



Crystal Meth and HIV in New York City

The New York City Department of Health

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Overview

- Introduction
- Overview of Data Sources
- Resource Investigation/Service Assessment
- Proposed Activities

Introduction

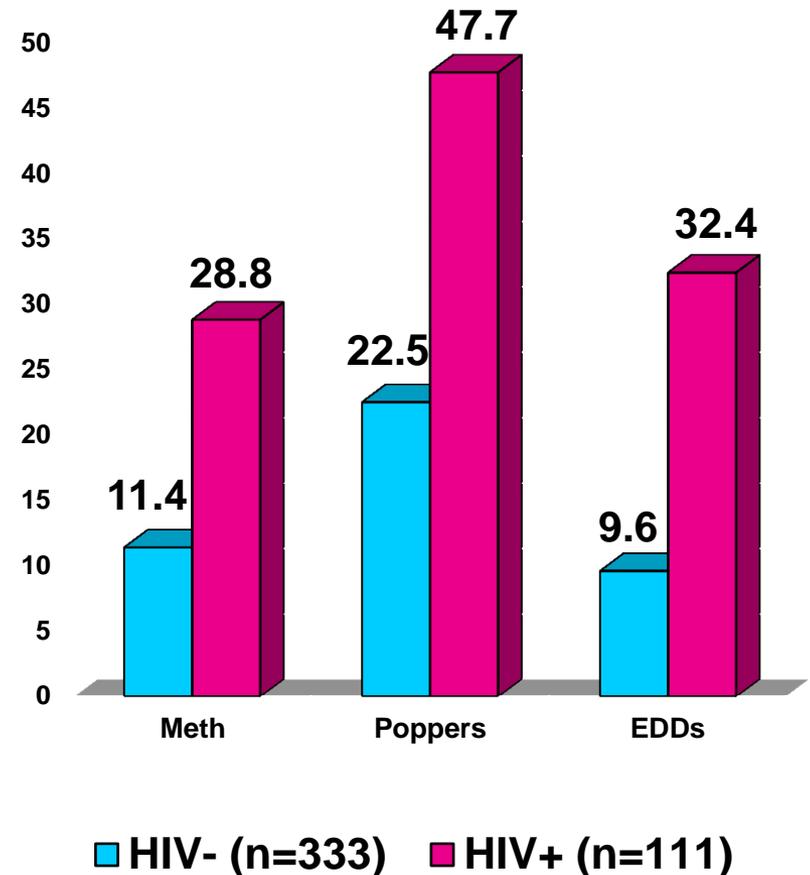
- What is Meth
 - Man-made stimulant
 - Highly addictive and affects central nervous system
- Consistent evidence that MSM who use crystal meth are significantly
 - More likely to engage in HIV sexual risk behavior¹;
 - At an increased risk for HIV infection²

¹Colfax et al., 2005; Forrest et al., 2010; Garofalo et al., 2007; Halkitis et al., 2009; Semple et al., 2009.

²Buchacz et al., 2005; Koblin et al., 2006; Plankey et al., 2007).

Meth Use and HIV Transmission in MSM

- Meth use correlates with 2-4 fold increases in risk for HIV transmission in:
 - Cohort Studies (Plankey et al., 2007)
 - New Infections (Drumright et al., 2007; 2009)
 - STI settings (Buchacz et al., 2005; Buchbinder et al., 2005)



HIV Transmission

Methamphetamine

A Probabilistic Event Determined by:

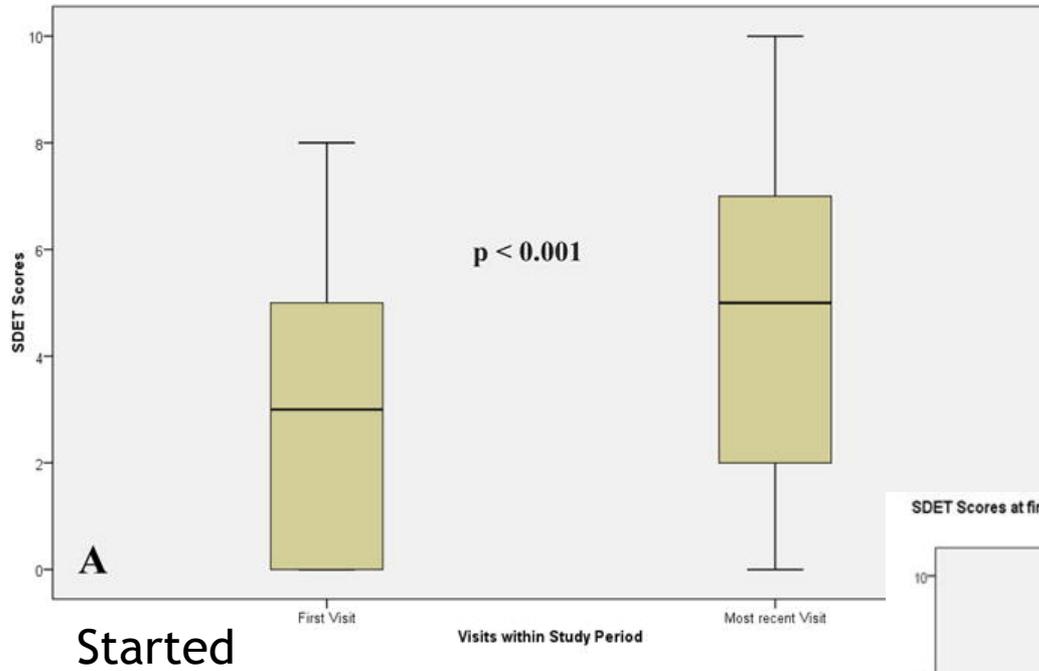
- Characteristics of the behavior
 - Unprotected anal (↑ receptive; ↓ insertive)
 - Unprotected vaginal (↑ receptive; ↓ insertive)
 - Oral behaviors
- Characteristics of the individual
 - Other STIs
 - Bruised/bleeding mucosa
 - Viral load
 - Concurrency
- Characteristics of the event
 - Single; multiple sources of virus



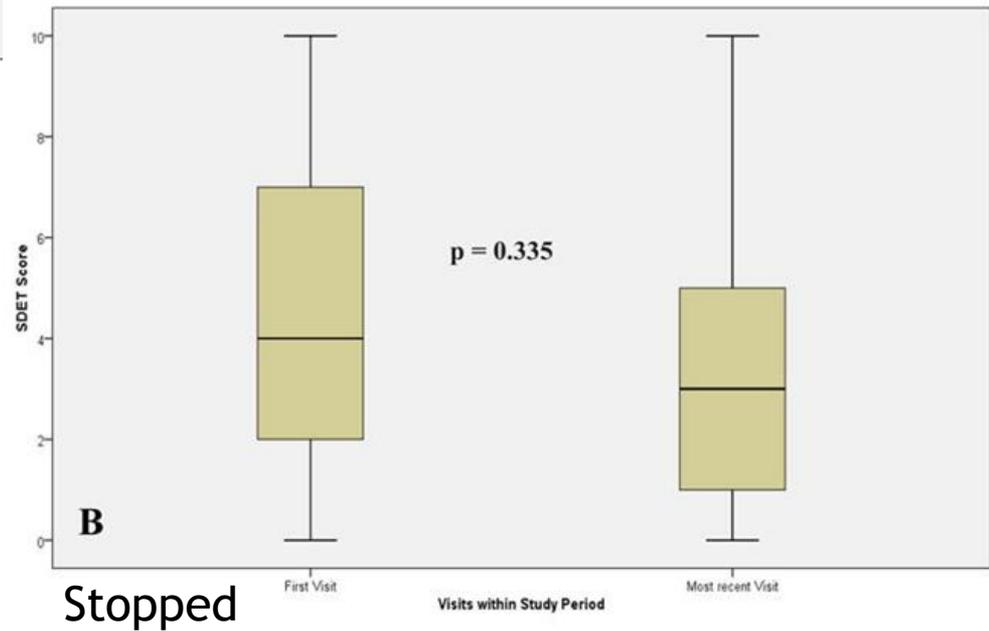
Crystal Meth and Risk

- San Diego cohort study to analyze recent self-reported methamphetamine use in a community-based HIV screening program in San Diego, CA, between April 2008 and July 2014 (total 17,272 testing encounters).
- Sexual risk behavior was evaluated using a previously published risk behavior score [San Diego Early Test (SDET) score] that predicts risk of HIV acquisition.
- Risk compared in first and subsequent visits

SDET Scores at first and most recent Testing Encounter in MSM repeat Testers who had STARTED Methamphetamine Use while in Follow-up (Time between Testing Encounters >12 months; n=82)



SDET Scores at first and most recent Testing Encounter in MSM repeat Testers who STOPPED Methamphetamine Use while in Follow-up (Time between Testing Encounters >12 months; n=48)

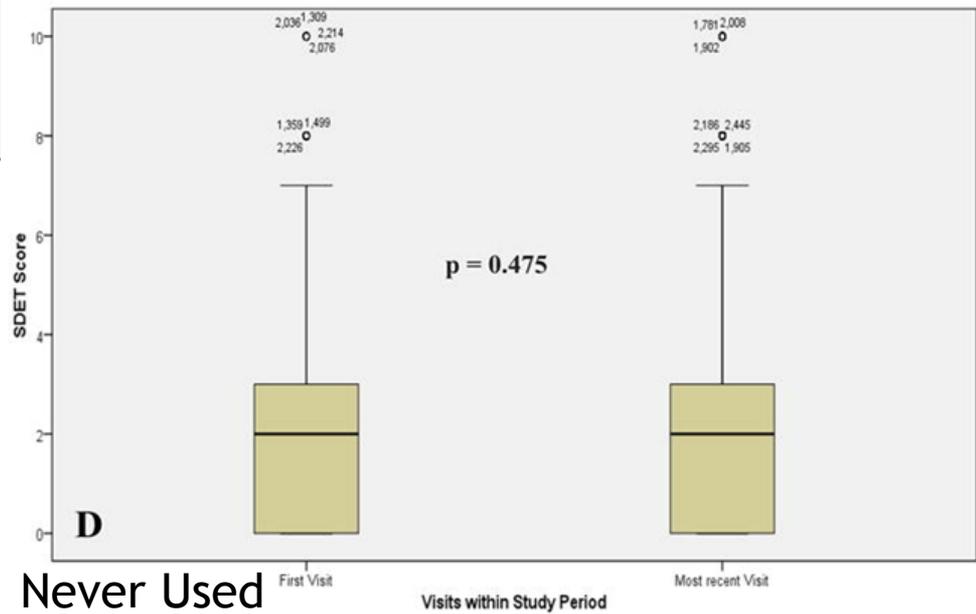


#PLAYSURE

SDET Scores at first and most recent Testing Encounter in MSM repeat Testers who ALWAYS reported Methamphetamine Use
(Time between Testing Encounters >12 months; n=48)



SDET Scores at first and most recent Testing Encounter in MSM repeat Testers who NEVER reported Methamphetamine Use
(Time between Testing Encounters >12 months; n=1603)



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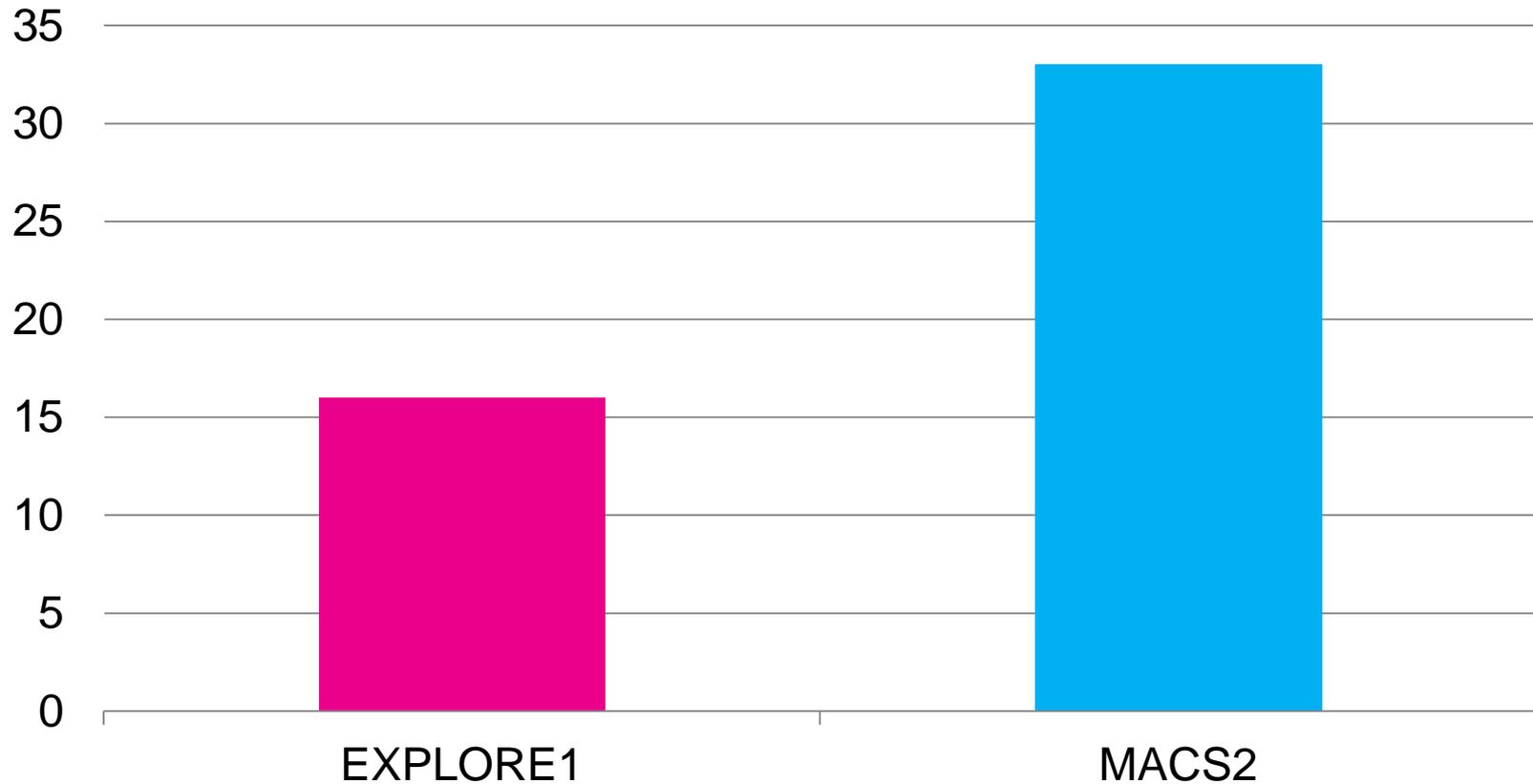
Meth and Other Substances

Substance (Reported Use Within 12 mo Before Test)	N = 8905	Univariate Binary Logistic Regression Model				Multivariable Binary Logistic Regression Model			
		Coefficient β	OR	95% CI	P	Coefficient β	OR	95% CI	P
Methamphetamine	640 (7.2%)	1.785	5.959	4.929 to 7.205	<0.001	1.160	3.191	2.528 to 4.028	<0.001
Nitrites	1197 (13.4%)	1.053	2.865	2.411 to 3.406	<0.001	0.648	1.911	1.580 to 2.311	<0.001
GHB	436 (4.9%)	1.851	6.368	5.128 to 7.908	<0.001	0.778	2.178	1.657 to 2.862	<0.001
Ecstasy	938 (10.5%)	1.042	2.834	2.352 to 3.416	<0.001	—	—	—	n.s.
Alcohol	7385 (82.9%)	0.187	1.206	0.978 to 1.487	0.080	—	—	—	n.s.
Marijuana	2821 (31.7%)	0.627	1.872	1.609 to 2.179	<0.001	0.182	1.200	1.012 to 1.422	0.036
Cocaine	868 (9.7%)	1.116	3.053	2.527 to 3.689	<0.001	0.378	1.459	1.167 to 1.824	0.001
Heroin	44 (0.5%)	1.332	3.789	1.902 to 7.547	<0.001	—	—	—	n.s.
Crack	47 (0.5%)	1.271	3.565	1.799 to 7.065	<0.001	—	—	—	n.s.
Ketamine	161 (1.8%)	1.522	4.582	3.227 to 6.505	<0.001	—	—	—	n.s.
Viagra/Cialis/Levitra	630 (7.1%)	0.851	2.343	1.870 to 2.935	<0.001	—	—	—	n.s.
Painkillers	299 (3.4%)	1.114	3.046	2.278 to 4.073	<0.001	—	—	—	n.s.

GHB, gamma hydroxybutyrate; n.s., not significant; OR, odds ratio.

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Attributable Risk for HIV Transmission from Stimulant Use in MSM



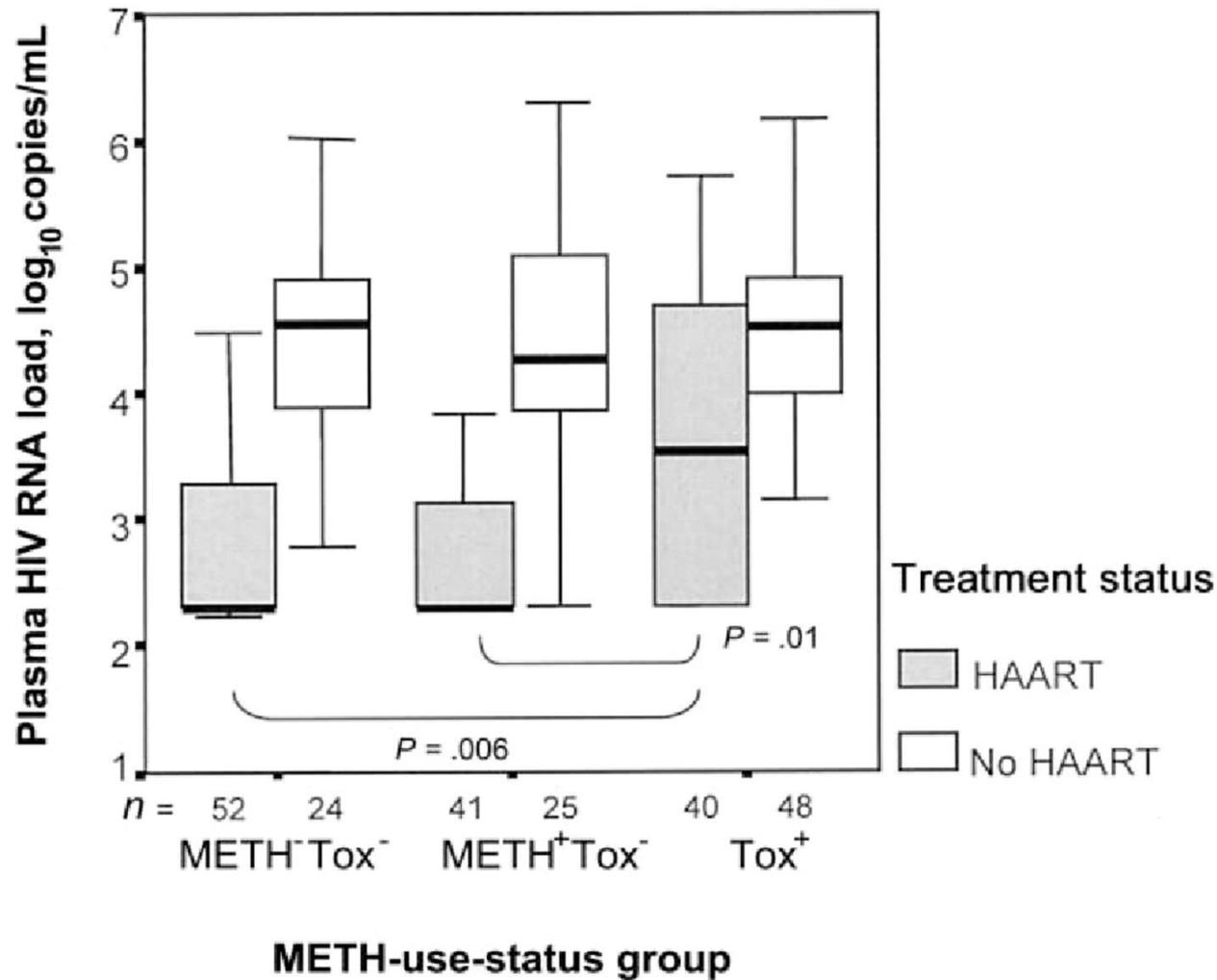
¹ Koblin et al., 2006, AIDS, 20, 731-739

² Ostrow et al., 2009, Journal of Acquired Immune Deficiency Syndrome, 51(3), 349-355

PrEP and Meth

- From September 2012-2013, a quantitative assessment was conducted with 254 MSM respondents who reported recent condomless sex in the context of concurrent stimulant (crack/cocaine and crystal methamphetamine; n = 132) or alcohol use (n = 122).
- Thirteen (5.1 %) reported previous PrEP use.
- In multivariable models, stimulant users when compared to alcohol users were:
 - more likely to be concerned that substance use would affect PrEP adherence (aRR = 2.79, 95 % CI 1.63-4.77)
 - less concerned about HIV stigma as a barrier to PrEP uptake (aRR = 0.52, 95 % CI 0.30-0.90) compared to alcohol users

Relationship of highly active antiretroviral therapy (HAART) to plasma virus load (log₁₀ copies/mL) in the 3 study groups.

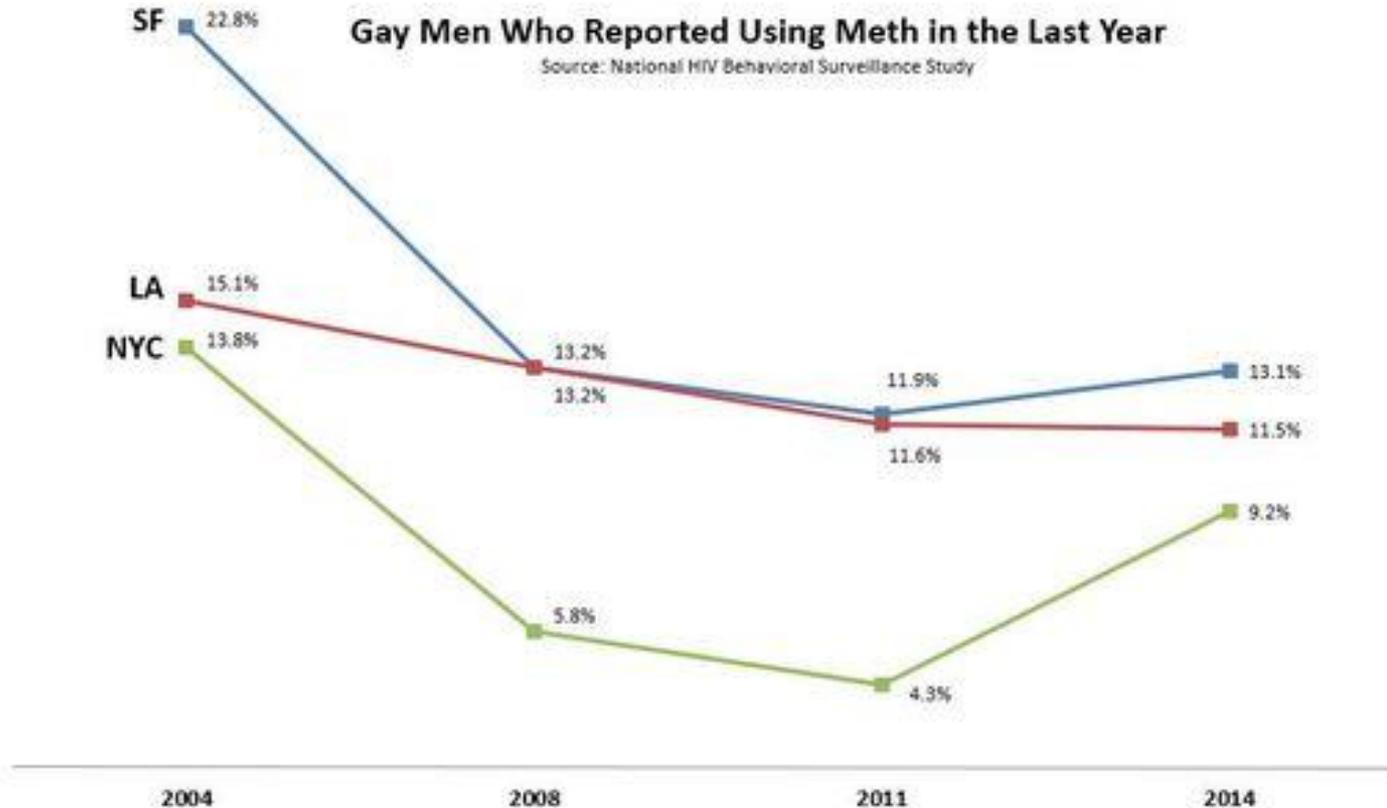


Ronald J. Ellis et al. J Infect Dis. 2003;188:1820-1826

Behavioral Drug Abuse Treatment as HIV Risk Reduction

- Behavioral Therapies
 - Friends Getting Off (Reback & Shoptaw, 2011)
 - Contingency Management (Shoptaw et al., 2005)
 - Limits to treatment settings (Menza et al., 2010)
 - Heterosexual meth users show parallel reductions in injection and sex risk behaviors (Corsi et al., 2012)
- Medication Therapies
 - Mirtazapine (30 mg/d) for meth-dependent MSM (Colfax et al., 2011) showed reductions in meth use and concomitant HIV sexual transmission behaviors
 - Replacement stimulants
 - Other less studied interventions-Need for more investigation

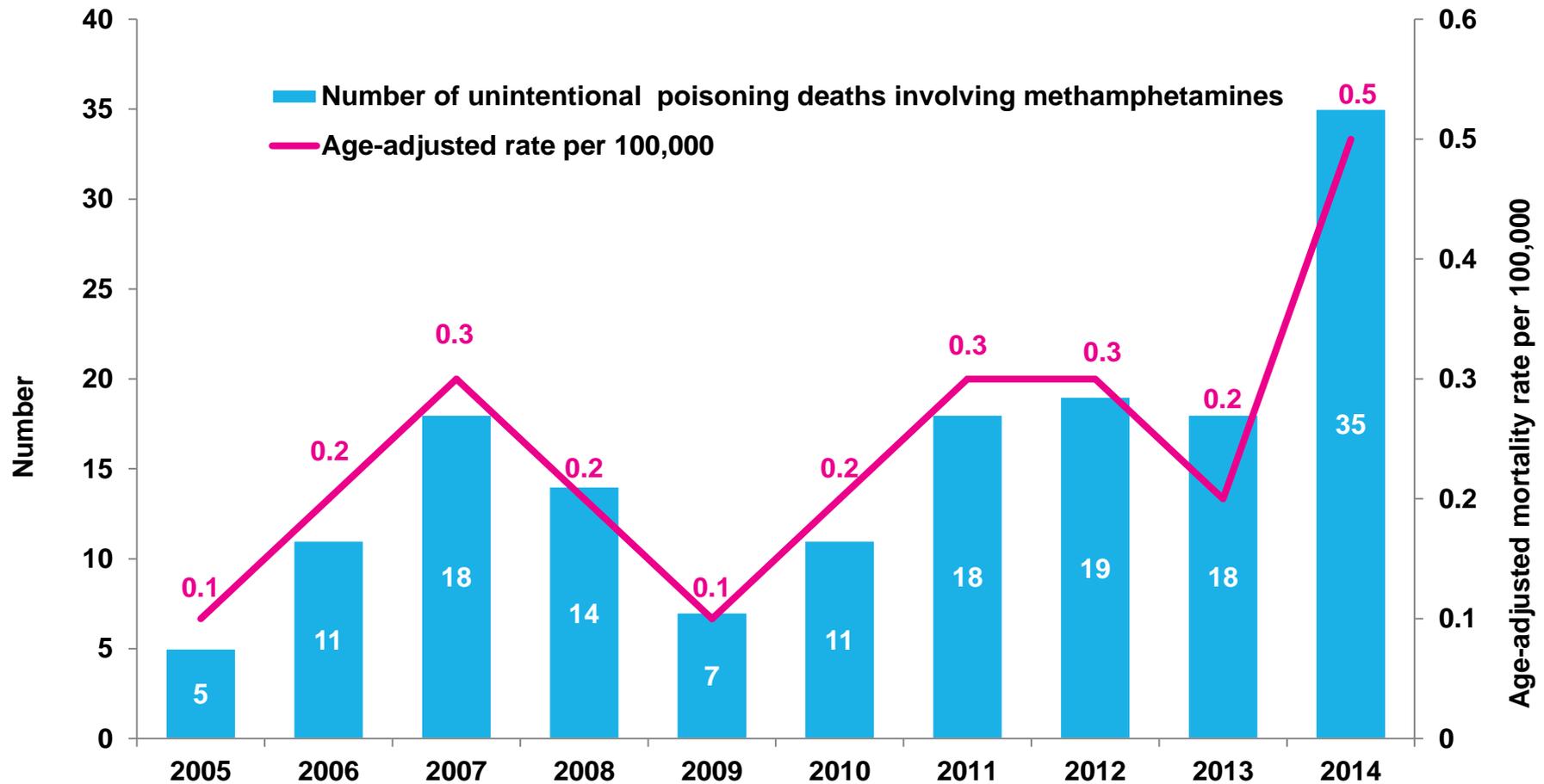
Meth Use by NYC Gay Men



Staley P(2016). It's Back! Meth Use By NYC Gay Men Rising Again. *POZ*. Retrieved from <https://www.poz.com/blog/meth-use-by-nyc-gay-men-rising-again>

#PLAYSURE

In 2014, methamphetamines were involved in 4% of all unintentional drug poisoning deaths in NYC



Source: New York City Office of the Chief Medical Examiner & New York City Department of Health and Mental Hygiene, 2005-2014
Rates calculated using NYC DOHMH population estimates modified from US Census Bureau intercensal population estimates, updated October 2015.
Data analyzed by the Bureau of Alcohol and Drug Use Prevention, Care, and Treatment, March 2016

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Overview of Data Sources

- Sexual Health Survey (SHS)
- HIV/AIDS Behavioral Surveillance
- Ryan White Program Data

Data Source Description:

Sexual Health Survey (SHS)

- **Population included:** Sexually active NYC MSM
 - Eligible if NYC resident, assigned male gender at birth, 18-40 years old, who reports anal sex with a man in the past 6 months
- **Data collection methods:** Online (self-administered) and in-person (interviewer-administered)
- **Frequency of data collection:** Semiannual (online); annual (in-person)

Mensah N et al. American Evaluation Association (AEA), 2015.

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Trends in Drug Use among NYC MSM, Sexual Health Survey, 2014-2015, Preliminary Data

	Spring 2014 (n=654)*	Fall 2014 (n=381)*	Spring 2015 (n=649)*
Characteristic	%	%	%
Reported recent illicit drug use ^{**±}	63.4%	62.9%	64.0%
Reported recent meth use ^{**}	6.5%	4.8%	5.2%
Reported recent meth use among drug users only	10.3%	7.6%	8.2%

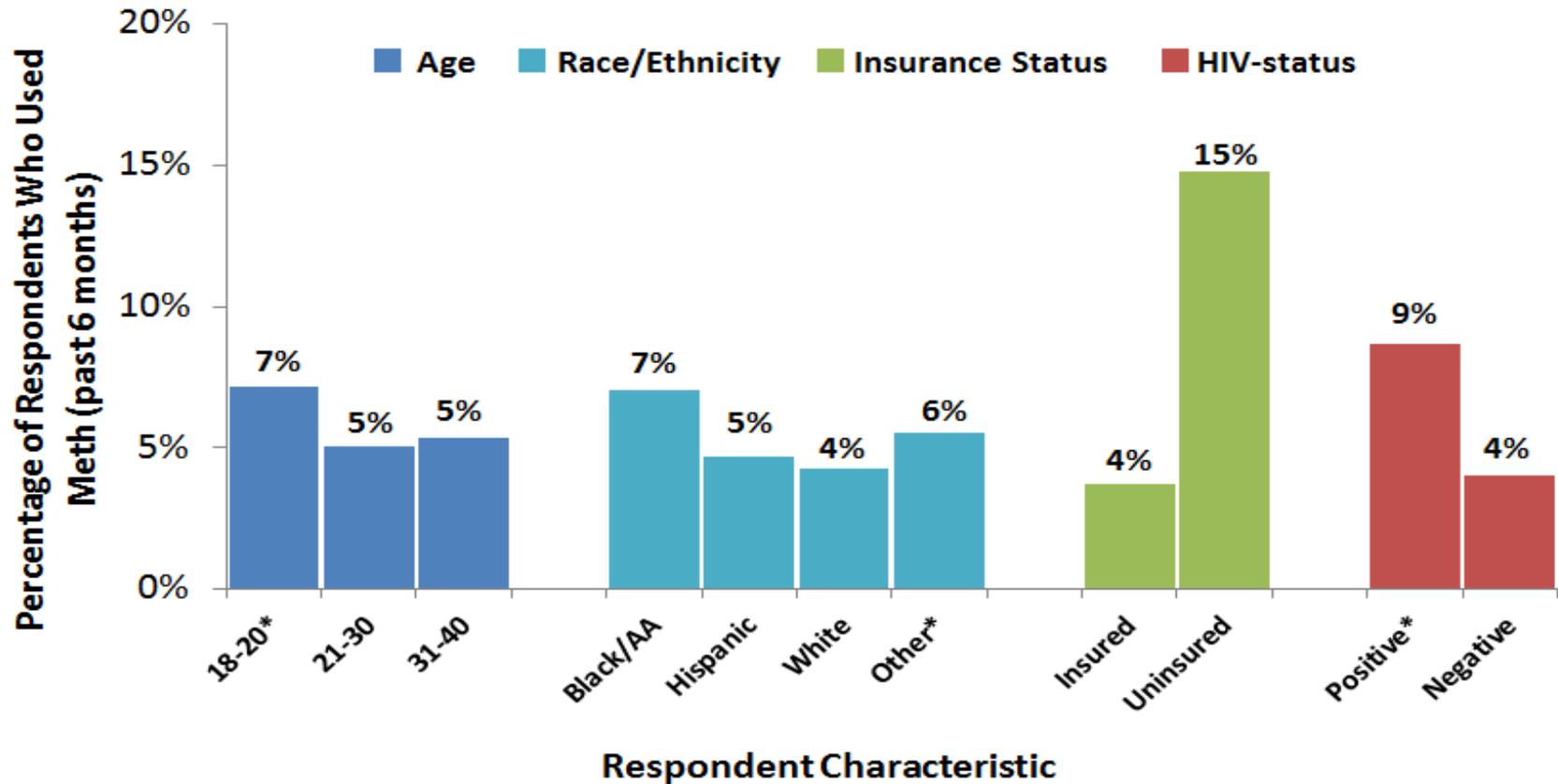
*Spring data collected online and in-person (aggregate); Fall data collected online only

**Within the past 6 months

±Includes: marijuana, cocaine, crack, crystal meth, heroin, prescription drugs, GHB, amyl nitrates, ecstasy, ketamine, etc.

#PLAYSURE

Recent Meth Use among NYC MSM by Selected Characteristics, Sexual Health Survey, Spring 2015 (N=649), Preliminary Data



* Estimate should be interpreted with caution. Sample size is < 50.

#PLAYSURE

Trends in Meth use among NYC MSM with HIV-negative/Unknown Status, Sexual Health Survey, 2014-2015, Preliminary Data

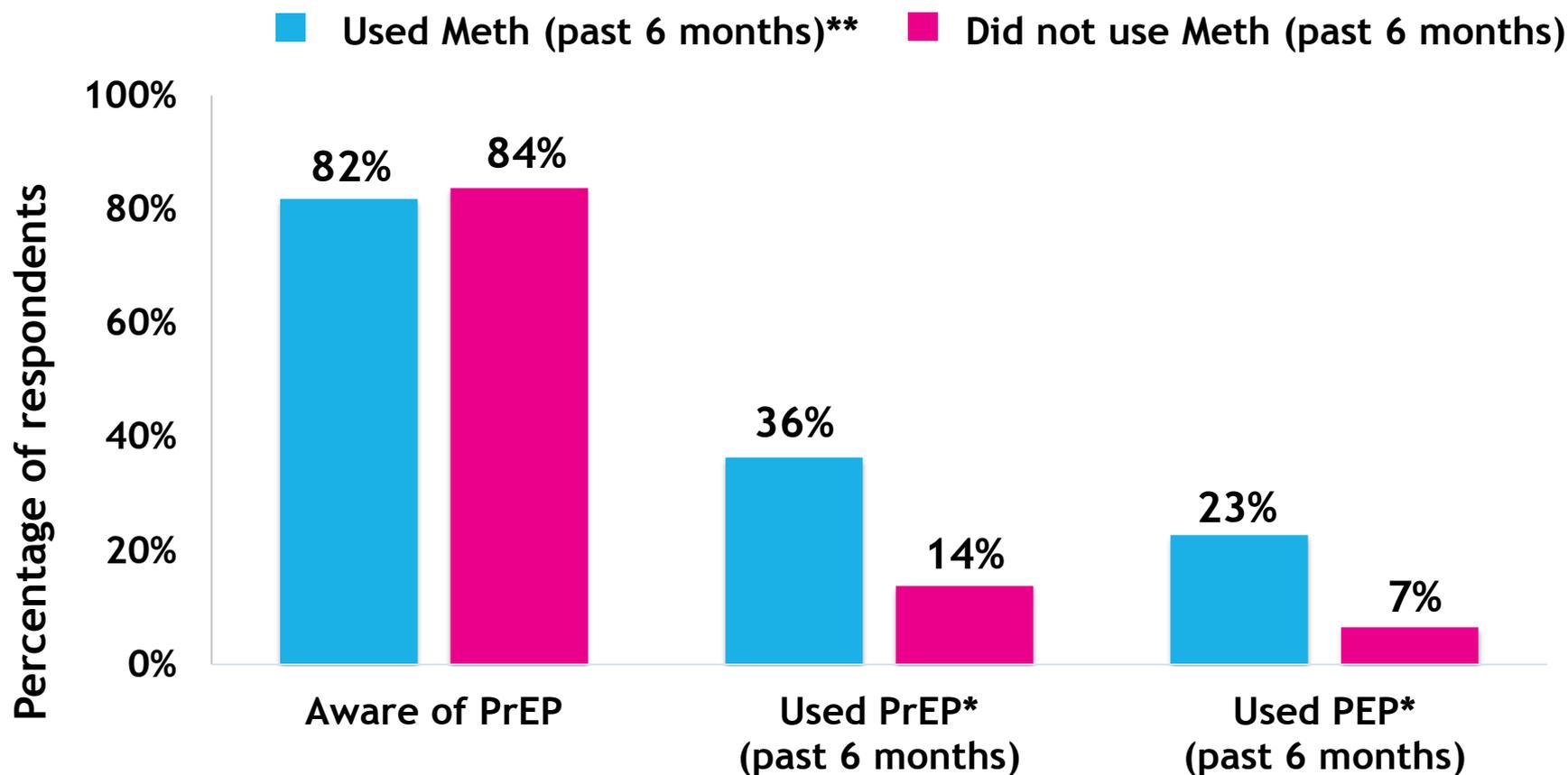
	Spring 2014 (n=587)*	Fall 2014 (n=349)*	Spring 2015 (n=597)*
Recent Meth Use by Survey Type**	%	%	%
Aggregate (in-person & online)	3.8%	3.8%	4.9%
In-person	4.8%	n/a	5.6%
Online	2.6%	3.8%	4.1%

*Spring data collected online and in-person (aggregate); Fall data collected online only

**Within the past 6 months

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PrEP Awareness and Use of PrEP/PEP by Meth Use Among NYC MSM with HIV-Negative/Unknown Status, Sexual Health Survey, Spring 2015, Preliminary Data



*Statistically significant, Chi-square p-value < 0.05

**Estimates should be interpreted with caution. Sample size is < 50.

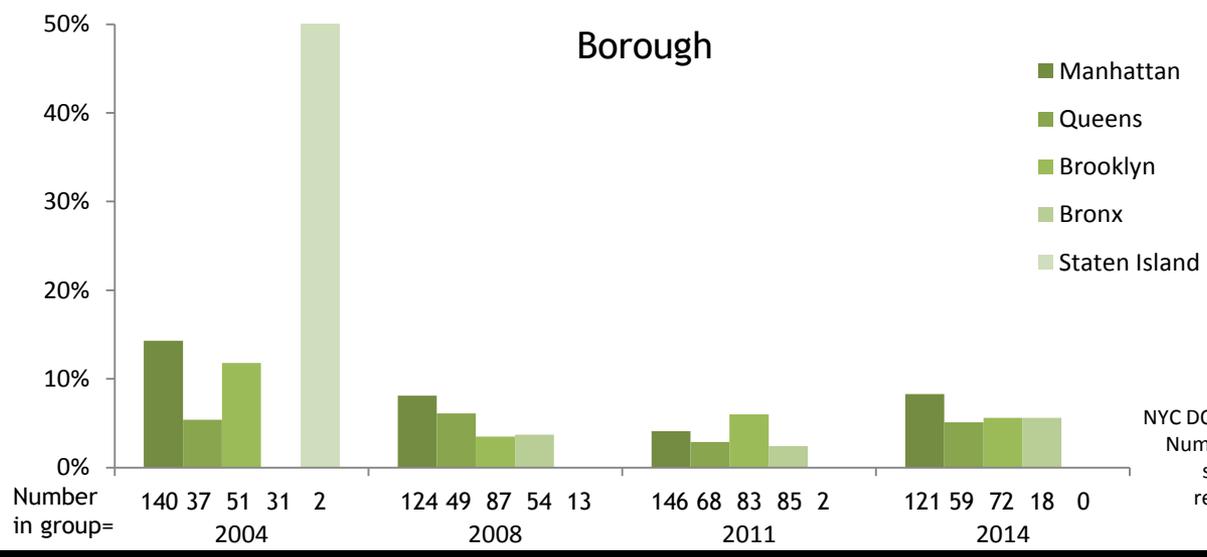
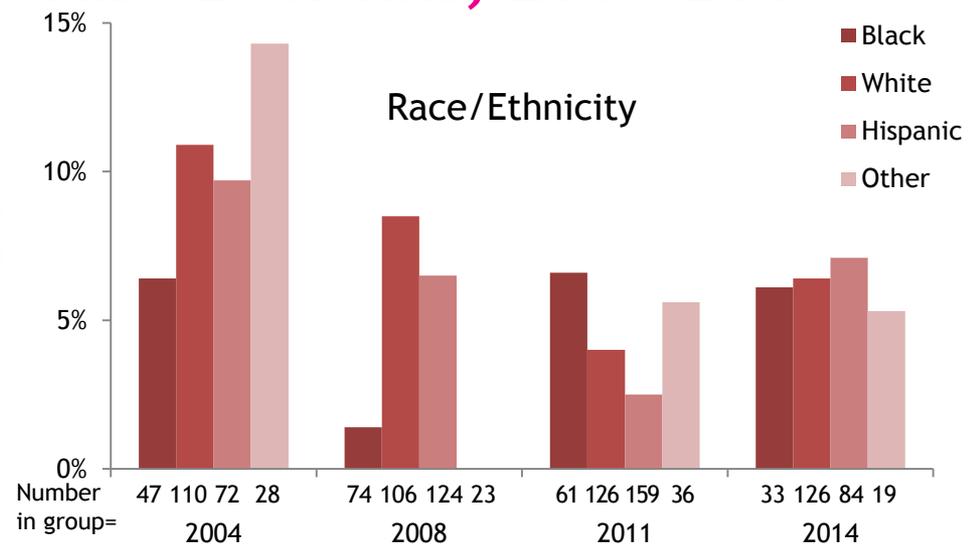
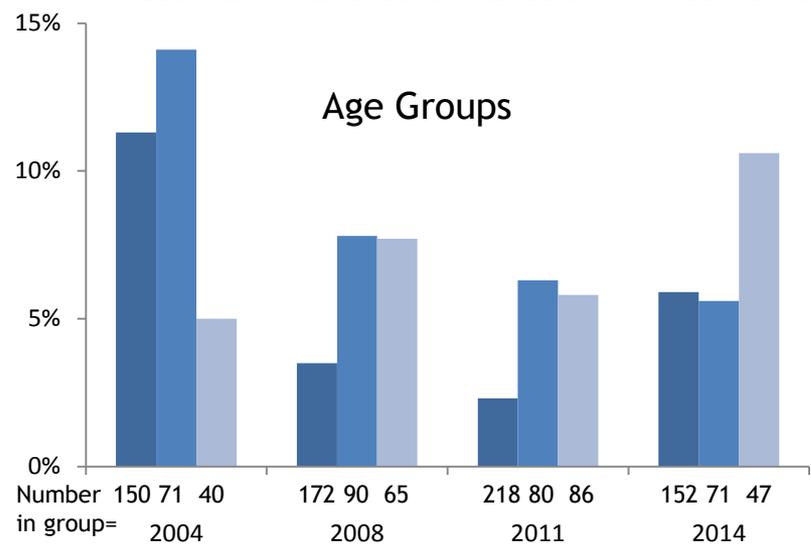
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Data Source Description:

National HIV Behavioral Surveillance (NHBS)

- **Population included (every 3 years):**
 - Men who have sex with men (MSM)
 - Injection drug users (IDU)
 - Heterosexuals at increased risk for HIV infection (HET)
- **Recruitment:**
 - MSM - venue-based sampling
 - IDU/HET - respondent-driven sampling
- **Data collection methods:** Anonymous survey immediately followed by HIV testing
- **Frequency of data collection:** Every 3 years for each target population
- **Years for which crystal meth data available:** 2004-2015, expected to continue in the future

Percent of NHBS Study Participants who Tested Negative for HIV and Used Meth in the Previous 12 Months, 2004-2014



NYC DOHMH National HIV Behavior Surveillance data. Numbers below bars represent the total number of study participants in each group. Height of bars represents the proportion of participants in that group who reported meth use.

#PLAYSURE

HIV Prevention Drug Awareness Among HIV-Negative NHBS Study Participants by Meth Use in Previous 12 Months, 2011 and 2014

	2011		2014	
	No Meth Use Previous 12 Months	Meth Use Previous 12 Months	No Meth Use Previous 12 Months	Meth Use Previous 12 Months
Aware of PrEP	22.8% (98 out of 429)	38.9% (7 out of 18)	70.8% (269 out of 380)	75% (18 out of 24)
Have Taken PEP*	1.9% (8 out of 429)	5.6% (1 out of 18)	4.8% (13 out of 269)	16.7% (3 out of 18)
Have Taken PrEP*	0.5% (2 out of 429)	0% (0 out of 18)	4.8% (13 out of 269)	5.6% (1 out of 18)

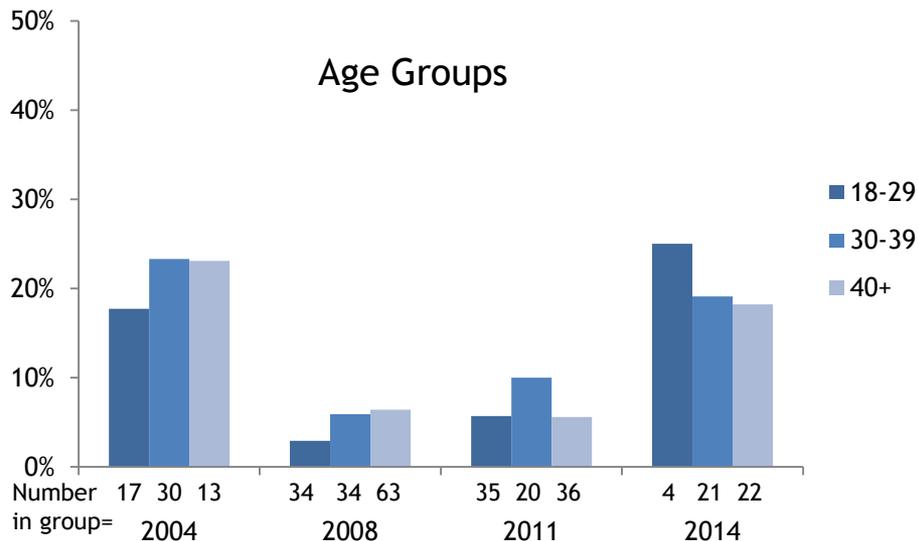
NYC DOHMH National HIV Behavior Surveillance data

*PEP and PrEP use questions were asked of all participants in 2011 and only of participants aware of PrEP in 2014.

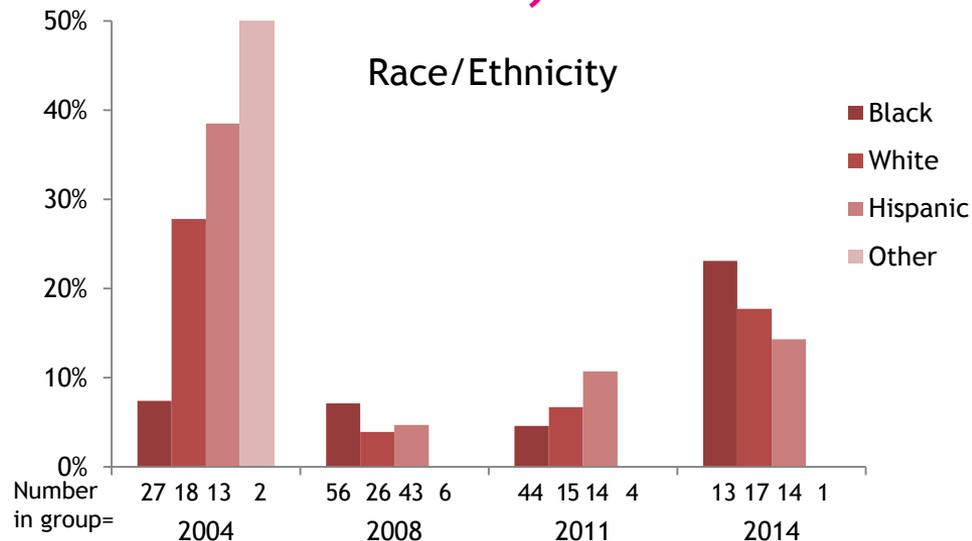
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Percent of NHBS Study Participants who Tested Positive for HIV and Used Meth in the Previous 12 Months, 2004-2014

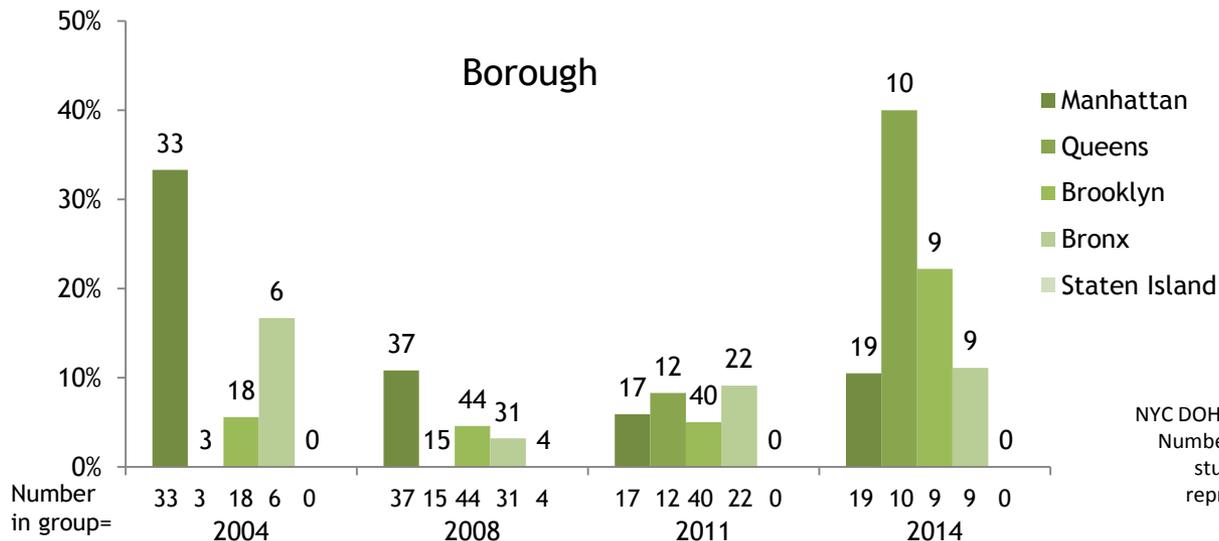
Age Groups



Race/Ethnicity



Borough



NYC DOHMH National HIV Behavior Surveillance data. Numbers below bars represent the total number of study participants in each group. Height of bars represents the proportion of participants in that group who reported meth use.

Data Source Description:

Ryan White Part A Services Program Data

- **Population included**
 - HIV-positive MSM who received Ryan White Part A services
- **Data collection methods**
 - Demographic and substance use data (NYC DOHMH's Electronic System for HIV/AIDS Reporting and Evaluation, eSHARE)
 - Viral load data (The NYC HIV/AIDS Surveillance Registry)
- **Frequency of data collection:**
 - Psychosocial, behavioral, and clinical information are collected at program intake and approximately every six months during a client's enrollment in a Ryan White Part A service category
- **Years for which crystal meth data were reported:**
 - Demographic characteristics: CY2013, CY2014
 - Viral suppression: 11/2010 – 6/2012

Ryan White Data among MSM Diagnosed and Living with HIV/AIDS

HIV+ MSM in Ryan White Part A who reported recent and lifetime crystal meth use

	2013 (n=5,383) ¹		2014 (n=5,411) ¹	
Recent crystal meth use ²	225	4.2%	270	5%
Lifetime crystal meth use ³	738	13.7%	802	14.8%

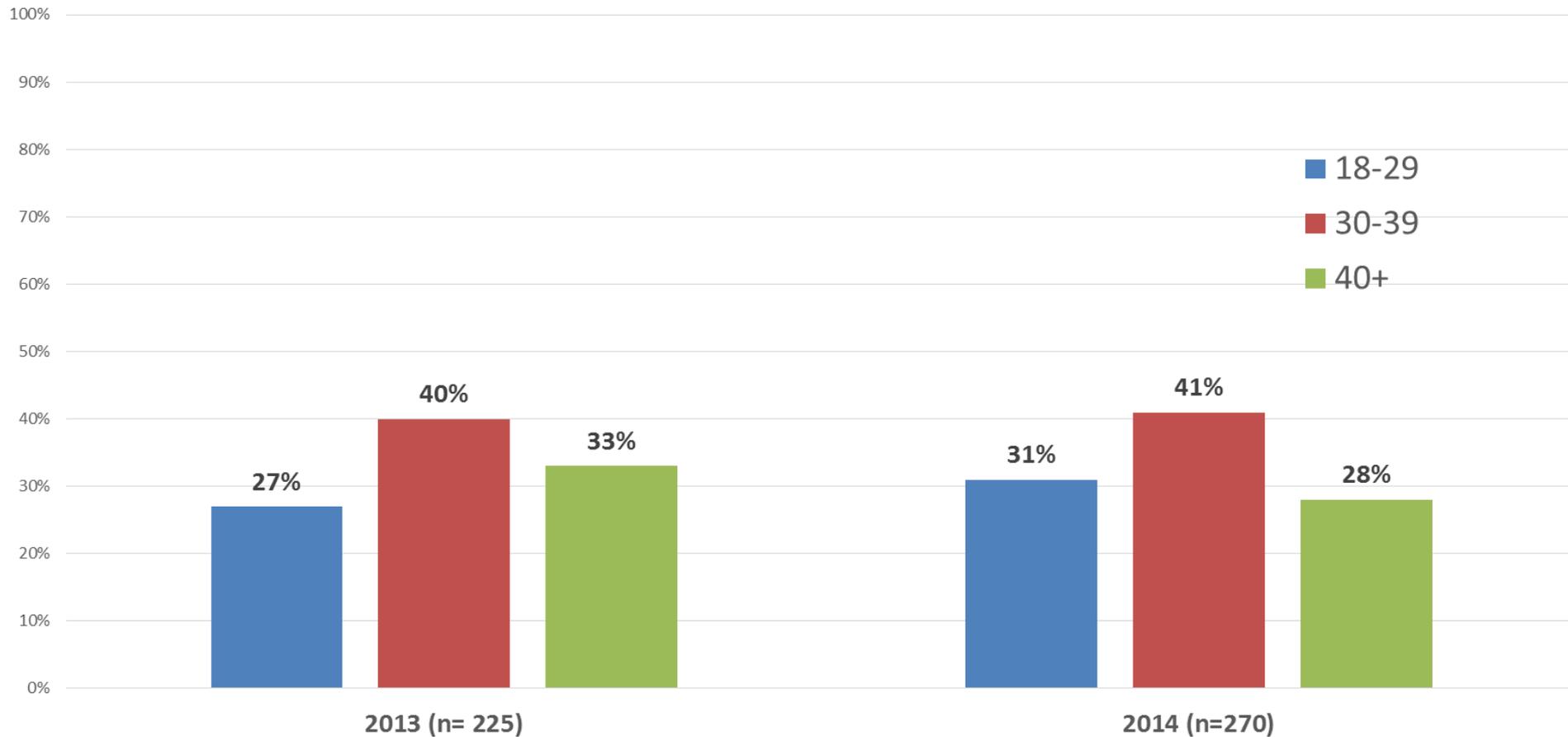
¹Clients were deduplicated within the calendar year. Clients had an enrollment of any duration within the calendar year, had at least 1 service within the calendar year, and had a valid intake assessment accompanying their enrollment.

²Recent use was defined as having used crystal meth at least once in the 3 months prior to the substance use assessment. Recent crystal meth use data came from a client's most recently completed valid substance use assessment, regardless of the agency/service category for which the assessment was completed.

³Lifetime use was calculated using all valid substance use assessments completed by a client through the last day of the calendar year. If a client indicated recent or lifetime meth use on any assessment completed up until the end of the calendar year, he was classified as a lifetime meth user.

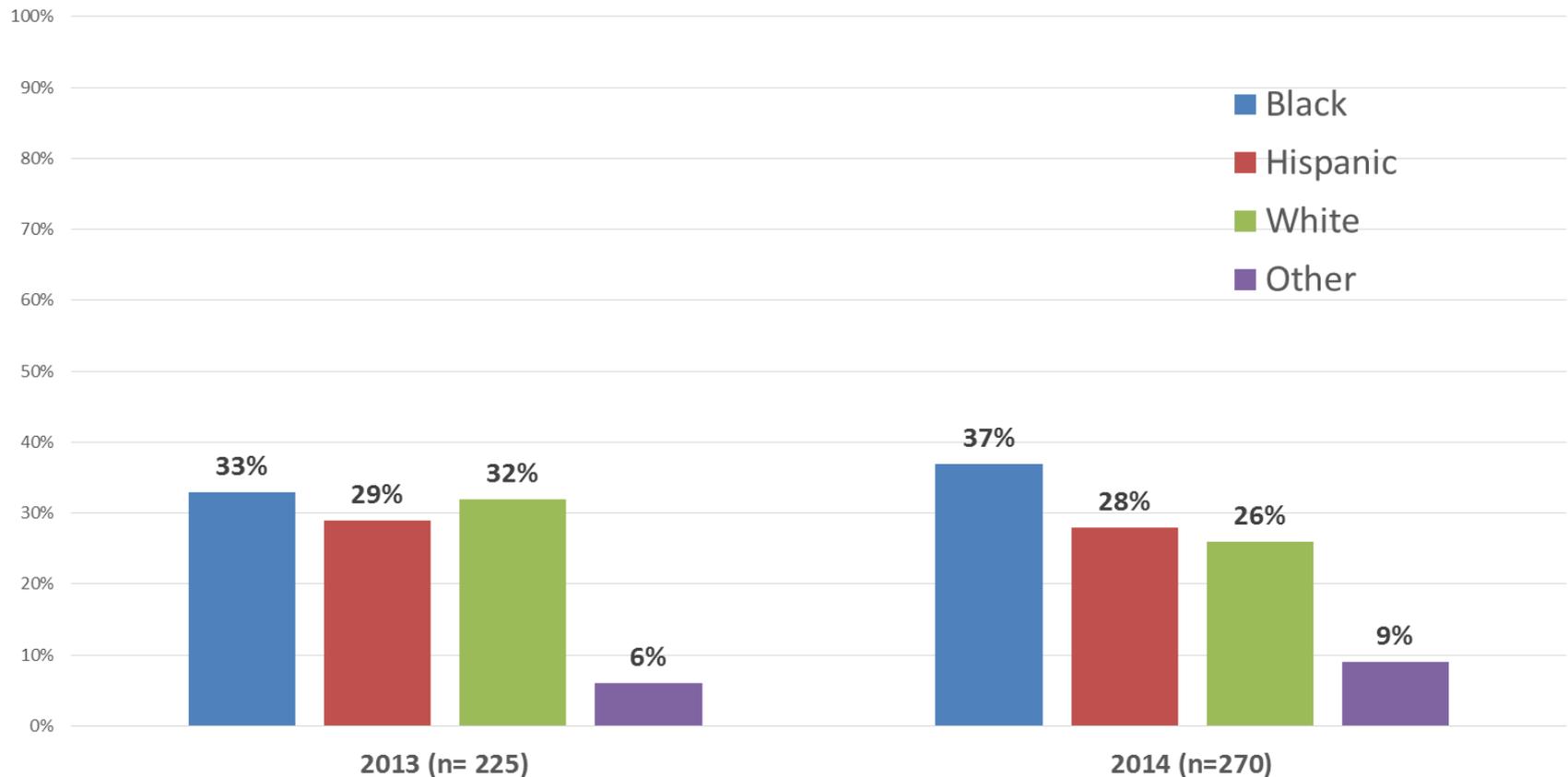
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HIV+ MSM in Ryan White Part A who reported recent crystal meth use, by age



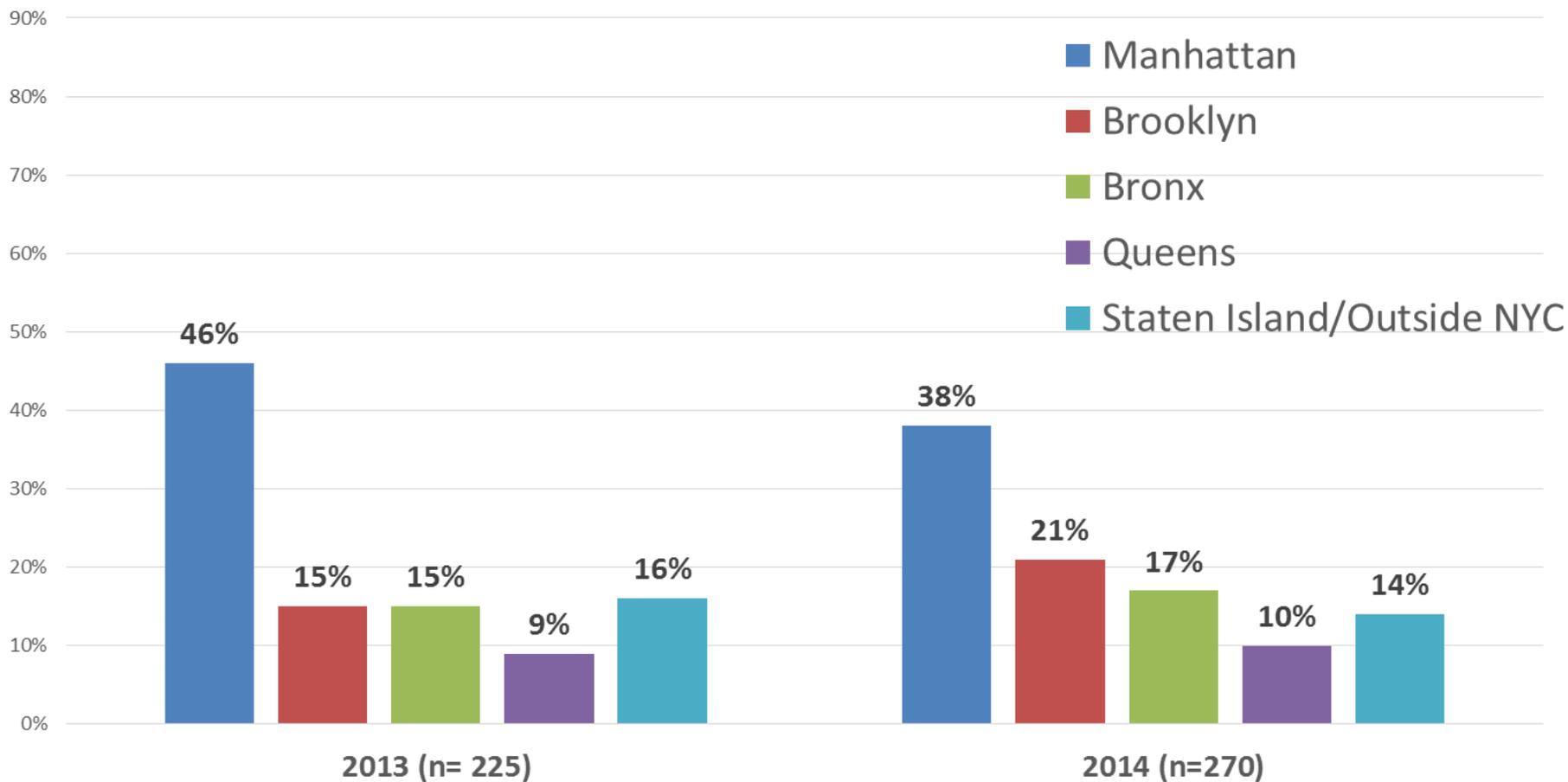
#PLAYSURE

HIV+ MSM in Ryan White Part A who reported recent crystal meth use, by race/ethnicity



#PLAYSURE

HIV+ MSM in Ryan White Part A who reported recent crystal meth use, by borough



#PLAYSURE

Meth use is associated with unsuppressed viral load among HIV+ MSM in Ryan White Part A services, NY grant area (11/2010 - 6/2012)

		VL > 200 copies/mL n (%)	Adjusted OR* (95% CI)
Recent crystal meth use	Yes	65 (62.5%)	1.80 (1.11, 2.94)
	No	1200 (44.2%)	(ref.)

*Adjusted for age, race/ethnicity, primary language, education, birth country, housing status, recent cocaine or crack use, ART prescription status, years living with HIV

#PLAYSURE

Resource Investigation: Methods

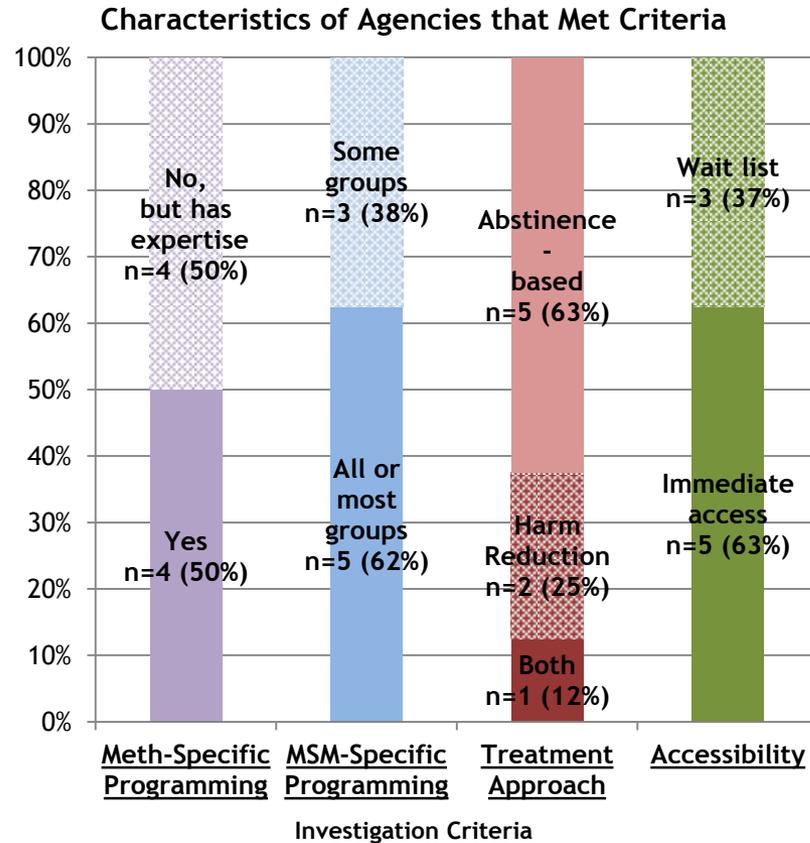
Aim: Preliminary assessment of resources for Crystal Meth Treatment and Support in NYC

- Step 1: Identify preliminary agencies (n=22)
 - Google search; NYC Comptroller's Guide to LGBT services; Suggestions from SBH providers and BHIV/BADUPC colleagues
- Step 2: Interview preliminary agencies (n=20)
 - Crystal meth and MSM-specific programming; Treatment approach and modalities; Capacity/wait list; Payment options
- Step 3: Make recommendations (n=8)
 - Has expertise and experience in serving crystal meth users
 - Has MSM-specific programming

Criteria: *Is agency equipped to provide quality crystal meth treatment or support to MSM?*

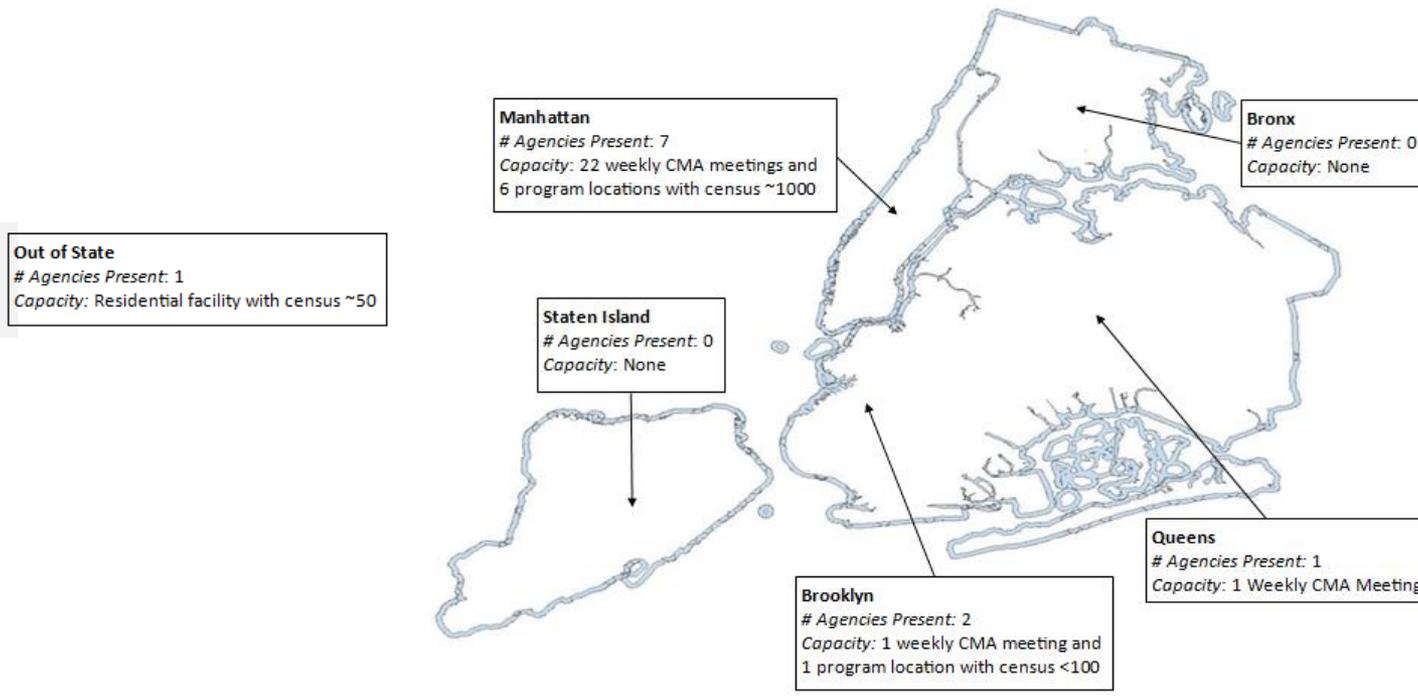
Resource Investigation: Recommendations

8 Agencies meet criteria



Resource Investigation: Recommendations

Capacity and Geographic Dispersion of Recommended Agencies



Resource Investigation: Summary

Additional Impressions

- Only 8 of 22 agencies met criteria, majority in Manhattan
- Limited range of treatment approaches
- Community interest in crystal meth treatment
- Resource guide needed

Next Steps

- Create resource guide
- Survey additional providers
- Develop system to track and update resources

BHIV Proposed Activities

- Develop print and online resources (partially funded by RW)
 - For providers
 - For clients and general public
- Funded programs (Ryan White, sexual and behavioral health clinics, 15-1509 etc.)
 - Include assessment for crystal meth use and injecting
 - Module to promote PrEP for meth users
 - Care Coordination etc. promotion for HIV+ users
 - Referrals to support groups and treatment
 - New RW funded Harm Reduction program with a focus on HIV+ Meth users to be awarded soon

EtE RFP: Category 7, Harm Reduction Services for Crystal Methamphetamine Users

- Innovative program to address crystal meth use in NYC
- Funding expands harm reduction support to NYC meth users
 - Service focus on MSM and Transgender women at risk of HIV
 - HIV Positive methamphetamine users receive RW services and clinical services in this EtE RFP
- The program will be a collaborative consisting of a CBO and a clinic-based agency
 - **CBO:** provide outreach, drop in space, counseling, group-level support, education and linkage to services, & benefits navigation
 - **Clinic:** pharmacotherapy, counseling, vaccinations, STI treatment, & PEP starter packs
- Bidders conference Tuesday, 3/29, 1-4pm; Cicutelli Associates, 505 8th ave, Yellow Room

THANK YOU!

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