
- Questionnaire design for these studies

Epidemiology of HIV infection in United States and among MSM

HIV infection in the United States

- 1.2 million people in living with HIV infection in 2012
- 35,000 – 50,000 new infections per year
- Characterized by
  - Risk group (transmission category)
    - Men who have sex with men
    - Injection drugs users (IDU / PWID)
    - Heterosexual males/females
  - Sex
  - Age
  - Race
  - Region

New infections disproportionately among MSM, Black MSM

Figure 2: Estimated New HIV Infections, 2009, by Transmission Category

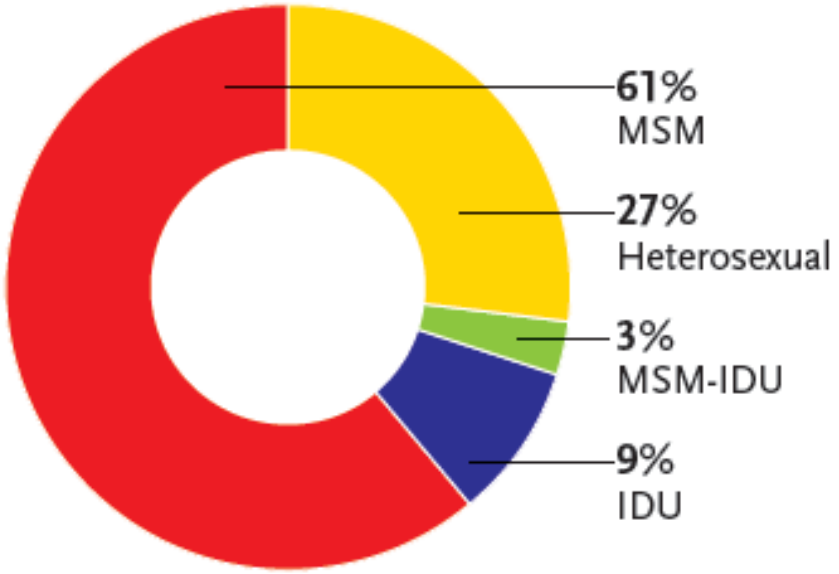
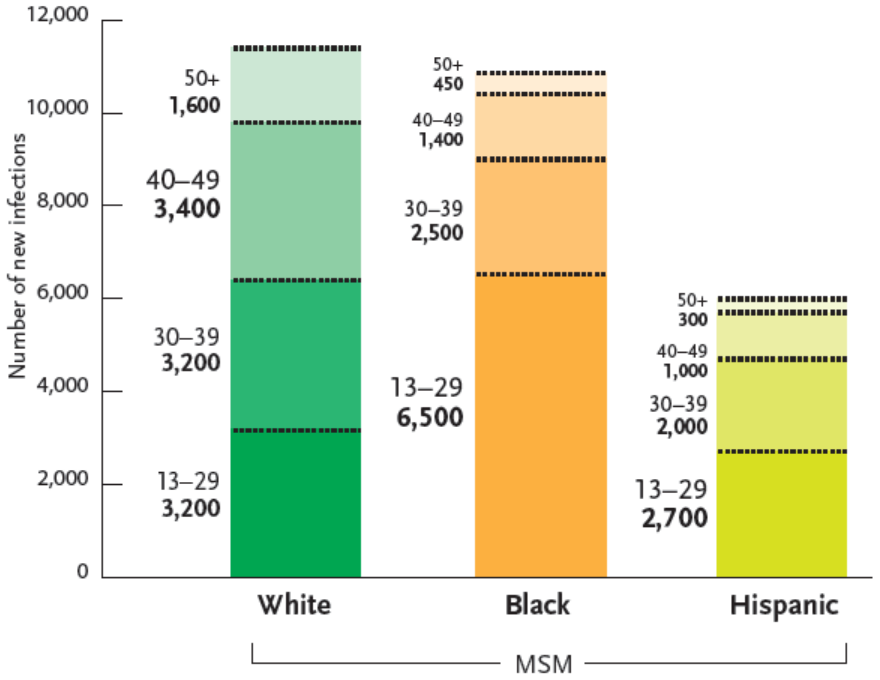


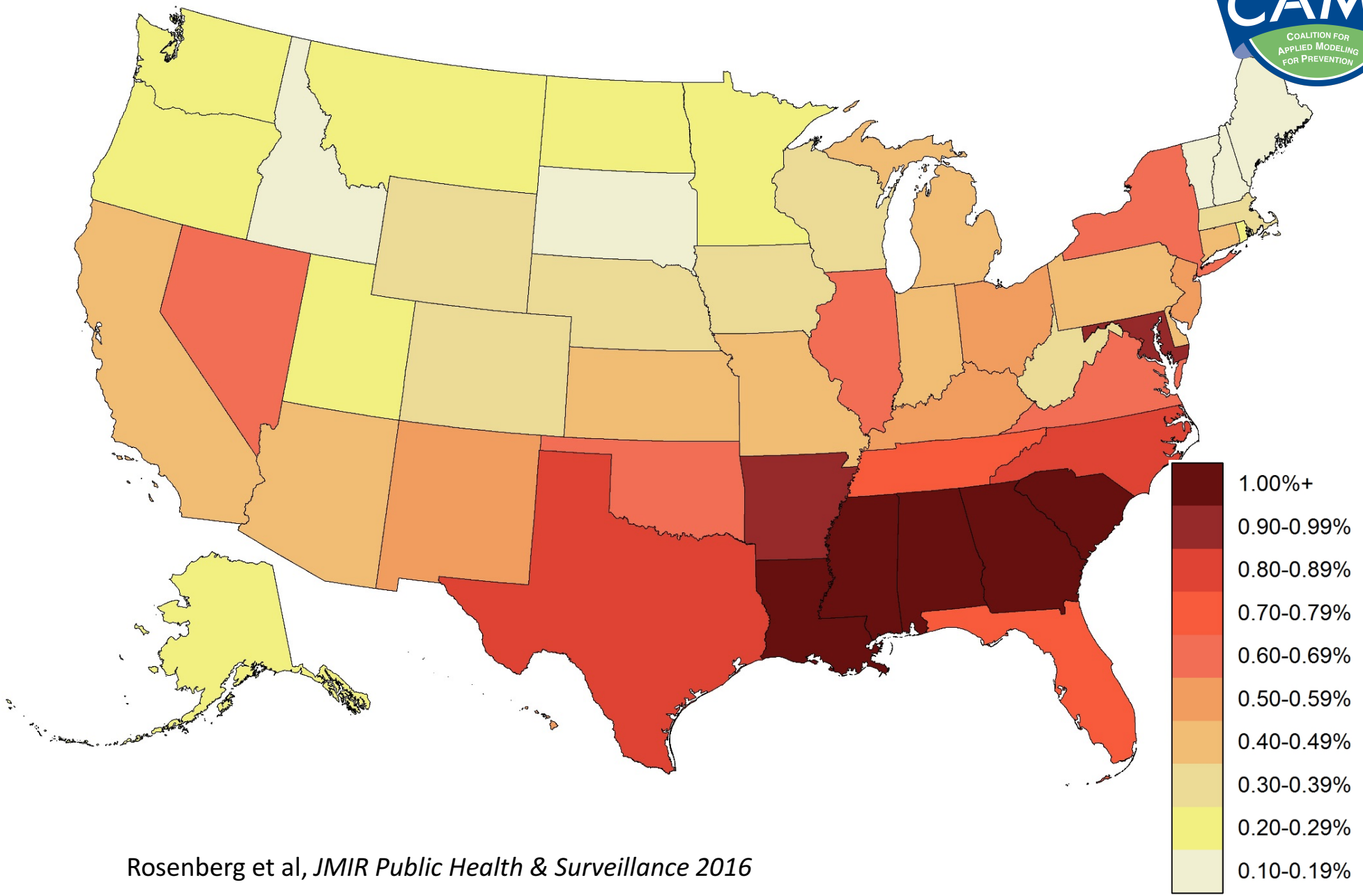
Figure 3: Estimated Number of New HIV Infections among Men Who Have Sex with Men (MSM), 2009, by Race/Ethnicity and Age†



CDC Fact Sheet 2011

Growth of the MSM epidemic is not uniform

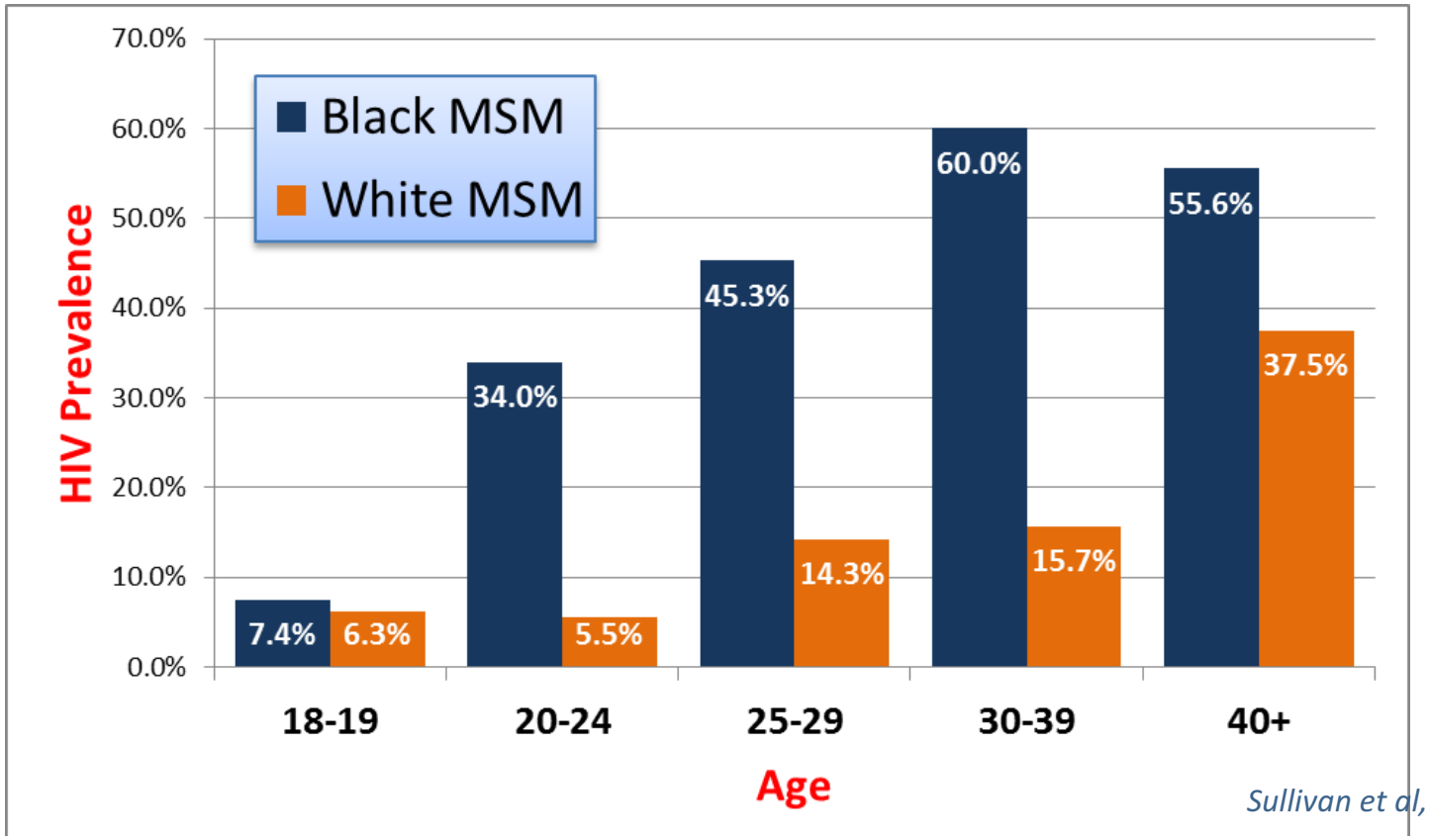
Rate of new HIV diagnoses, per 100 MSM, 2013



Rosenberg et al, *JMIR Public Health & Surveillance 2016*

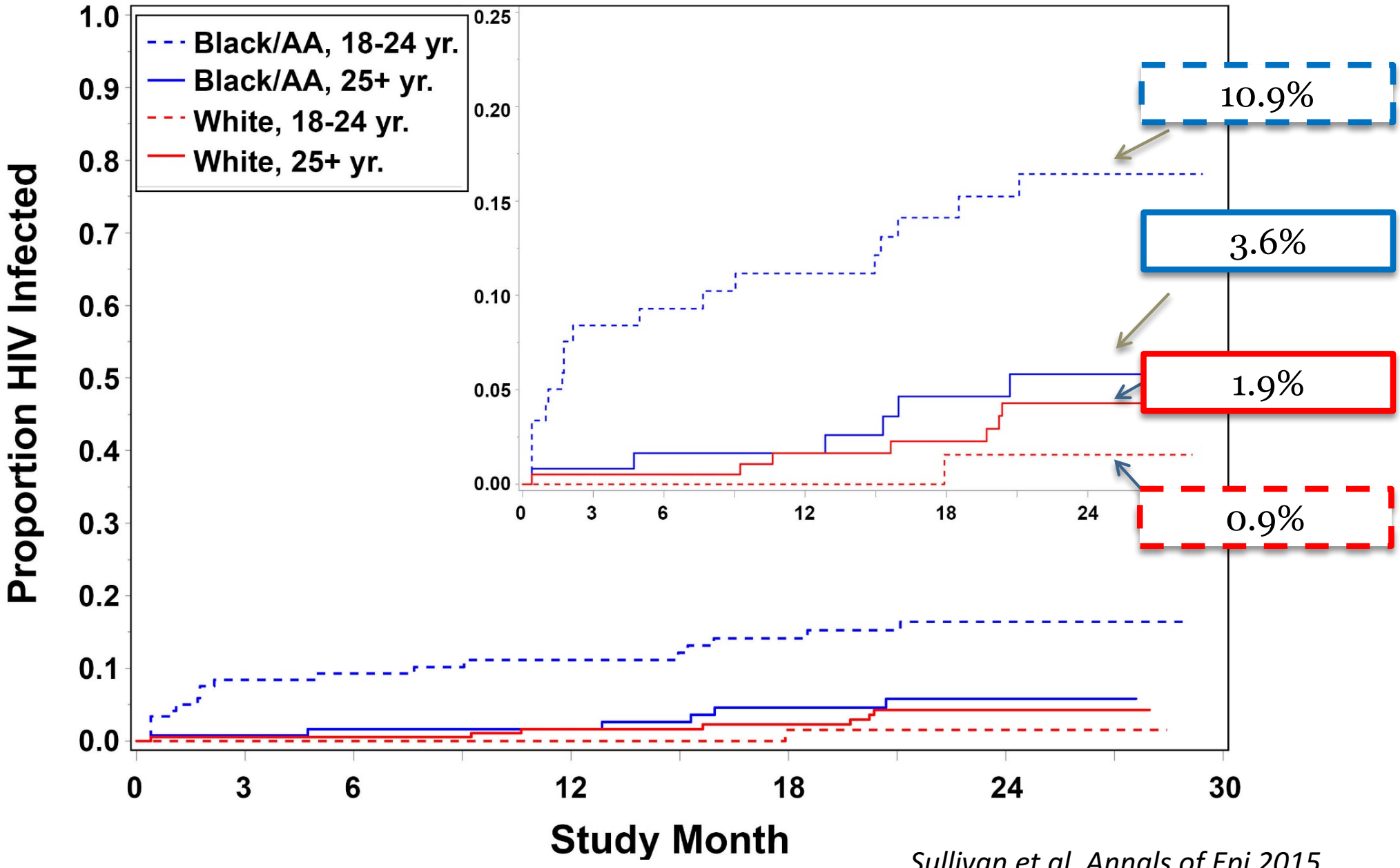
Involve[men]t Study

- Atlanta: 2010 - 2014
  - 803 MSM enrolled
  - 30% HIV-positive (BMSM: 44%, WMSM: 13%)



Sullivan et al, PLOS One 2014

Atlanta MSM HIV incidence by race, age



Sullivan et al, Annals of Epi 2015

Meta-analysis: differences between B and W MSM

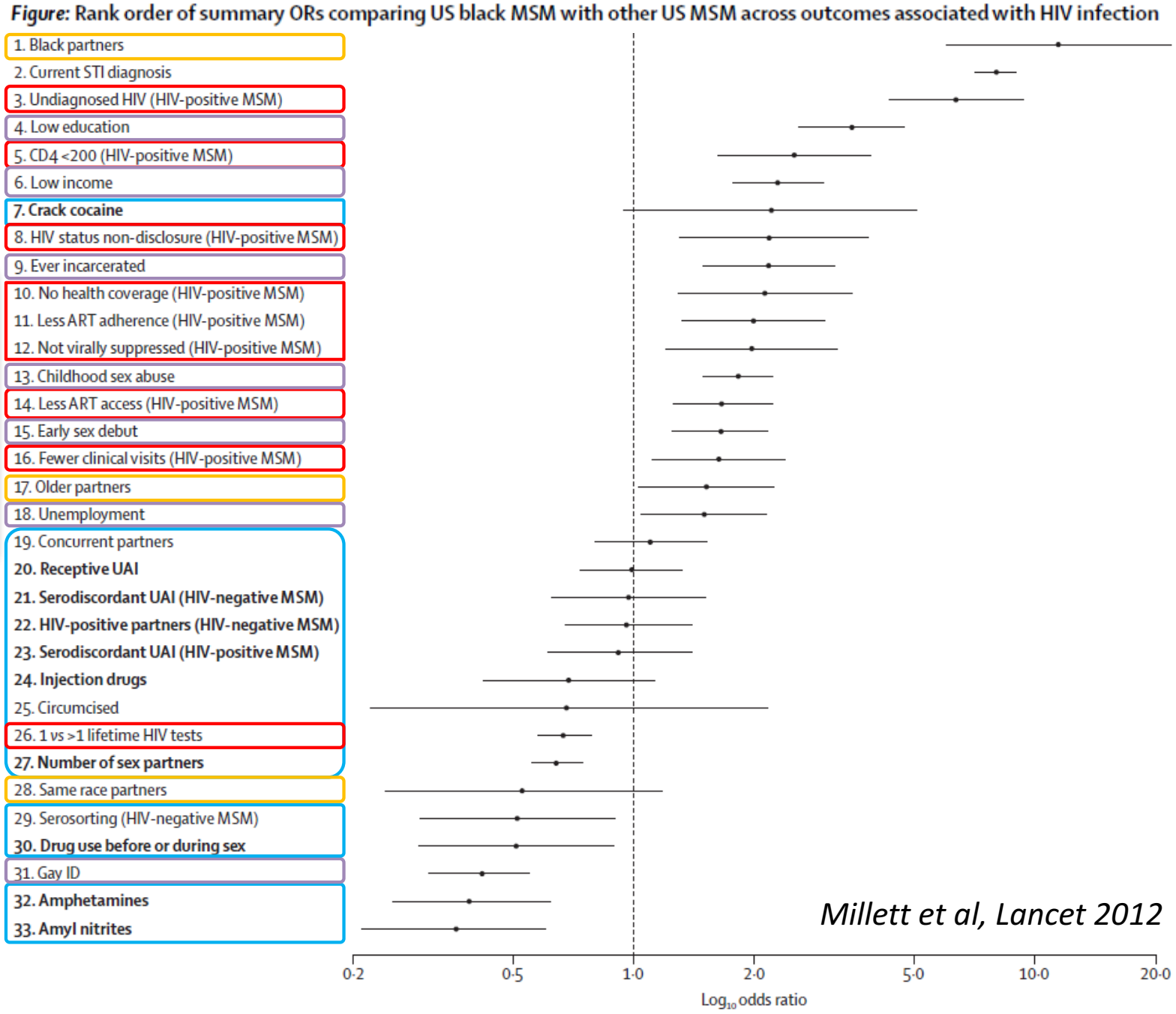
Individual behaviors

Partner demo.

Inadequate suppression of HIV+

Partner pool / network

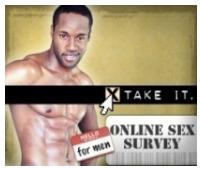
Social determinants



Millett et al, Lancet 2012

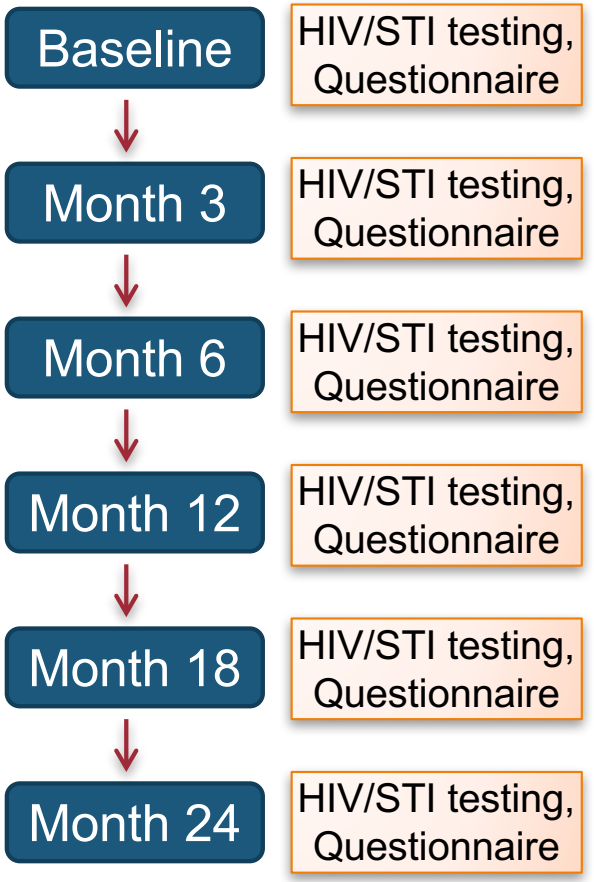
Studies to Understand Racial Disparities in HIV Infection among Atlanta MSM

Research program on MSM HIV disparities

	Fund period	Mech.	Design
 **BOPR:** Barriers to Online Prevention Research	2009	CFAR micro	Online cross-sectional: recruitment and retention methods feasibility
CHECKING IN. THE SEX STUDY FOR MEN	2009 – 2012	RC1 NIMHD	Online cohort: retention methods and at-home HIV incidence; *sex-behaviors*
involve[men]t	2009 – 2014	R01 NIMH	HIV/STI incidence cohort (Atlanta)
The MAN Project The Men's Atlanta Networks Project	2010 – 2013	R01 NICHD	HIV/STI, cross-sectional networks design (Atlanta)
SIBANYE HEALTH PROJECT	2011 – 2015	R01 NIAID	Combination prevention package pilot trial (South Africa)
MARDHAM: Modeling Analyses for Racial Disparities in HIV in American MSM	2013 – 2015	R21 NICHD	Agent-based network modeling (Atlanta)
ele[men]t	2014 – 2019	R01 NIDA	HIV/STI incidence cohort (Atlanta)
EMORY CAMP Coalition for Applied Modeling for Prevention	2014 – 2019	U38 CDC	Numerous modeling studies to address HIV/STI transmission & prevention
engage[men]t	2015 – 2019	R01 NIAID	HIV care engagement cohort (Atlanta)
iTECH The UNC/Emory Center for Innovative Technology	2016 – 2021	U38 NICHD	HIV Adolescent Trials Network (US)

Study Design

- Recruitment
  - MSM community venues and Facebook
- Eligibility
  - Black and white, non-Hispanic
  - Currently living in Atlanta MSA
  - Ages 18 – 39 (earlier recruits had no upper limit)
  - Sexually active with men, not in a main partnership
  - NOT HIV-status-dependent
- Procedures
  - Testing: HIV, Chlamydia, Gonorrhea, Syphilis
  - Extensive self-admin computer questionnaire
- Enrollment Numbers
  - 803 men took part in baseline
    - 30% were prevalent HIV-positive at baseline
  - 562 HIV-negative MSM enrolled in prospective
    - 79% retained in study at 24 months



A unique study for Atlanta and US

- The only study of its kind
  - Two-group comparison of black and white MSM to understand disparities
  - Sharp geographic focus and large enrollment
  - Detailed data on multiple levels:
    - Individual features and behaviors
    - Sexual partnerships
    - Neighborhoods

- Complements but distinct from recently completed HPTN-061 (BROTHERS Study)
  - Also documented high HIV incidence among BMSM
  - Involve[men]t enrolled WMSM as well, and larger Atlanta sample

Key Findings:
HIV/STI prevalence at baseline

Participants at Enrollment
Sullivan et al – PLoS One 2014

OPEN ACCESS Freely available online

PLOS | ONE

Understanding Racial HIV/STI Disparities in Black and White Men Who Have Sex with Men: A Multilevel Approach

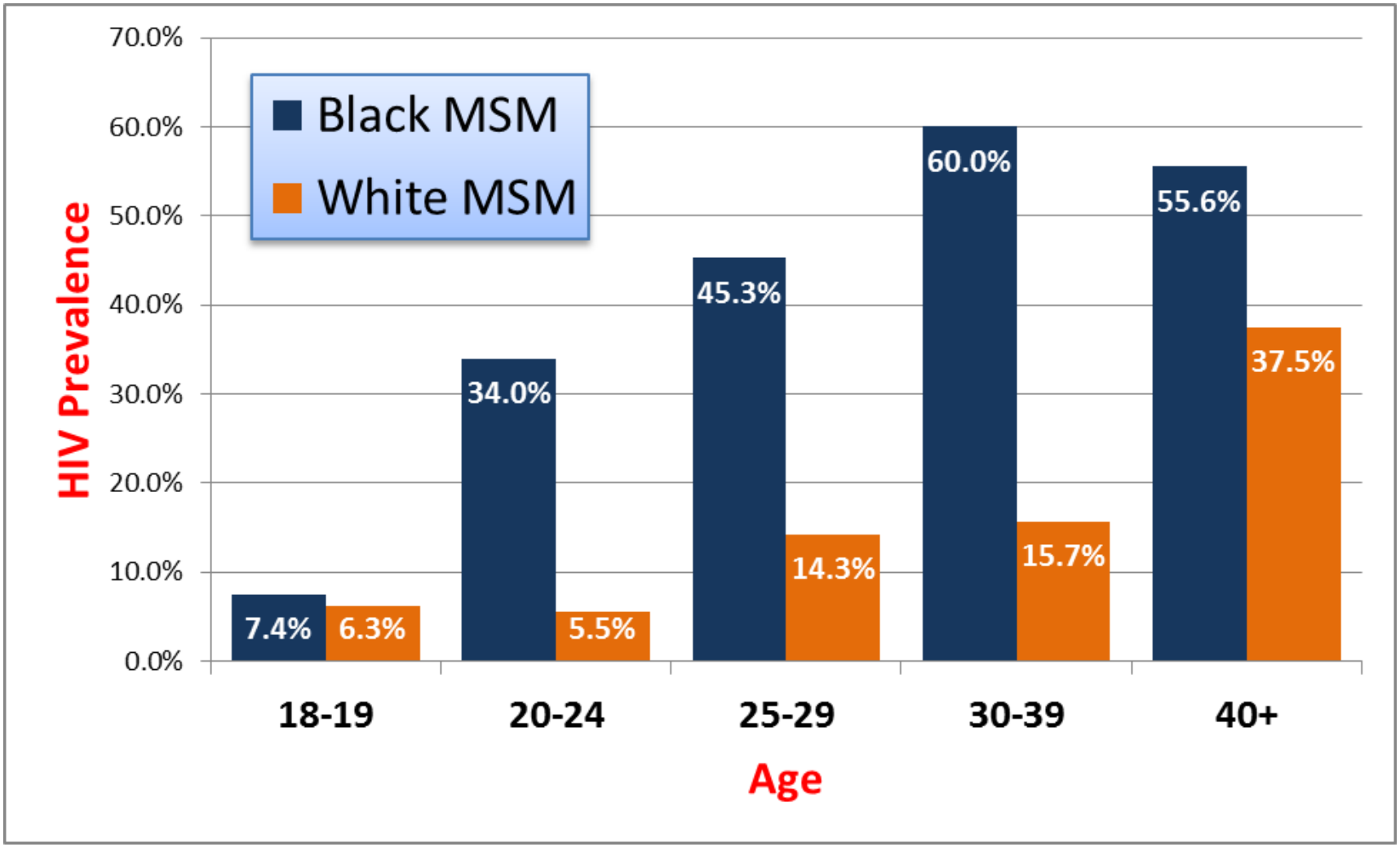
Patrick S. Sullivan[1]*, John Peterson[2], Eli S. Rosenberg[1], Colleen F. Kelley[3], Hannah Cooper[4], Adam Vaughan[1], Laura F. Salazar[5], Paula Frew[3], Gina Wingood[4], Ralph DiClemente[4], Carlos del Rio[6], Mark Mulligan[3], Travis H. Sanchez[1]

	Black MSM (n = 454)		White MSM (n = 349)		
	%	*(total)*	*%*	*(total)*	*p-value* *
Age *(years)*		*(n = 454)*		*(n = 349)*	0.01
18–19	6.0	(27)	4.6	(16)	
20–24	34.4	(156)	26.1	(91)	
25–29	30.2	(137)	30.1	(105)	
30–39	27.5	(125)	34.7	(121)	
40+	2.0	(9)	4.6	(16)	
Sexual identity		*(n = 450)*		*(n = 349)*	<.0001
Homosexual/gay	77.8	(350)	93.1	(325)	
Bisexual	18.9	(85)	5.2	(18)	
Heterosexual/straight	0.2	(1)	0.6	(2)	
Other	3.1	(14)	1.1	(4)	
Education		*(n = 451)*		*(n = 348)*	<.0001
College, post-graduate, or professional school	29.9	(135)	54.0	(188)	
Some college, associate's degree, and/or technical school	44.6	(201)	35.6	(124)	
High school or GED	22.0	(99)	9.8	(34)	
Less than high school	3.5	(16)	0.6	(2)	
Poverty, currently	26.4	(97/367)	12.8	(41/321)	<.0001
Employed, currently	71.0	(318/448)	80.2	(280/349)	0.003
Health Insurance, currently	48.9	(215/440)	72.9	(253/347)	<.0001
Homeless, current	3.8	(17/449)	0.6	(2/348)	0.004
Homeless, previous 12 months	14.9	(67/451)	6.9	(24/347)	0.0005
Arrested, previous 12 months	12.4	(56/453)	8.6	(30/349)	0.09

HIV Prevalence, by Race and Age

Sullivan et al – PLoS One 2014

Black MSM: 44% White MSM: 13%



Comparisons of Factors by Race

Sullivan et al – PLoS One 2014

- Compared to white MSM, black MSM reported:
  - Fewer sexual partners and sex risks
  - Less drug use

Individual risk behaviors

  - A higher degree of same-race partnering
  - Similar ages of partners
  - Less pre-sexual discussion of HIV status

Partner pool / network

  - Lower socioeconomic status (poverty, employment, insurance)
  - Living in more disadvantaged census tracts

Social determinants

Population Transmission Risk
Kelley et al – PLoS One 2012

OPEN ACCESS Freely available online

PLOS | ONE

Measuring Population Transmission Risk for HIV: An Alternative Metric of Exposure Risk in Men Who Have Sex with Men (MSM) in the US

Colleen F. Kelley[1,2*], Eli S. Rosenberg[2], Brandon M. O'Hara[2], Paula M. Frew[1,3], Travis Sanchez[2], John L. Peterson[4], Carlos del Rio[1,5], Patrick S. Sullivan[2]

- 'Community viral load' does not capture disparities in HIV exposure between groups because it does not incorporate HIV prevalence.
  - No difference in CVL or PVL between black and white MSM
- Synthesized data on disparities in HIV prevalence, viral load with racial-patterns in sexual partnering
  - Calculated prevalence of HIV viremia: 25% of BMSM vs. 8% of WMSM had HIV VL>400 copies/ml
  - Racially concordant partnerships: BMSM 71%; WMSM 70%
- Despite similar levels of sexual risk behavior (partner # and unprotected anal sex), BMSM have higher chance of encountering an HIV-infected and unsuppressed partner
  - WMSM reach 50% chance with 7 partners
  - BMSM reach 50% chance with just 3 partners

Social Discrimination and Resiliency
Peterson et al – JAIDS 2014

JAIDS Journal of Acquired Immune Deficiency Syndromes:
POST ACCEPTANCE, 29 May 2014
doi: 10.1097/QAI.0000000000000203
Original Article: PDF Only

Social Discrimination and Resiliency are not associated with Differences in Prevalent HIV Infection in Black and White Men who have Sex with Men.

Peterson, John L. PhD; Bakeman, Roger PhD; Sullivan, Patrick DVM, MPH; Millett, Gregorio A. MPH; Rosenberg, Eli PhD; Salazar, Laura PhD; Di Clemente, Ralph J. PhD, MPH; Cooper, Hannah MD, SM; Kelley, Colleen F. MD, MPH; Mulligan, Mark J. MD; Frew, Paula PhD, MA, MPH; Rio, Carlos del MD

- Black MSM perceived more homophobia and exhibited higher resiliency
- Yet homophobia, racism, and resiliency were all <u>not</u> associated with prevalent HIV infection.

Spatial Relationship of Stigma, Poverty and HIV
Vaughan et al – AIDS Res and Human Retrovir 2014

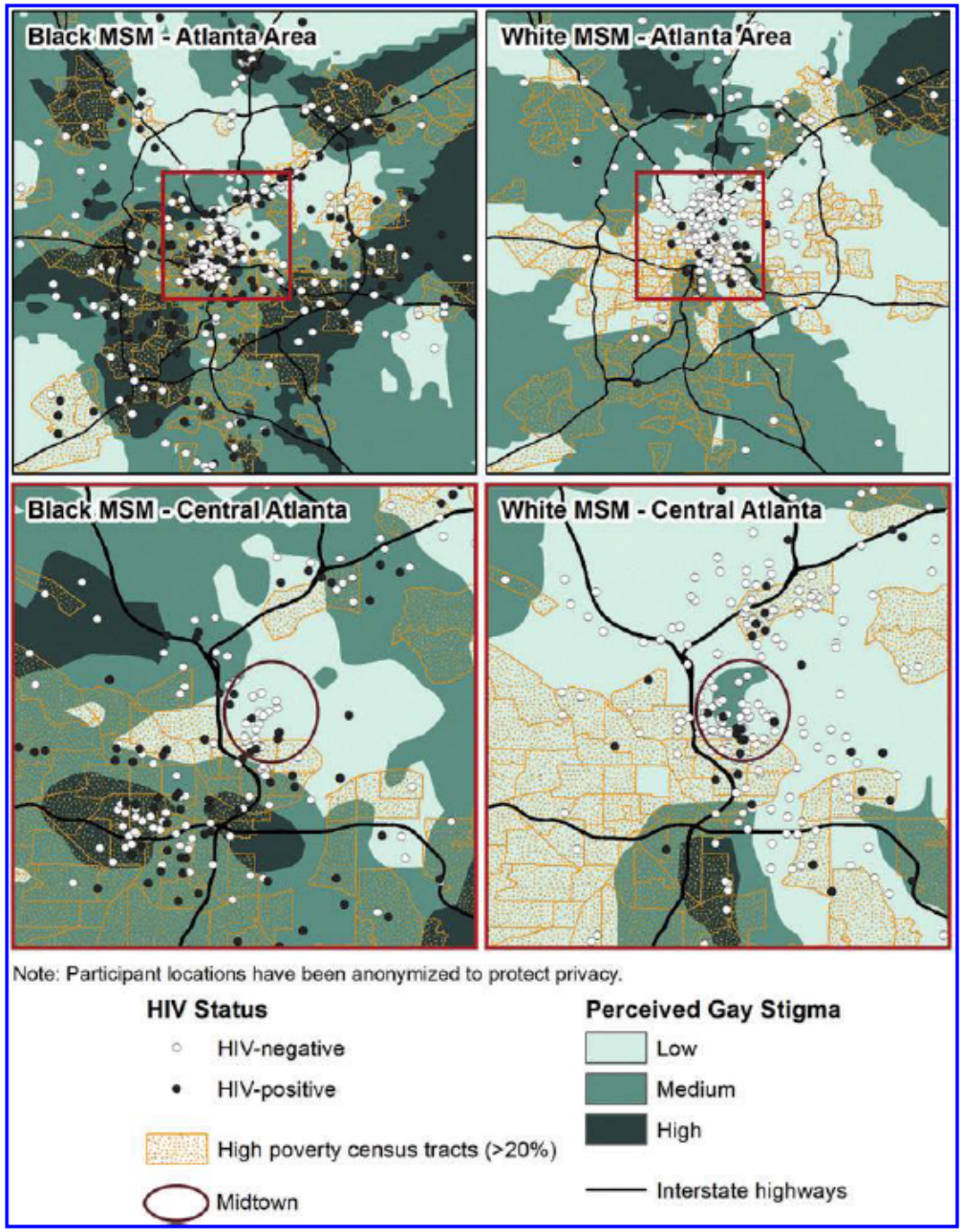
AIDS RESEARCH AND HUMAN RETROVIRUSES
Volume 30, Number 8, 2014

DOI: 10.1089/aid.2014.0144

Spatial Relationships Between Gay Stigma, Poverty, and HIV Infection Among Black and White Men Who Have Sex with Men in Atlanta

Adam S. Vaughan, Eli S. Rosenberg, and Patrick S. Sullivan

- Among MSM living in high poverty areas, black MSM reported greater gay stigma than white MSM.
- Black MSM living with HIV were highly concentrated in areas of both high stigma and high poverty.
- White MSM living with HIV were concentrated primarily in areas of low stigma and low poverty.



Key Findings:
Validity studies

Venue-based vs. Online Recruitment
Hernandez-Romieu et al – JMIR 2014

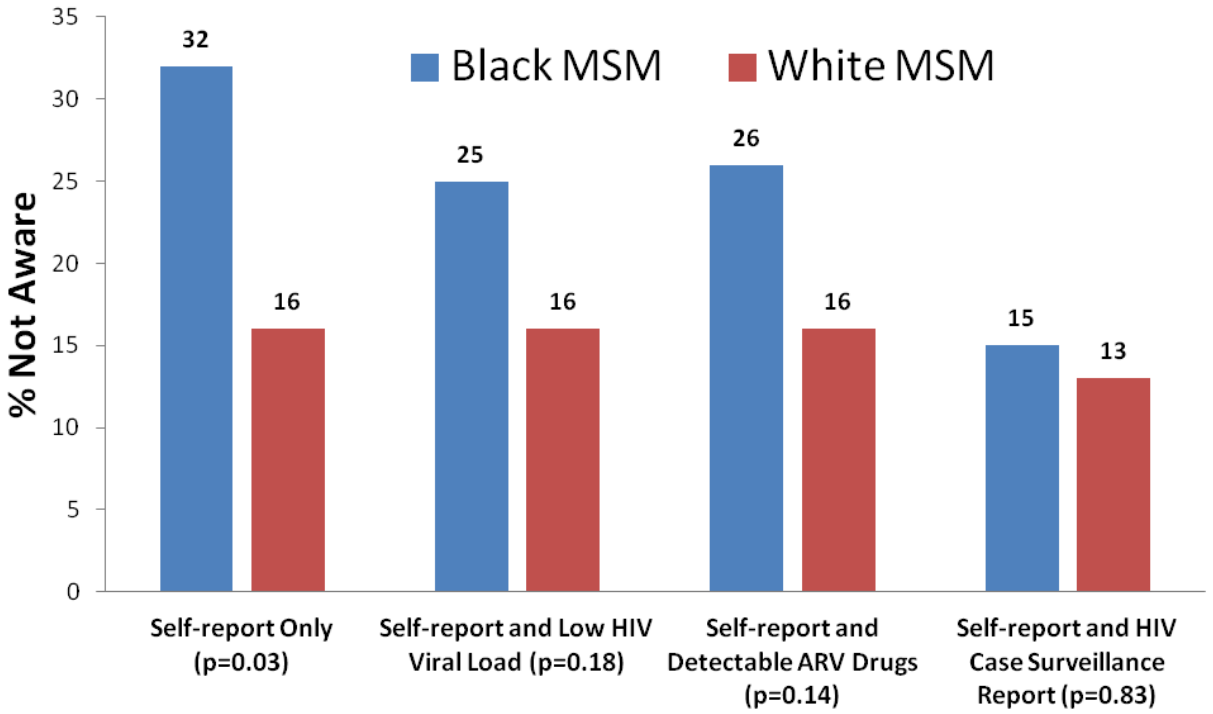
Original Paper

The comparability of MSM recruited from venue-time-space sampling and Facebook in a prospective cohort study of black and white MSM in Atlanta, GA

Alfonso C Hernandez-Romieu[1], MBBS, MPH; Patrick S Sullivan[1], DVM, Ph. D; Travis H Sanchez[1], DVM, MPH; Colleen F Kelley[1,2], MD, MPH; John L Peterson[3], PhD; Carlos del Rio[2,4], MD; Laura F Salazar[5], Ph. D; Paula M Frew[2,6], Ph.D, MPH; Eli S Rosenberg[1], Ph. D

- Compared venue attendance, HIV/STI prevalence, behaviors, and retention between MSM recruited through VTS (n=693) and on FB (n=110)
- # male partners and #UAI male partners significantly higher among FB- than VTS-recruited MSM
- All other factors not significantly different

Lack of Awareness of HIV Status
Sanchez et al – OFID 2014



- For those who tested HIV+ but who self-report most recent HIV test being +, examined laboratory testing and HIV case surveillance match
- Substantial number of black MSM had detectable ARVs and > ½ had a previous surveillance case report
- Adjusting for either laboratory testing or surveillance case match made racial disparity in lack of awareness of HIV status no longer significant

Validation of Self-reported Drug Use
White et al – J Drug and Alcohol Dependence 2014

Contents lists available at ScienceDirect

Drug and Alcohol Dependence

journal homepage: www.elsevier.com/locate/drugalcdep

Racial differences in the validity of self-reported drug use among men who have sex with men in Atlanta, GA

Darcy White[a,b], Eli S. Rosenberg[a,*], Hannah L.F. Cooper[c], Carlos del Rio[b], Travis H. Sanchez[a], Laura F. Salazar[d], Patrick S. Sullivan[a]

Table 6
Summary of associations between drug use indicators and race (black vs. white) among a sample of men who have sex with men in Atlanta, GA, 2010–2012.

	Self-reported use		Urine-detected use		Sensitivity of self-report[a]	
	Black/white PR	95% CI	Black/white PR	95% CI	Black/white PR	95% CI
Marijuana[b]						
Unadjusted	0.68	0.56, 0.82	1.39	1.07, 1.81	0.71	0.60, 0.82
Adjusted[c]	0.59	0.48, 0.73	0.96	0.73, 1.27	0.71	0.60, 0.84
Cocaine[b]						
Unadjusted[d]			1.46	0.85, 2.50	0.65	0.50, 0.93
Ages 18–24	0.20	0.09, 0.46				
Ages 25–34	0.43	0.28, 0.66				
Ages 35+	0.93	0.46, 1.86				
Adjusted[c,d]			1.06	0.59, 1.91	0.64	0.42, 1.00[e]
Ages 18–24	0.13	0.05, 0.33				
Ages 25–34	0.38	0.24, 0.59				
Ages 35+	0.73	0.36, 1.45				

- Compared self-reported drug use (past 12m) to urine drug screening (max 30 days)
- Self-report of marijuana and cocaine use is significantly less sensitive among black MSM than white MSM

Condom failures, incomplete use, errors
Hernandez-Romieu et al – STI 2014

ORIGINAL ARTICLE

How often do condoms fail? A cross-sectional study exploring incomplete use of condoms, condom failures and other condom problems among black and white MSM in southern USA

Alfonso C Hernández-Romieu,[1] Aaron J Siegler,[1] Patrick S Sullivan,[1] Richard Crosby,[2] Eli S Rosenberg[1]

Hernández-Romieu AC, *et al*. *Sex Transm Infect* 2014;**90**:602–607. doi:10.1136/sextrans-2014-051581

BMJ

- BMSM more likely to use condom as insertive partner in previous 6 months.
- Yet 31% of BMSM vs. 43% of WMSM users had fully effective condom use
  - No failures (breakage, slippage), no incomplete use
- 53% of BMSM and 21% of WMSM used oiled-based lubricant with condoms in previous 6 months
  - 62% vs. 32% among 18 – 24 year olds
- Conclude:
  - Misclassification of protected AI
  - Need for condom education remains

Key Findings:
HIV/STI incidence

STI Incidence

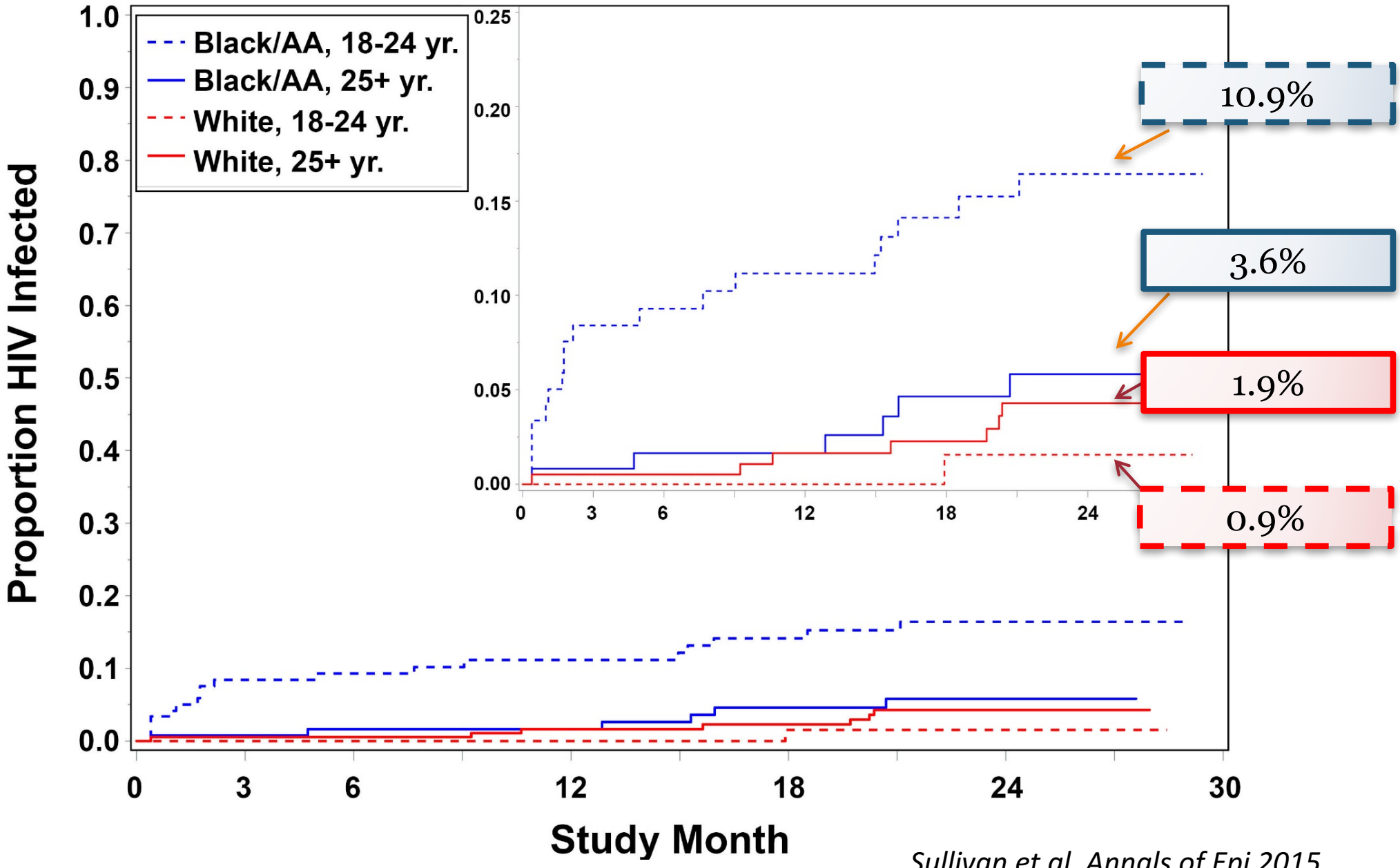
Kelley et al – AIDS Res. & Hum. Retroviruses 2015

	BMSM		WMSM		Rate Ratio
	Infections	Rate (% / year)	Infections	Rate (% / year)	
Urethral Chlamydia	17	4.7	14	3.0	1.6
Urethral Gonorrhea	8	2.2	1	0.2	10.3
Rectal Chlamydia	34	10.8	22	5.5	2.0
Rectal Gonorrhea	30	9.4	15	3.7	2.6
Syphilis	22	6.1	0	0.0	∞

HIV Incidence

	Black MSM	White MSM
Overall		
Incidence rate	6.5% / year	1.7% / year
New HIV infections	24	8
% HIV-positive at end of study	11.3%	3.6%
Age 18 – 24		
Incidence rate	10.9% / year	0.9% / year
New HIV infections	16	1
% HIV-positive at end of study	16.6%	1.6%
Age 25+		
Incidence rate	3.6% / year	1.9% / year
New HIV infections	8	7
% HIV-positive at end of study	6.0%	4.5%

MSM HIV incidence by race, age



Sullivan et al, Annals of Epi 2015

Meta-analysis: differences between B and W MSM

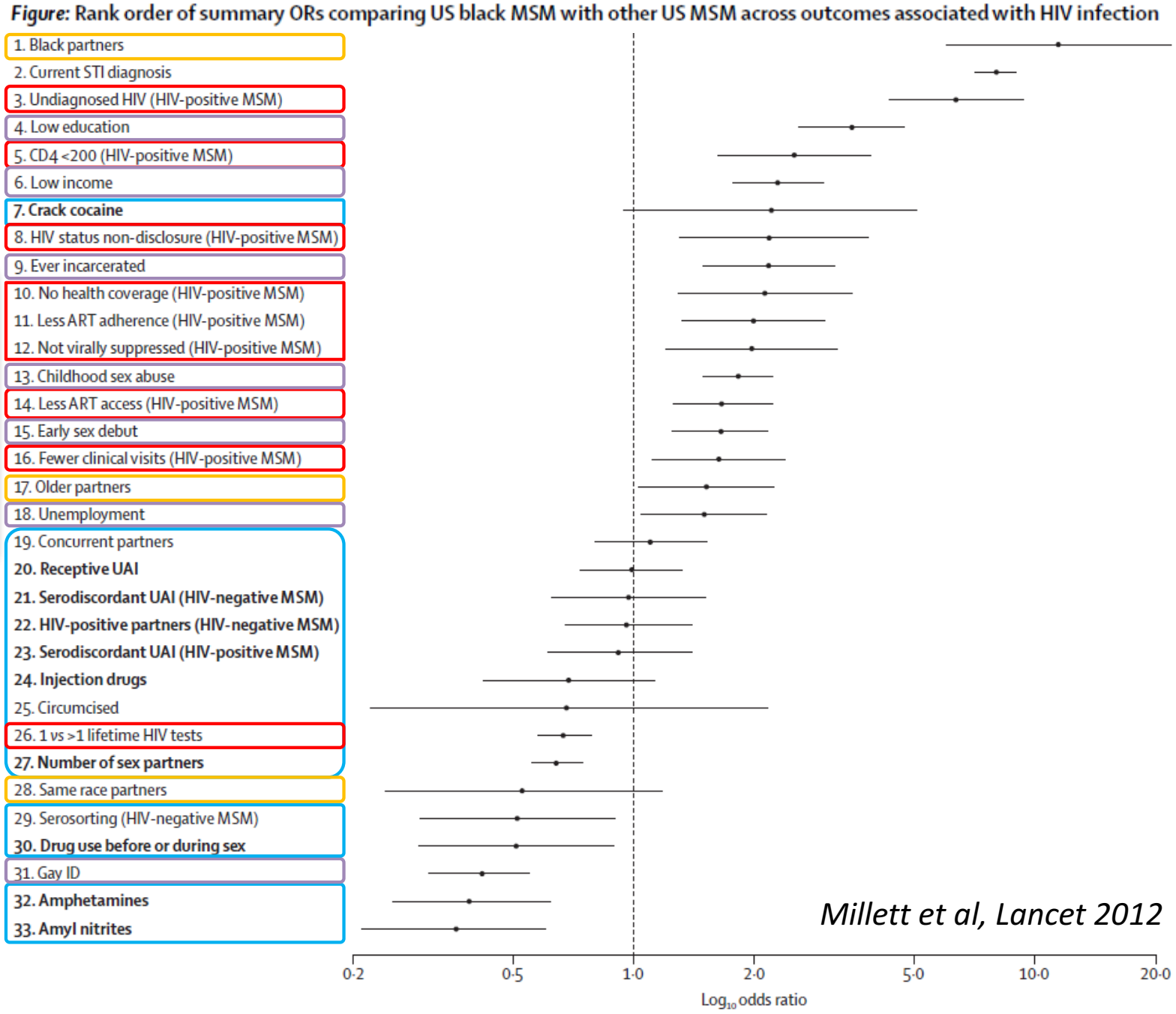
Individual behaviors

Partner demo.

Inadequate suppression of HIV+

Partner pool / network

Social determinants



Millett et al, Lancet 2012

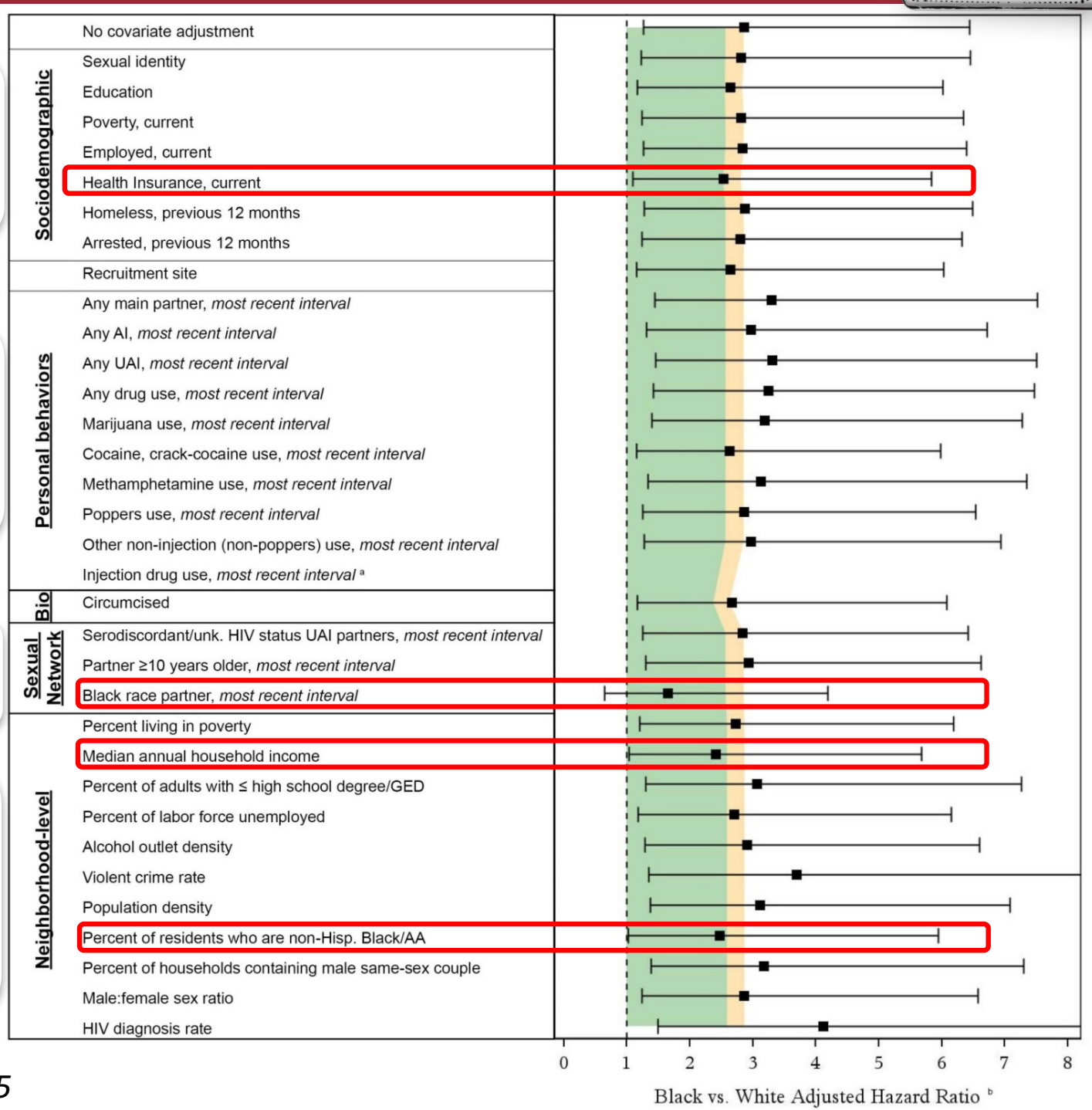
Mediation analysis to explain HIV incidence disparity

Social determinants

Individual behaviors

Partner pool / network

Neighborhood



Sullivan et al, Annals of Epi 2015

Rectal STI on HIV incidence?

Kelley et al – AIDS Res. & Hum. Retroviruses 2015
Vaughan et al – BMC Med. Research Methods 2015

- Unadjusted HR: 3.7 (1.4, 9.4)
- Adjusted, weighted HR: 2.8 (1.2, 6.4)
  - Estimates ‘causal’ effect of rectal STI on HIV incidence
  - Adjustment for behavioral confounders attenuates the association by 24%
- Population attributable fraction: 14.6% (6.8, 31.4)
  - Despite significant ‘causal’ HR, rectal STI only mildly contribute to HIV incidence in the population.
  - PAF driven by both HR and STI incidence

HIV Incidence Conclusions

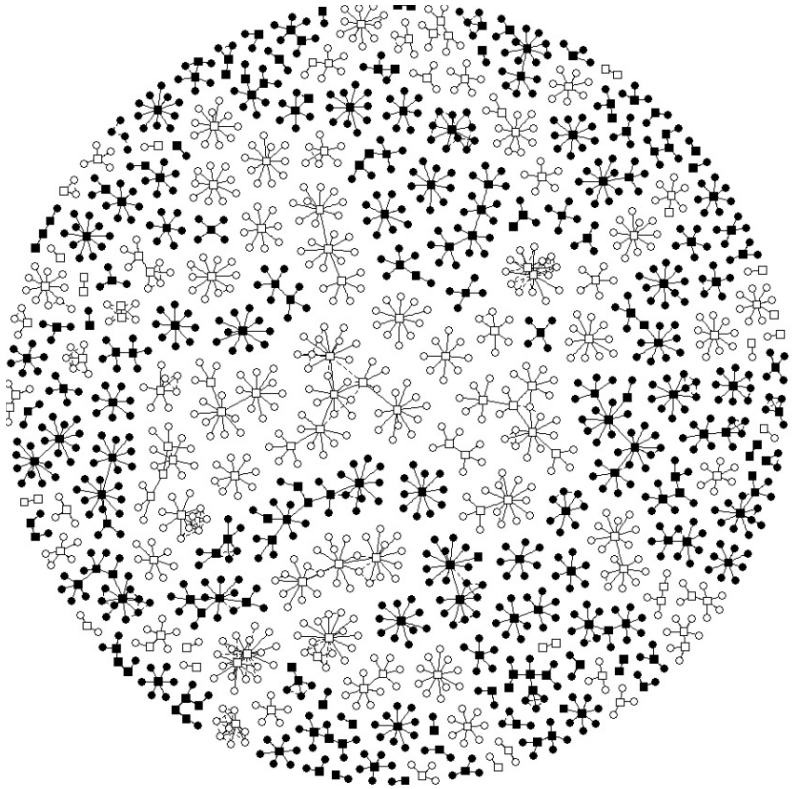
- In Atlanta, MSM and BMSM face multiple high-incidence epidemics of HIV/STI
  - >1 in 10 YBMSM acquire HIV per year
- Individual behavioral risk factors associated with HIV incidence, but do not account for race disparity
- Partner pool/network and structural factors help to explain HIV race disparity
- Concomitant STI epidemics likely contribute, but limited

Exploring partner and network risk

Study Design

The MAN Project
The Men's Atlanta Networks Project

- Recruitment
  - Seeds from MSM community venues
  - Chain-referral of sex partners from network seed participants
- Seed Eligibility
  - Black and white, non-Hispanic
  - Currently living in Atlanta MSA
  - Ages 18 – 39
  - Sexually active with men, not in a completely monogamous partnership
  - NOT HIV-status-dependent
- Procedures
  - Testing: HIV, Chlamydia, Gonorrhea, Syphilis
  - Extensive CASI



195 MSM seeds

119 enrolled sexual partners

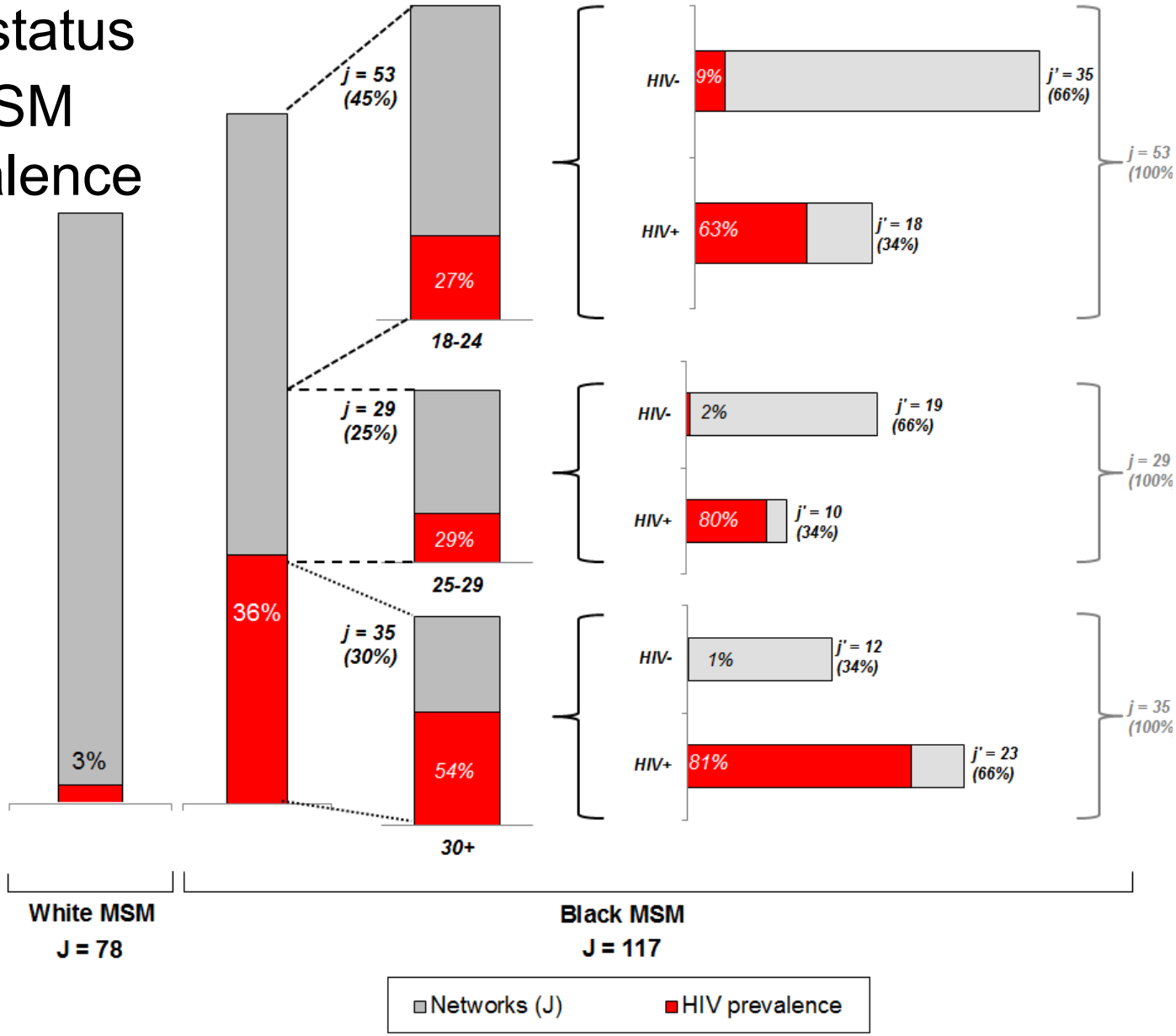
1,777 non-enrolled partners

Heterogeneity of HIV prevalence in BMSM networks

The MAN Project
The Men's Atlanta Networks Project

- Prevalence is not uniform
- Clustering by HIV status
- HIV-negative YBMSM have highest prevalence among partners

Hernandez-Romieu et al. STD 2015

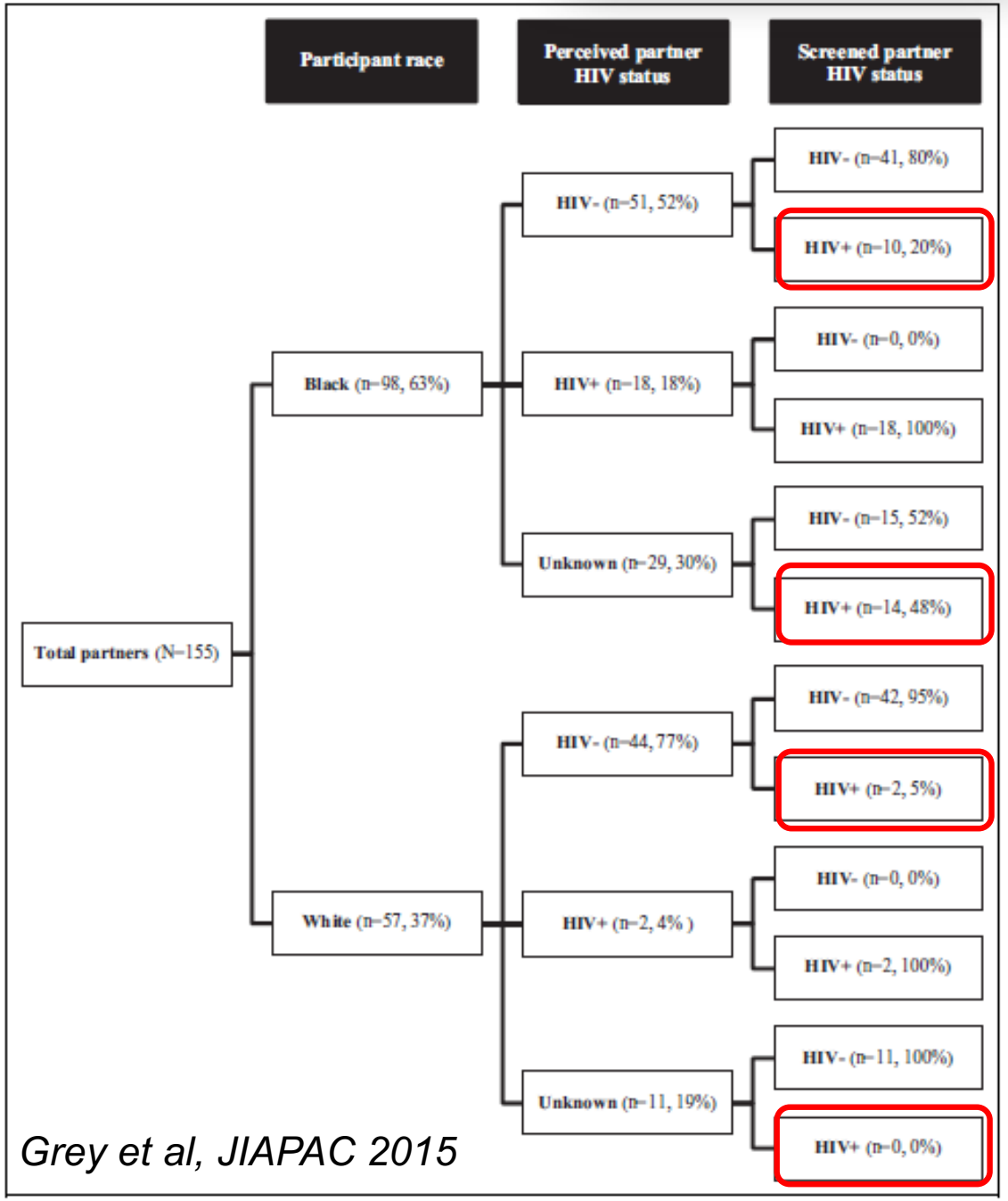


Higher chance of HIV serosorting failure among BMSM

The MAN Project
The Men's Atlanta Networks Project

- HIV serosorting
  - Deviation from random HIV status mixing
    - HIV+ with HIV+
    - HIV- with HIV-
  - In theory a conscious selection process
  - Protective?

- BMSM more likely to inadvertently have HIV-positive partners
  - ↑ prevalence
  - ↓ infection awareness
  - ↓ pre-sexual discussion of HIV status



Grey et al, JIAPAC 2015

Questionnaire Design for these Studies

Questionnaire overview

- Self-administered on laptops at visit
- Follow-up surveys at visit/home (Inv. only)
- SurveyGizmo v2.6
  - Highly customizable survey environment
  - Extendable with PHP, API

Now we'd like to ask you about the times you had sex with your partners over the last 6 months.

For each sex partner, click a box for each month during which you had sex with that partner

	July '13	August '13	September '13	October '13	November '13	December '13
Chris	☐	☐	☐	☐	☐	☑
Tim	☐	☐	☐	☐	☑	☐
DJ	☑	☑	☑	☑	☑	☐
Enrique	☐	☑	☐	☐	☐	☐
Party	☐	☑	☐	☐	☐	☐

Next Page

Baseline	HIV/STI testing, Questionnaire
Month 3	HIV/STI testing, Questionnaire
Month 6	HIV/STI testing, Questionnaire
Month 12	HIV/STI testing, Questionnaire
Month 18	HIV/STI testing, Questionnaire
Month 24	HIV/STI testing, Questionnaire

Outline of Questionnaire Content

- Overall structure
  - Participant-level (ego) attributes
  - Participant-level sexual history summary
  - Partner-by-partner sexual history (dyadic)

- Developed from
  - 2 earlier PRISM studies
  - National HIV Behavioral Surveillance System, MSM-1 (2003-05)
  - Expert input

- Facebook pilot and focus group

Outline of Questionnaire Content

- Participant-level (ego) attributes
  - Demographic information (educ, income, orientation, living, healthcare, CJI)
  - Substance use
  - Circumcision
  - Harm reduction
  - Condoms (attitudes, beliefs, norms, errors, skills)
  - HIV issues (knowledge, testing, care)
  - Neighborhood perceptions and stigma
  - Resiliency
  - Racism and life experiences
  - Depression
  - Abuse
- Participant-level sexual history summary
- Partner-by-partner sexual history (dyadic)

Race and Sexual Orientation

Please tell us a little bit about yourself.

15. Do you think of yourself as:

1 ○ Heterosexual or "Straight"
2 ○ Homosexual, Gay
3 ○ Bisexual
4 ○ Other

orient.

orient

orient_other

16. There are different ways of referring to guys we know who have sex with men. We want to respect your preferences. During this survey, how would you like us to refer to men who have sex with other men? Please pick one of these choices:

○ Gay men
○ Gay/bi men
○ Same gender loving men
○ Two-spirited men
○ Queer men

callem

Outline of Questionnaire Content

- Participant-level (ego) attributes
- Participant-level sexual history summary
  - Total by gender, main/casual type, UAI/UVI (NHBS)
  - Partner name generator
  - Concurrency module
  - Transitivity matrix
- Partner-by-partner sexual history (dyadic)

Partner name generator

==========
Partner name list
==========

Please give a nickname for each of your most recent sex partners over the last 6 months (since the beginning of [%%432:month_5 %%]).

Male, female, and transgender sex partners may be in this list:
For male partners, we mean people you had oral or anal sex with.
For female partners, we mean people you had vaginal, or anal sex with.

123 Space for 5 partners is provided, but you only need to fill in as many spaces as you need or can remember.

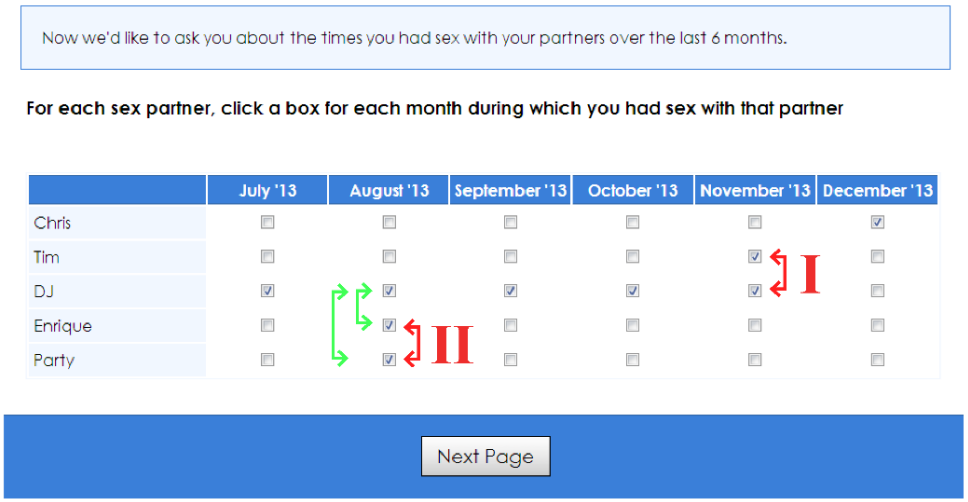
If you had more than 5 sex partners in the previous 6 months, we would like nicknames for the most recent 5.

Partner 1 (most recent) _____
Partner 2 _____
Partner 3 _____
Partner 4 _____
Partner 5 _____

p1
p2
p3
p4
p5

name_count

Concurrency module



A.

For each partner, the participant indicates the months in which the two had sex. For each month, each pair of partners is examined. Ambiguously concurrent overlaps between partners (red), are selected for further questioning. Concurrent overlaps that are obvious (green) are not selected.

B.

For each ambiguous overlap, the participant indicates the correct serial ordering of the partners, or that sex was concurrent with both.

Outline of Questionnaire Content

- Participant-level (ego) attributes
- Participant-level sexual history summary
- Partner-by-partner sexual history (dyadic)
  - Beginning of partnership
  - Partnership timing
  - Ongoing partnership questions
  - Last sex

Outline of Questionnaire Content

- Partner-by-partner sexual history (dyadic)
  - Beginning of partnership
    - Partner demographics
    - Partner typology
    - Geography
    - Disclosure of serostatus
    - Serosorting intent
  - Partnership timing
  - Ongoing partnership questions
  - Last sex

Outline of Questionnaire Content

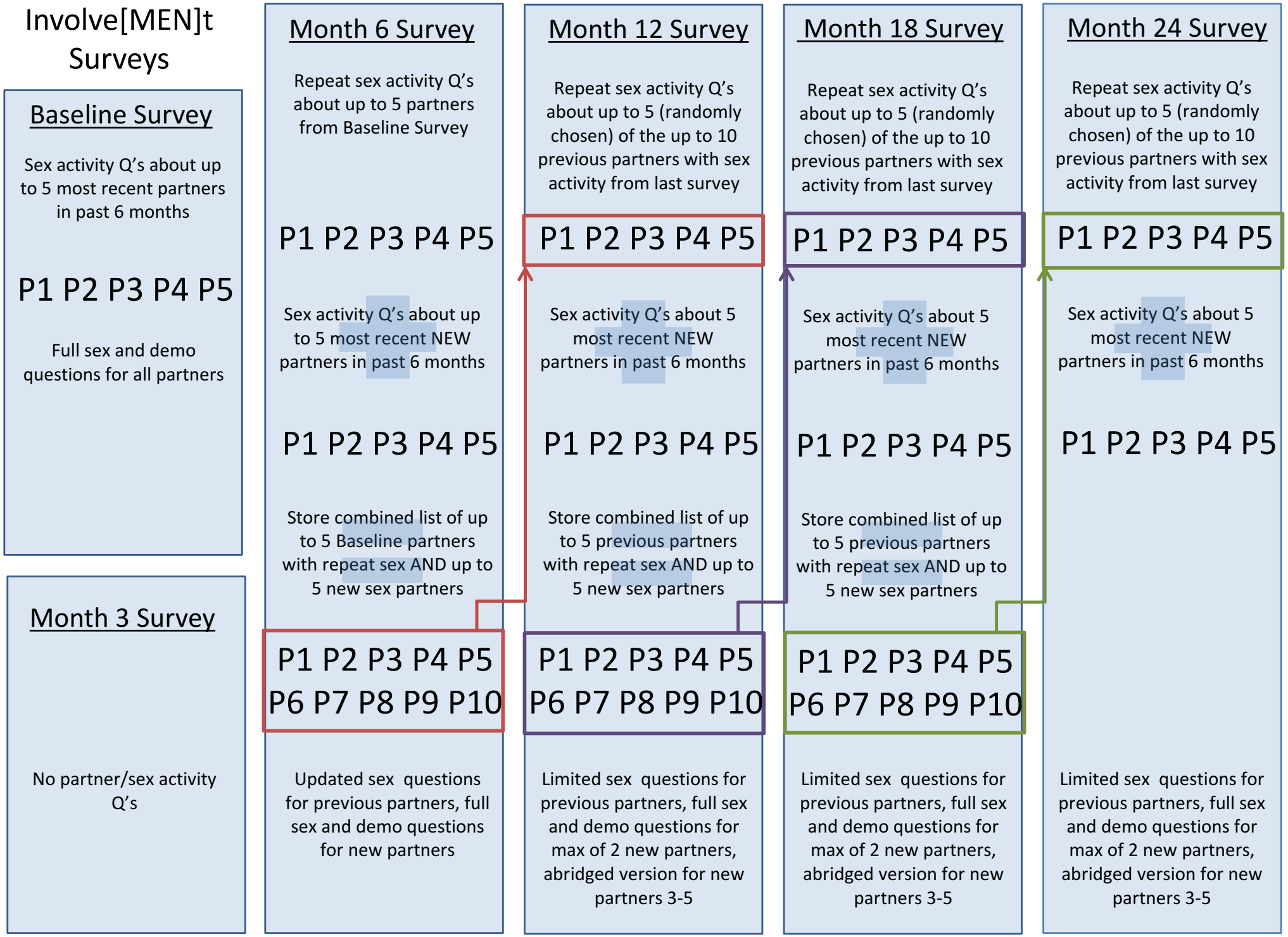
- Partner-by-partner sexual history (dyadic)
  - Beginning of partnership
  - Partnership timing
    - Dates of first and last sex
    - Ongoing nature of relationship
  - Ongoing partnership questions
  - Last sex

Outline of Questionnaire Content

- Partner-by-partner sexual history (dyadic)
  - Beginning of partnership
  - Partnership timing
  - Ongoing partnership questions
    - Transgender partner anatomy
    - AI sex frequency in previous 6 months
    - Sexual agreements
    - Sexual activity outside of this relationship
    - Group sex
    - Partner STD diagnosis and treatment in previous 6 months
  - Last sex

Outline of Questionnaire Content

- Partner-by-partner sexual history (dyadic)
  - Beginning of partnership
  - Partnership timing
  - Ongoing partnership questions
  - Last sex
    - Sexual activities: AI roles, condom use
    - Circumstances (location, substances)
    - HIV status knowledge
    - Strategic positioning


Involve[MEN]t Surveys
Baseline Survey
Sex activity Q's about up to 5 most recent partners in past 6 months
P1 P2 P3 P4 P5
Full sex and demo questions for all partners
Month 3 Survey
No partner/sex activity Q's
Month 6 Survey
Repeat sex activity Q's about up to 5 partners from Baseline Survey
P1 P2 P3 P4 P5
Sex activity Q's about up to 5 most recent NEW partners in past 6 months
P1 P2 P3 P4 P5
Store combined list of up to 5 Baseline partners with repeat sex AND up to 5 new sex partners
P1 P2 P3 P4 P5 P6 P7 P8 P9 P10
Updated sex questions for previous partners, full sex and demo questions for new partners
Month 12 Survey
Repeat sex activity Q's about up to 5 (randomly chosen) of the up to 10 previous partners with sex activity from last survey
P1 P2 P3 P4 P5
Sex activity Q's about 5 most recent NEW partners in past 6 months
P1 P2 P3 P4 P5
Store combined list of up to 5 previous partners with repeat sex AND up to 5 new sex partners
P1 P2 P3 P4 P5 P6 P7 P8 P9 P10
Limited sex questions for previous partners, full sex and demo questions for max of 2 new partners, abridged version for new partners 3-5
Month 18 Survey
Repeat sex activity Q's about up to 5 (randomly chosen) of the up to 10 previous partners with sex activity from last survey
P1 P2 P3 P4 P5
Sex activity Q's about 5 most recent NEW partners in past 6 months
P1 P2 P3 P4 P5
Store combined list of up to 5 previous partners with repeat sex AND up to 5 new sex partners
P1 P2 P3 P4 P5 P6 P7 P8 P9 P10
Limited sex questions for previous partners, full sex and demo questions for max of 2 new partners, abridged version for new partners 3-5
Month 24 Survey
Repeat sex activity Q's about up to 5 (randomly chosen) of the up to 10 previous partners with sex activity from last survey
P1 P2 P3 P4 P5
Sex activity Q's about 5 most recent NEW partners in past 6 months
P1 P2 P3 P4 P5
Limited sex questions for previous partners, full sex and demo questions for max of 2 new partners, abridged version for new partners 3-5

Involve[MEN]t Data Collection: Cliffs Notes Version

Recruitment iPod *(Participant, recruiter, event info)*

	Baseline	Month 3	Month 6	Month 12	Month 18	Month 24	PrEP
Survey Gizmo	*Behavioral data- participant and partner level*	*Participant level only, no sex info, tech questions*	*Behavioral data- participant and partner level*	*Behavioral data- participant and partner level*	*Behavioral data- participant and partner level*	*Behavioral data- participant and partner level*	*One time PrEP survey*
Visits	Baseline	Month 3	Month 6	Month 12	Month 18	Month 24	

Lab Results

- *Syphilis*
- *Urethral Chlamydia*
- *Rectal Chlamydia*
- *Urethral Gonorrhea*
- *Rectal Gonorrhea*

CRFs Always Repeated

- *HIV_STI_drug_screening*
- *HIV_prelim_results*

CRFs as Needed

- *Screening_and_enrollment*
- *Contact_study_prefs*
- *Positive_STI_result*
- *HIV_confirm_result*
- *Status_reentry*
- *Status_study_stop*

Study_ID
XX-XXXX-X