STDs among MSM

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Disclosures

NONE

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

MSM STD Morbidity

National Estimates of MSM Population

JMIR PUBLIC HEALTH AND SURVEILLANCE Grey et al

Original Paper

Estimating the Population Sizes of Men Who Have Sex With Men in US States and Counties Using Data From the American Community Survey

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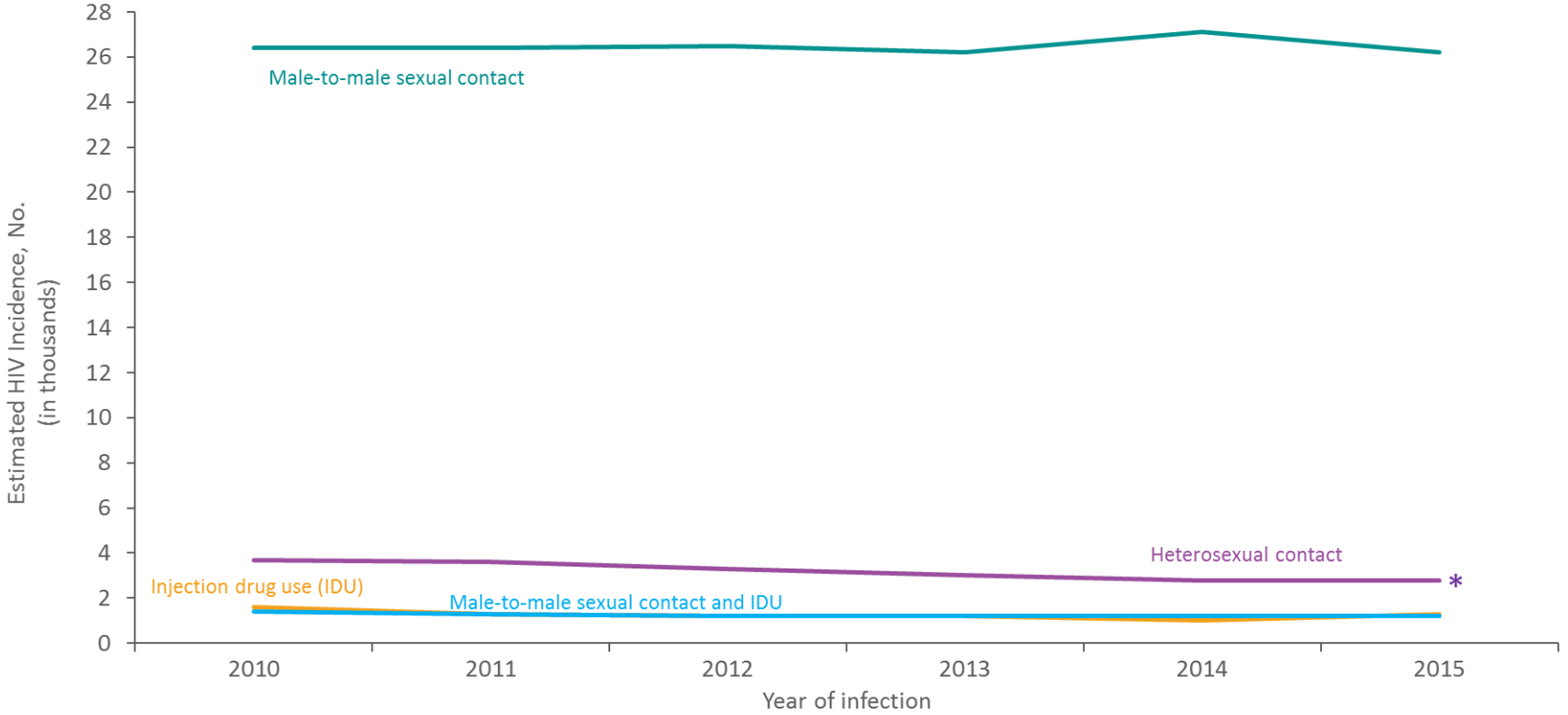
2016

- 4,628,854 Adult MSM in US
- 203,341 Adult MSM in Chicago MSA
- 158,055 Adult MSM in Cook County
- 4.4% of US Adult MSM live in Chicago MSA
- 77.4% of Adult MSM in Chicago MSA live in Cook County

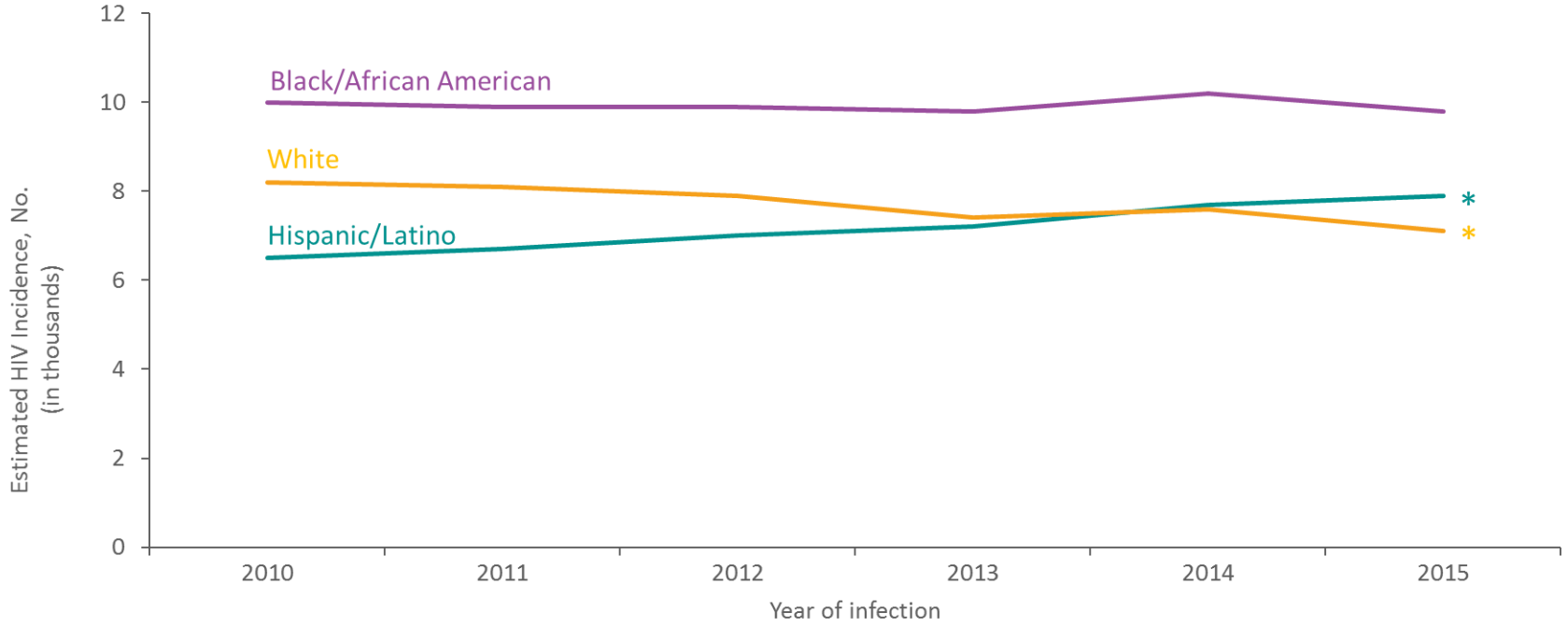
Estimated HIV Incidence among Males Aged ≥13 Years, by Transmission Category, 2010–2015—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Heterosexual contact is with a person known to have, or to be at high risk for, HIV infection.

* Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

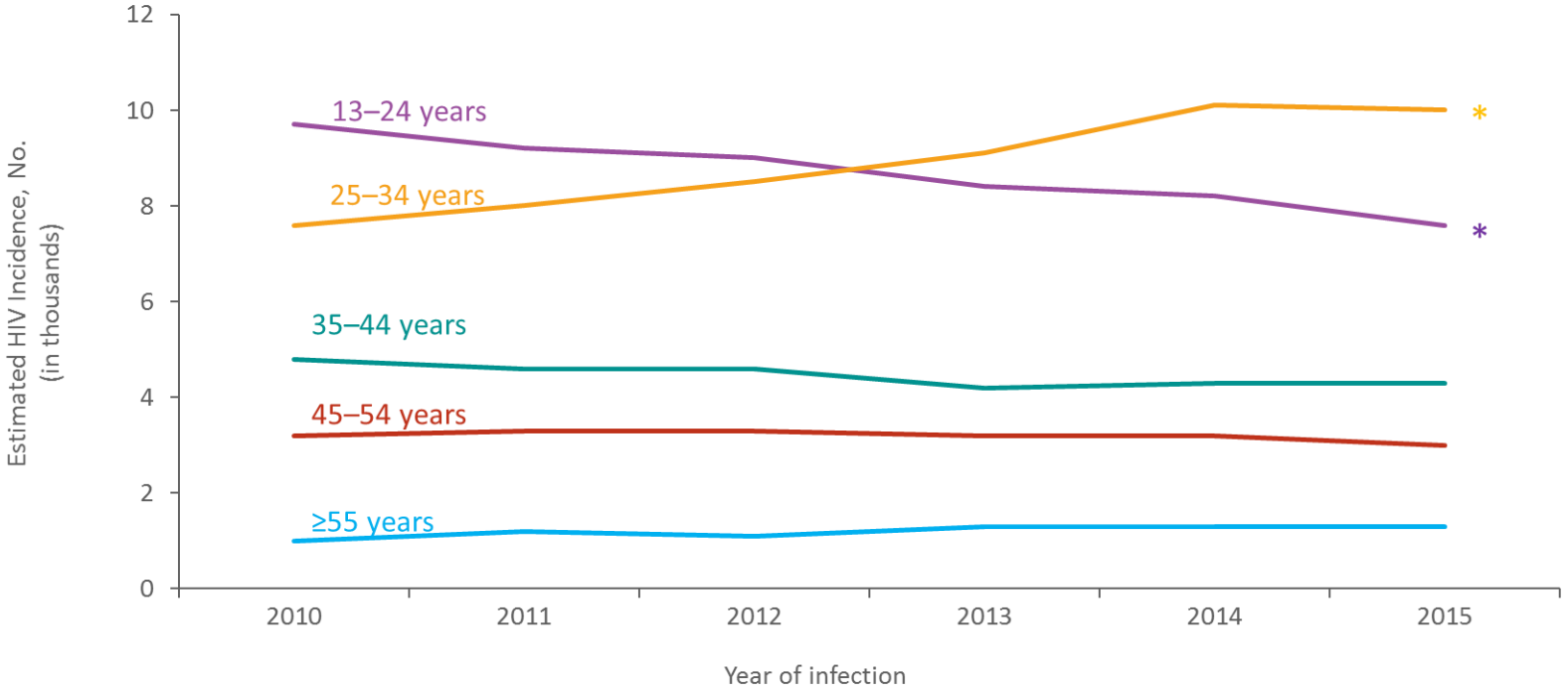
Estimated HIV Incidence among Men Who Have Sex with Men Aged ≥13 Years, by Race/Ethnicity, 2010–2015—United States



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Data on men who have sex with men do not include men with HIV infection attributed to male-to-male sexual contact and injection drug use. Hispanics/Latinos can be of any race.

*Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

Estimated HIV Incidence among Men who Have Sex with Men Aged ≥13 Years, by Age, 2010–2015—United States

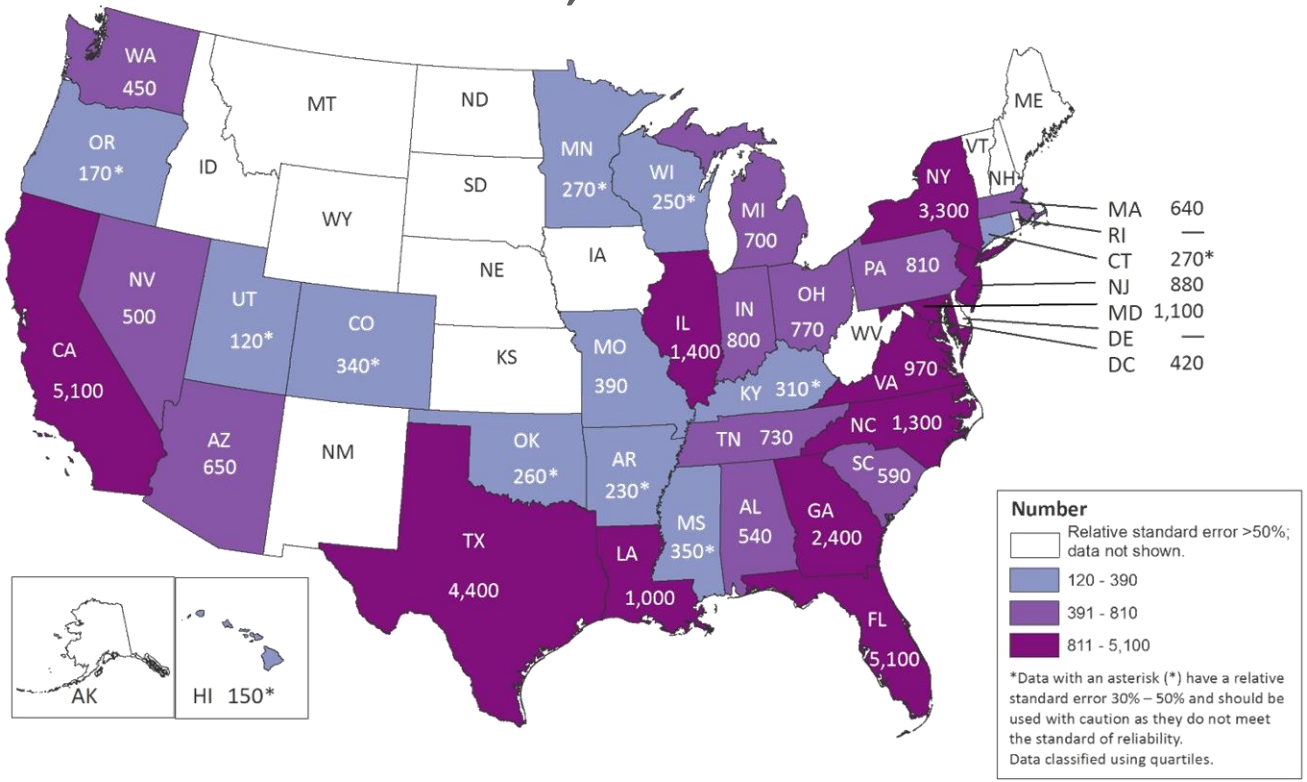


Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Data have been statistically adjusted to account for missing transmission category. Data on men who have sex with men do not include men with HIV infection attributed to male-to-male sexual contact and injection drug use.

*Difference from the 2010 estimate was deemed statistically significant ($P < .05$).

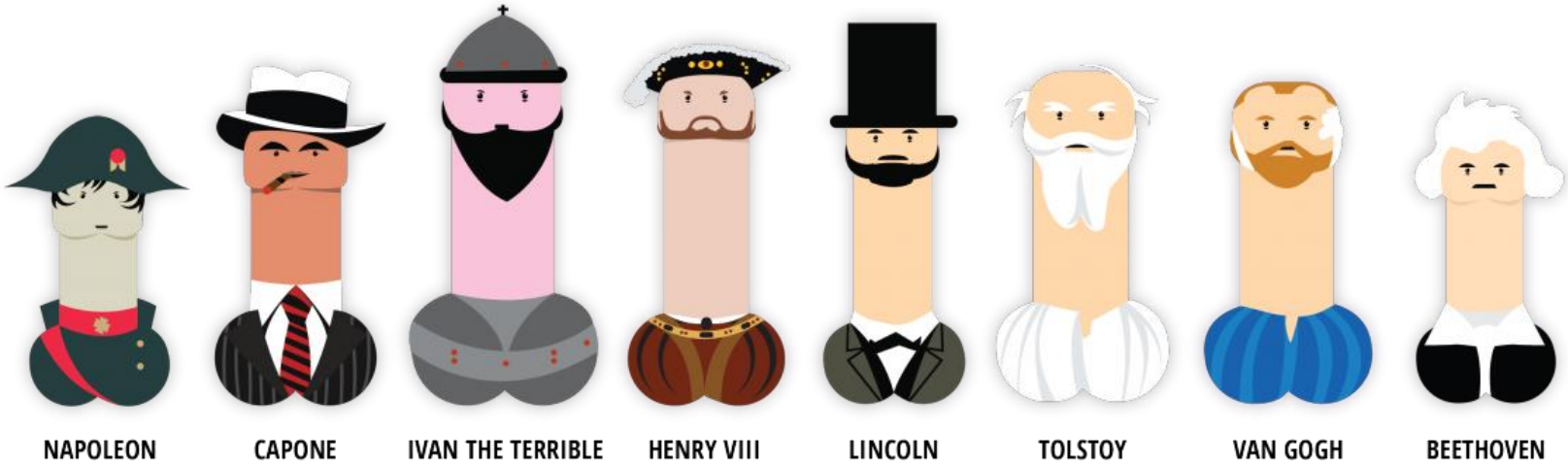
Estimated HIV Incidence among Persons Aged ≥13 Years, by Area of Residence, 2015—United States

Total = 38,500



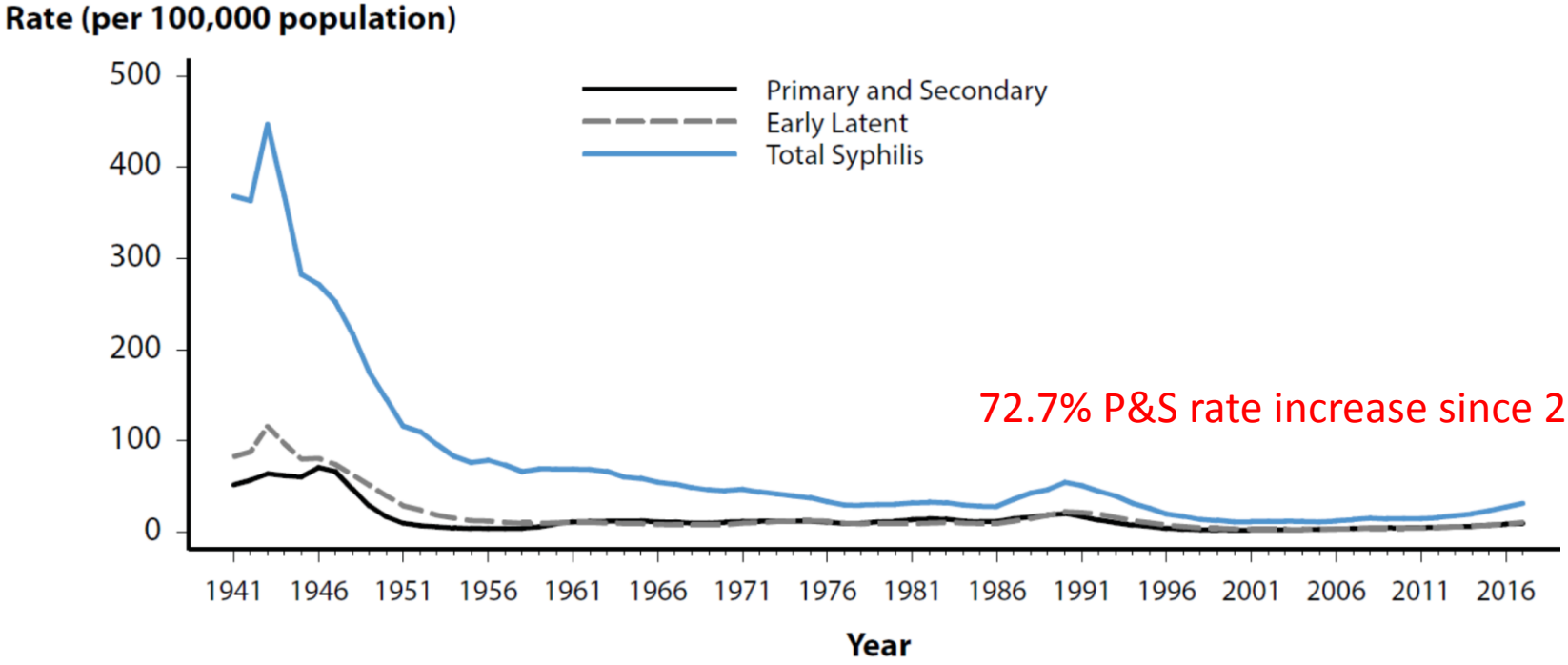
Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Estimates rounded to the nearest 100 for estimates >1,000 and to the nearest 10 for estimates ≤1,000 to reflect model uncertainty.

Syphilis



http://syphistory.ca/#prevention

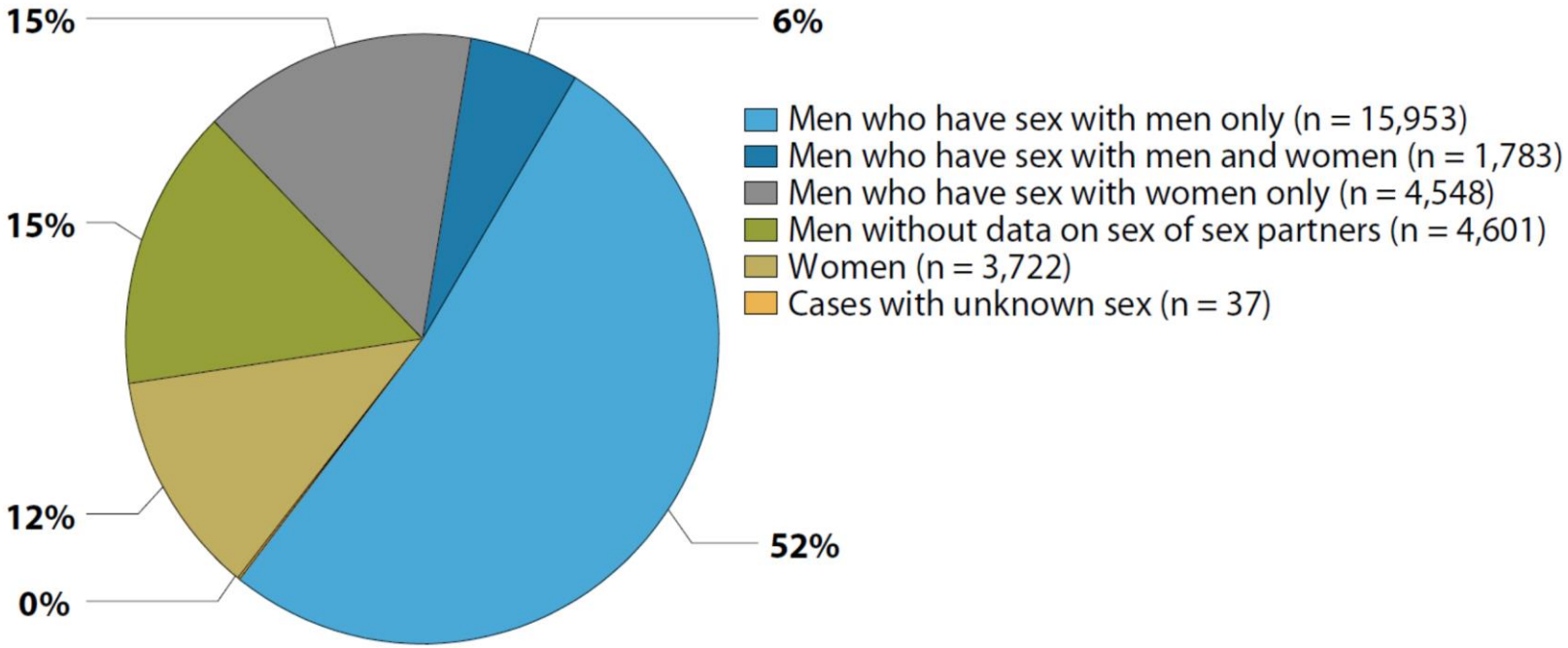
Syphilis — Rates of Reported Cases by Stage of Infection, United States, 1941–2017



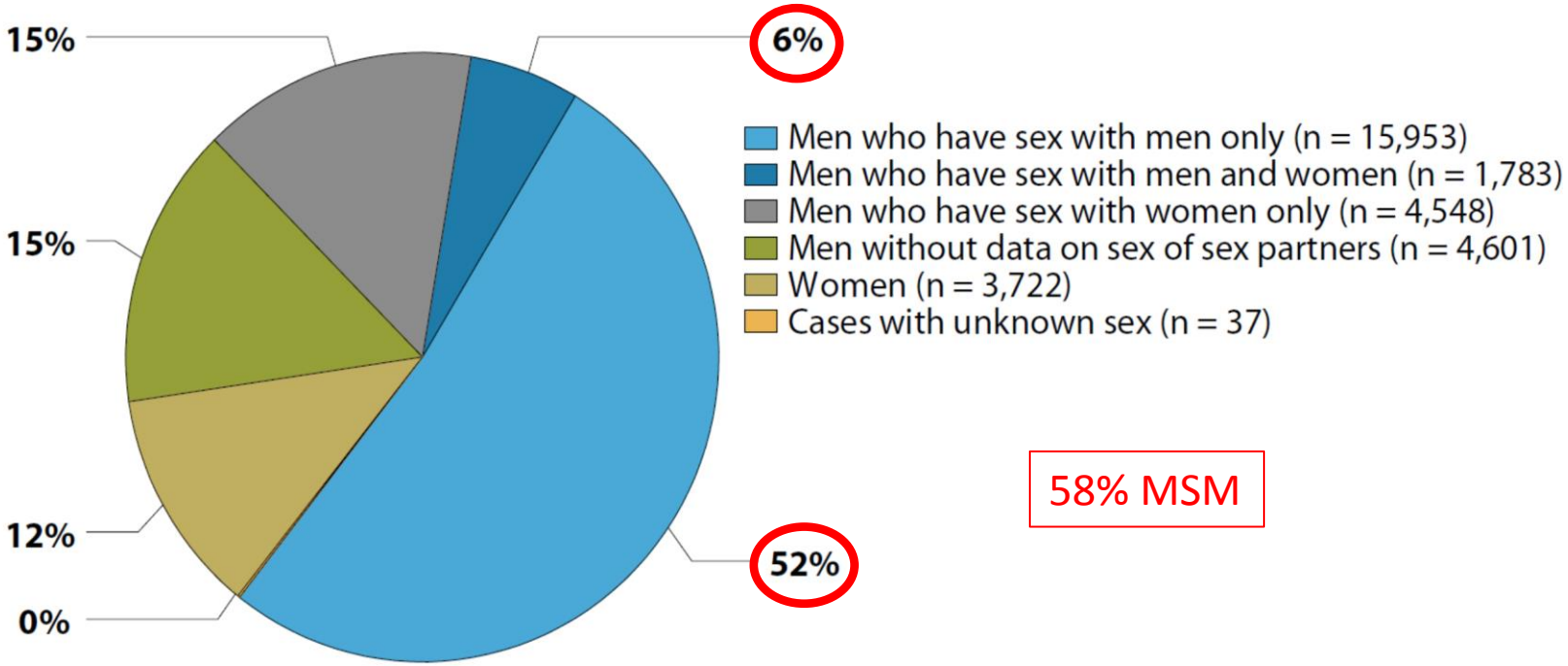
72.7% P&S rate increase since 2013

NOTE: Data collection for syphilis began in 1941; however, syphilis became nationally notifiable in 1944. Refer to the National Notifiable Disease Surveillance System (NNDSS) website for more information: https://wwwn.cdc.gov/nndss/conditions/syphilis/.

Primary and Secondary Syphilis — Distribution of Cases by Sex and Sexual Behavior, United States, 2017

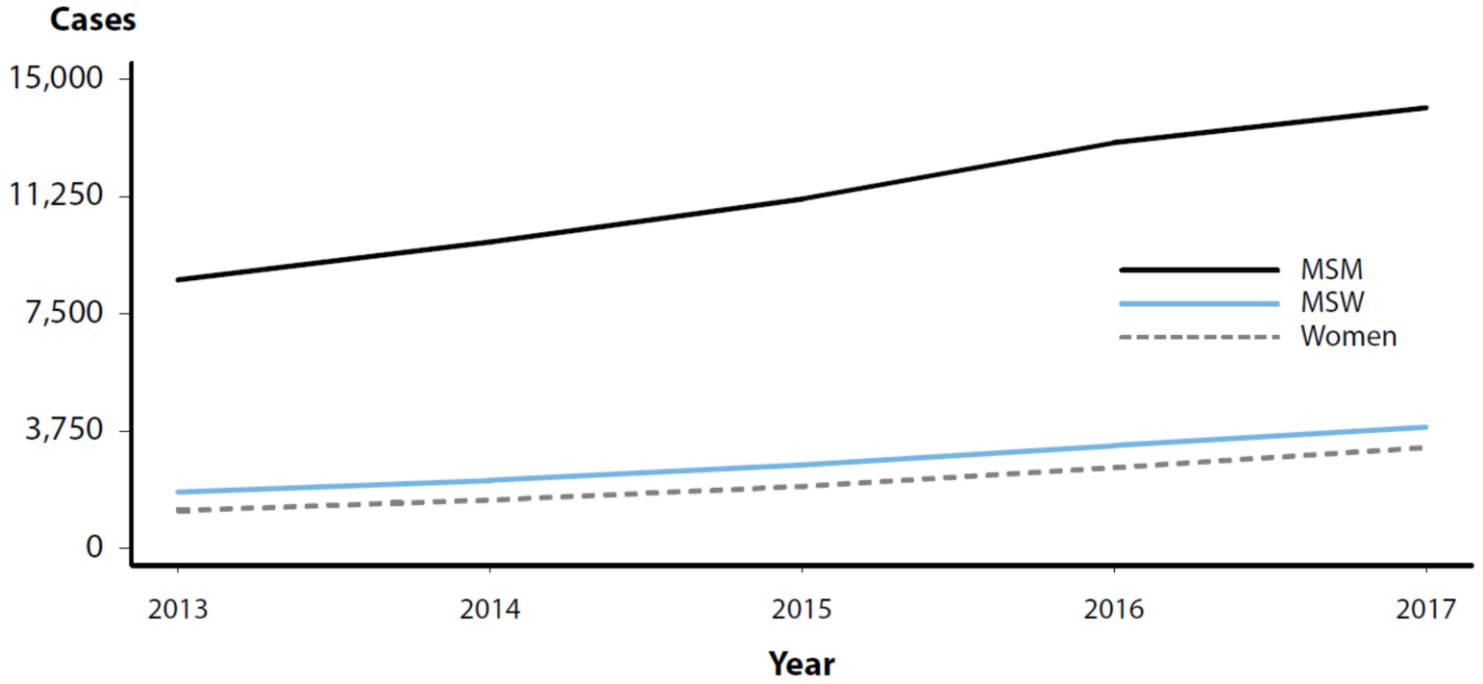


Primary and Secondary Syphilis — Distribution of Cases by Sex and Sexual Behavior, United States, 2017



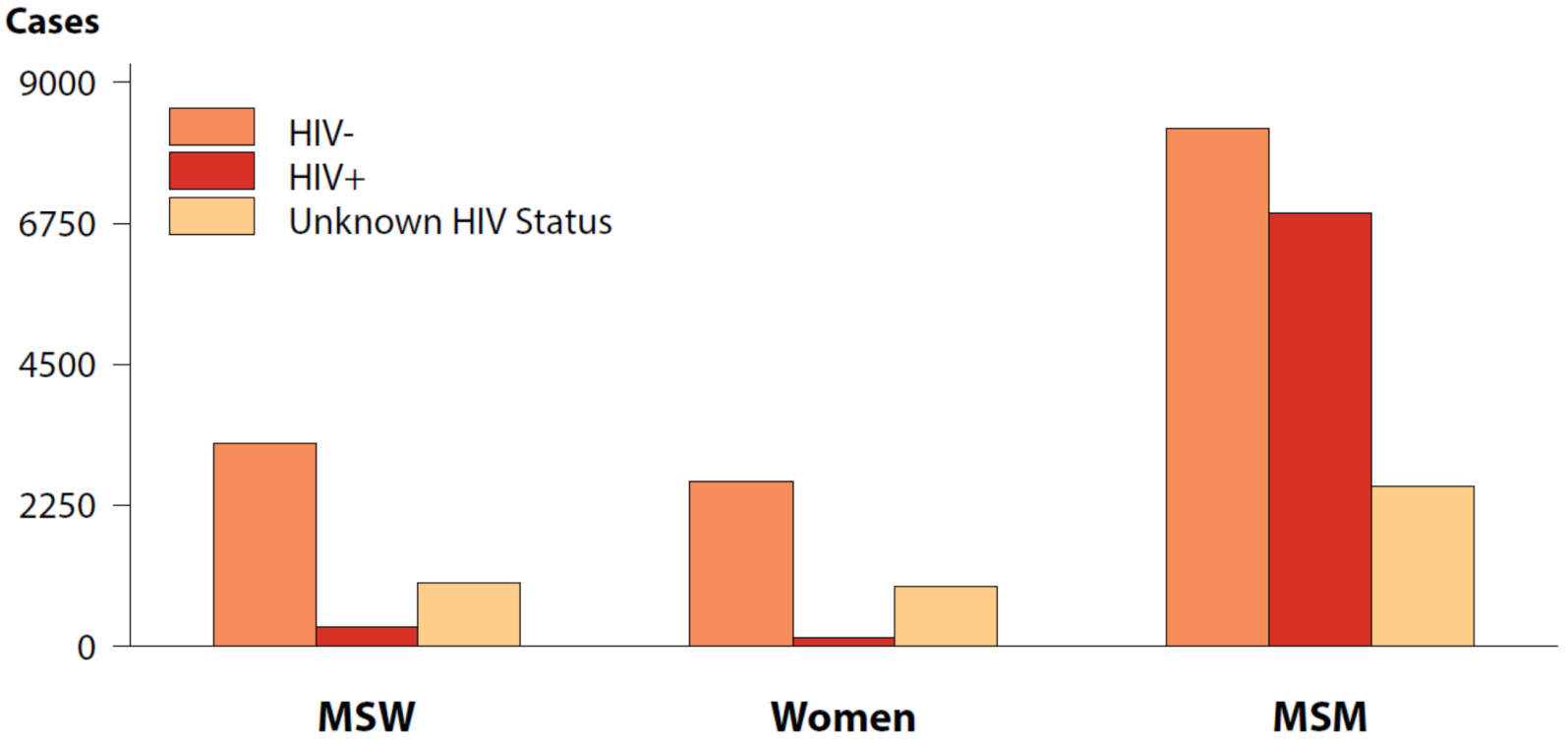
58% MSM

Primary and Secondary Syphilis — Reported Cases by Sex and Sexual Behavior, 37 States*, 2013–2017



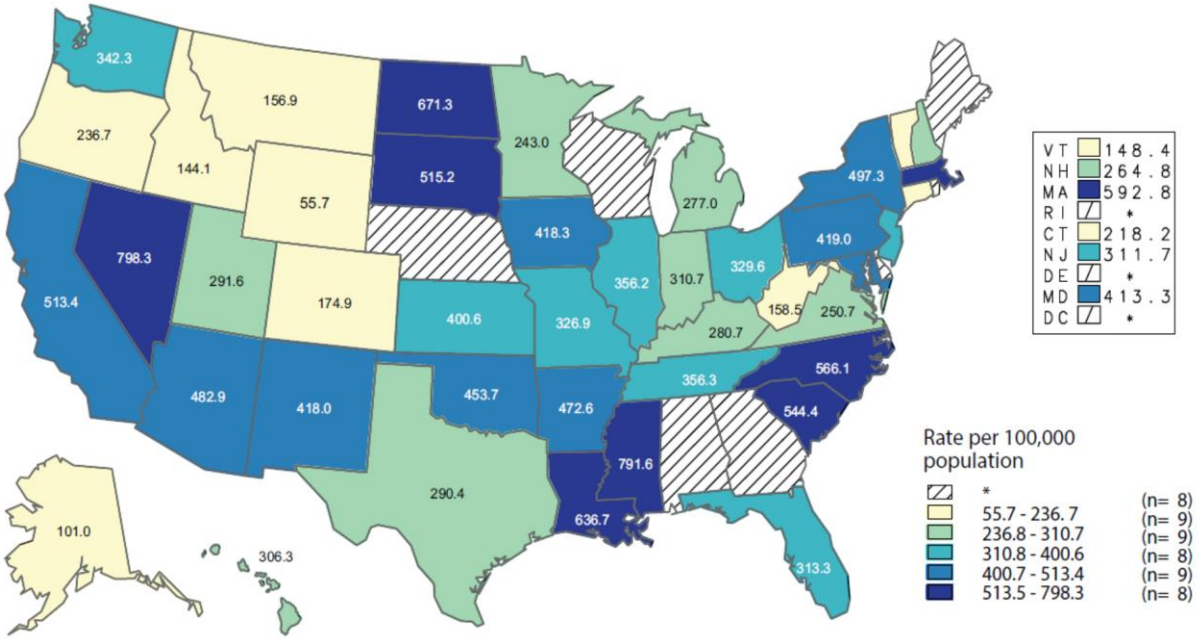
* 37 states were able to classify ≥70% of reported cases of primary and secondary syphilis as either MSM, MSW, or women for each year during 2013–2017.
ACRONYMS: MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.

Primary and Secondary Syphilis — Reported Cases by Sex, Sexual Behavior, and HIV Status, United States, 2017



ACRONYMS: MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.

Primary and Secondary Syphilis — Estimated Rates of Reported Cases Among MSM by State, United States, 2017

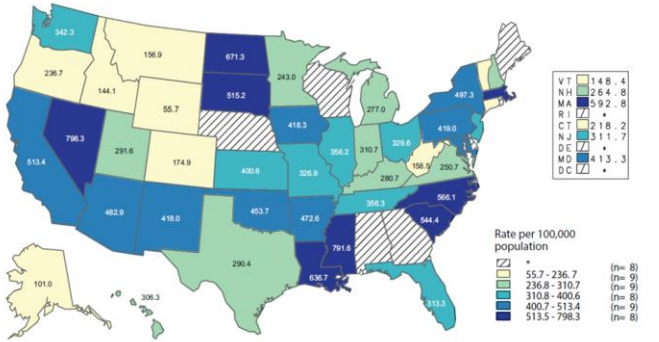


* States reporting less than 70% of cases identified as MSM, MSW, or women in 2017 are suppressed.

NOTE: Estimates based on reported P&S syphilis cases among MSM in 2017 (numerator) and a published method of estimating the population size of MSM (denominator) by state. See Section A1.2 in the Appendix for information on estimating MSM population sizes for rate denominators.

ACRONYMS: MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only; P&S = Primary and secondary.

Primary and Secondary Syphilis — Estimated Rates of Reported Cases Among MSM by State, United States, 2017



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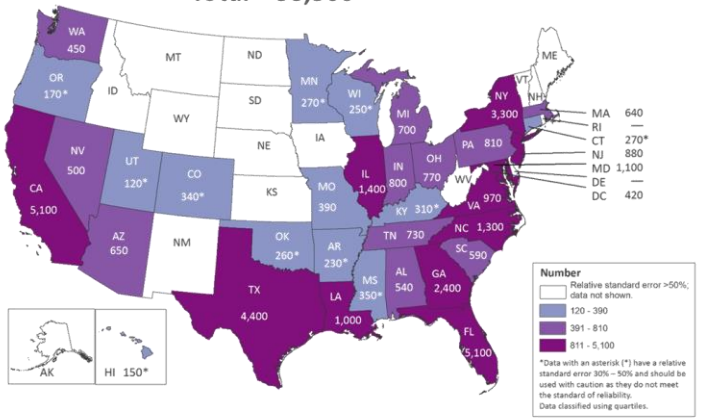
Total = 38,500



Note. Estimates were derived from a CD4 depletion model using HIV surveillance data. Estimates rounded to the nearest 100 for estimates >1,000 and to the nearest 10 for estimates ≤1,000 to reflect model uncertainty.

Gonorrhea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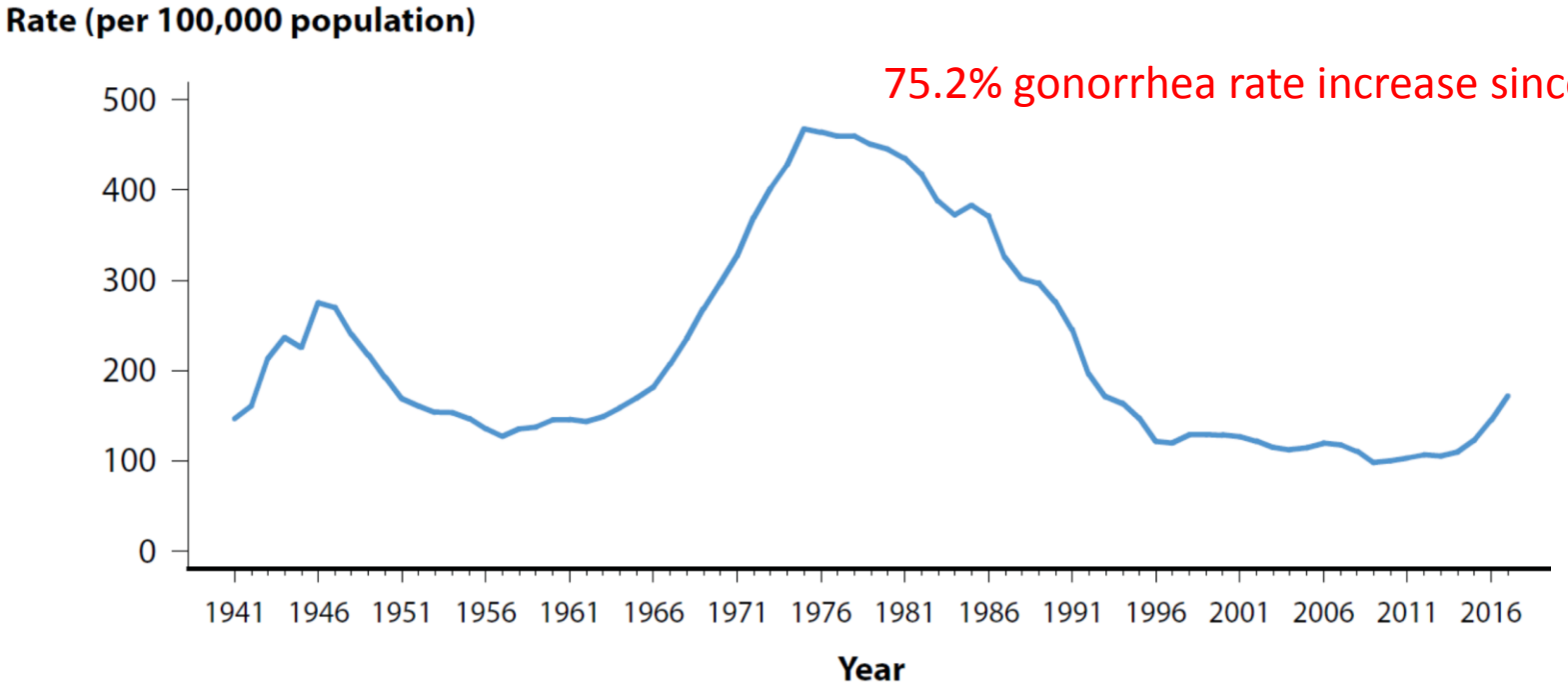
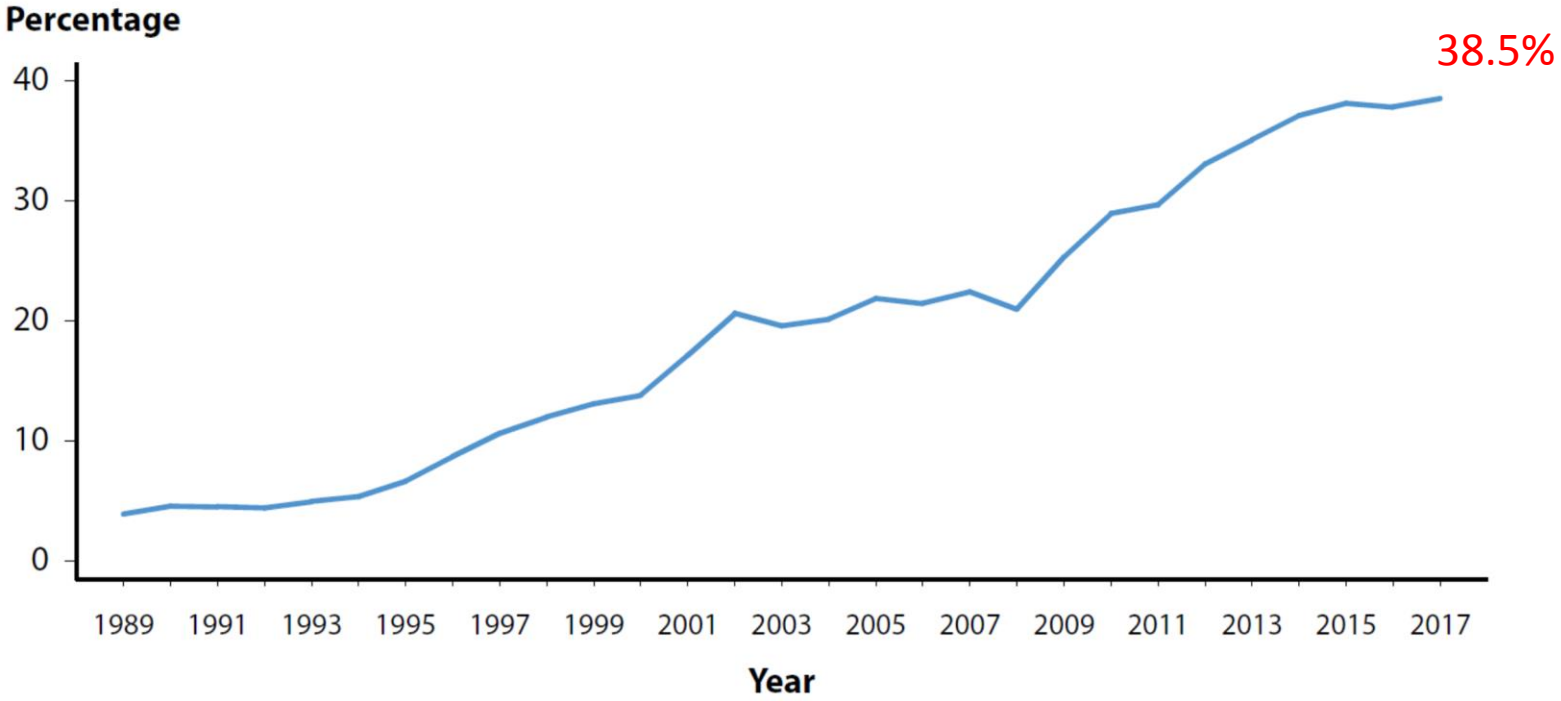
Gonorrhea — Rates of Reported Cases by Year, United States, 1941–2017



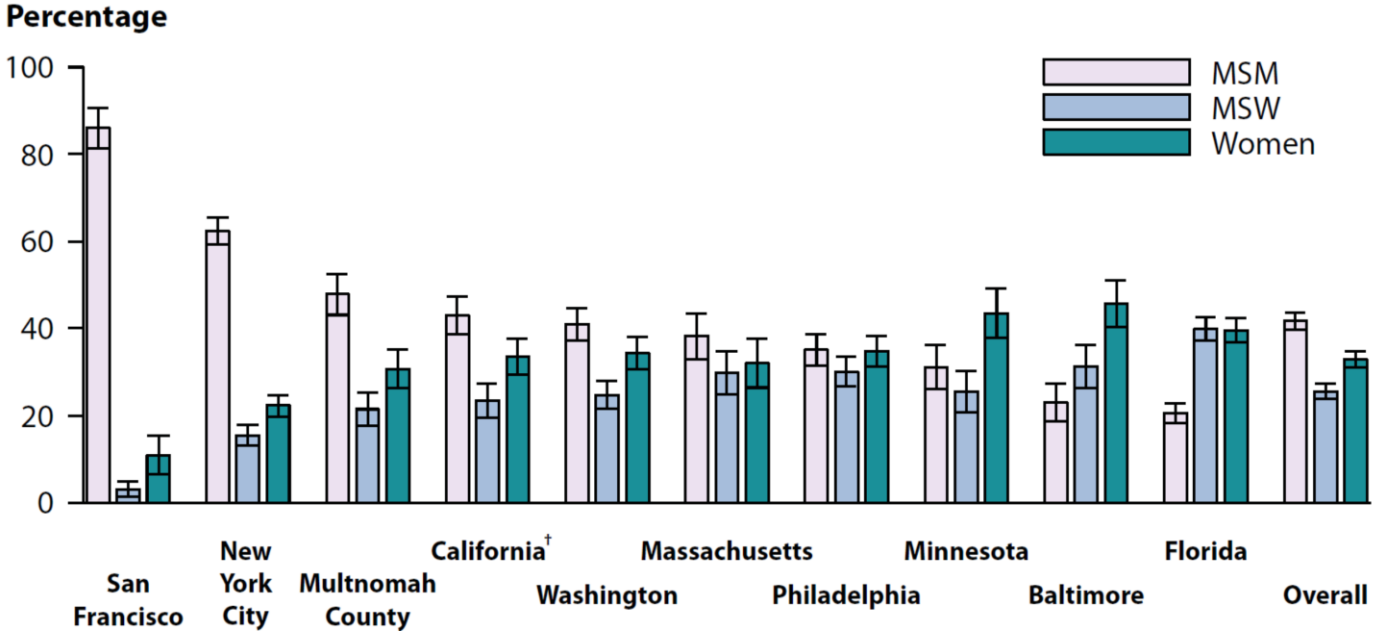
NOTE: Data collection for gonorrhea began in 1941; however, gonorrhea became nationally notifiable in 1944. Refer to the National Notifiable Disease Surveillance System (NNDSS) website for more information: https://wwwn.cdc.gov/nndss/conditions/gonorrhea/

Neisseria gonorrhoeae — Percentage of Urethral Isolates Obtained from MSM Attending STD Clinics, Gonococcal Isolate Surveillance Project (GISP), 1989–2017



ACRONYMS: MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM).

Estimated Proportion* of MSM, MSW, and Women Among Gonorrhea Cases by Jurisdiction, STD Surveillance Network (SSuN), 2017



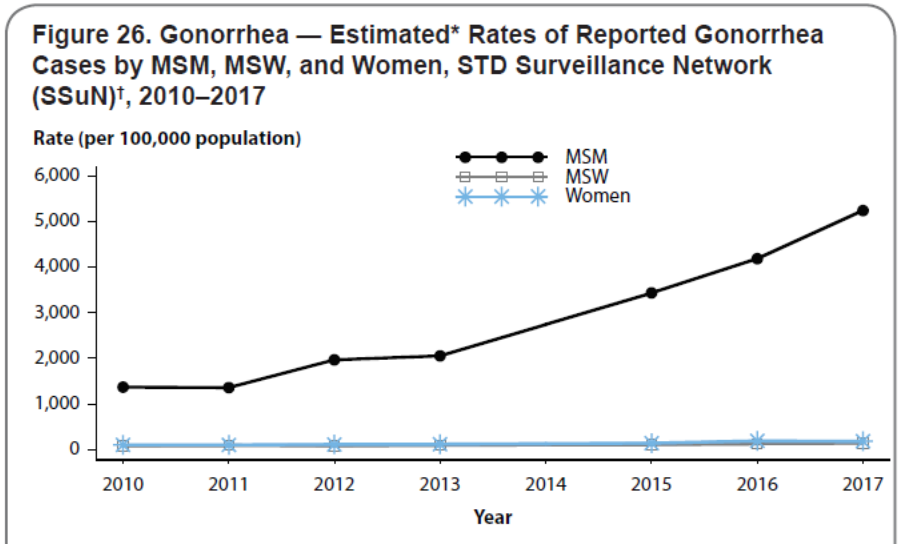
* Estimate based on weighted analysis of data obtained from interviews (n=6,409) conducted among a random sample of reported gonorrhea cases during January to December 2017.

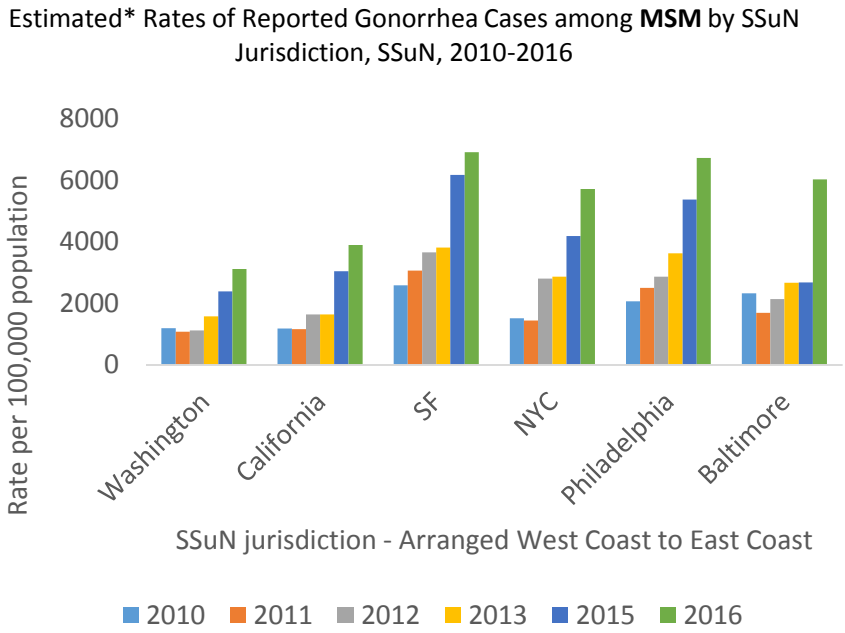
† California data exclude San Francisco (shown separately).

NOTE: See section A2.2 in the Appendix for SSuN methods.

ACRONYMS: MSM = Gay, bisexual, and other men who have sex with men (collectively referred to as MSM); MSW = Men who have sex with women only.

Since 2010, the rate of reported GC among MSM increased 151% compared to a 40% increase among females; additionally, the rate of reported GC among MSM has increased in all SSuN jurisdictions



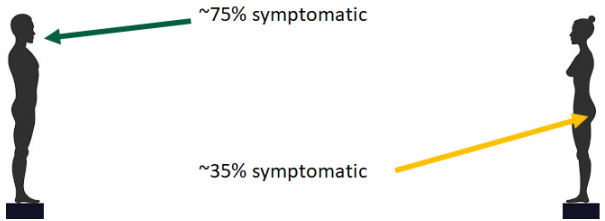


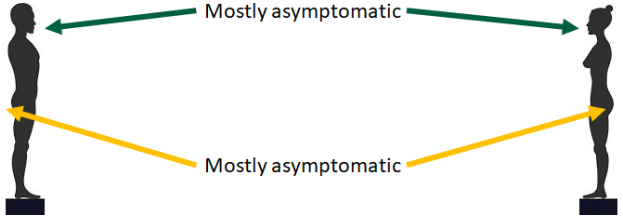
*Estimates based on interviews among a random sample of reported cases of gonorrhea; cases weighted for analysis.
Note: Data not available for 2014; 2013-2015 trend interpolated shown in dashed line in figure on the left; trend lines overlap for MSW and women in this figure

Source: Enhanced population data, SSuN

Measuring Prevalence of MSM Gonorrhea and Chlamydia

- Population estimates of MSM population needed for denominators
- Multiple Sites of Infection
- Rectal and pharyngeal GC/CT infections largely asymptomatic
- Positivity estimates may be biased by screening coverage





Prevalence of Rectal Chlamydial and Gonococcal Infections: A Systematic Review

Courtney M. Dewart, MPH, RN, Kyle T. Bernstein, PhD,† Nicholas P. DeGroote, MPH,‡ Raul Romaguera, DMD, MPH,† and Abigail Norris Turner, PhD§*

Sexually Transmitted Diseases • Volume 45, Number 5, May 2018

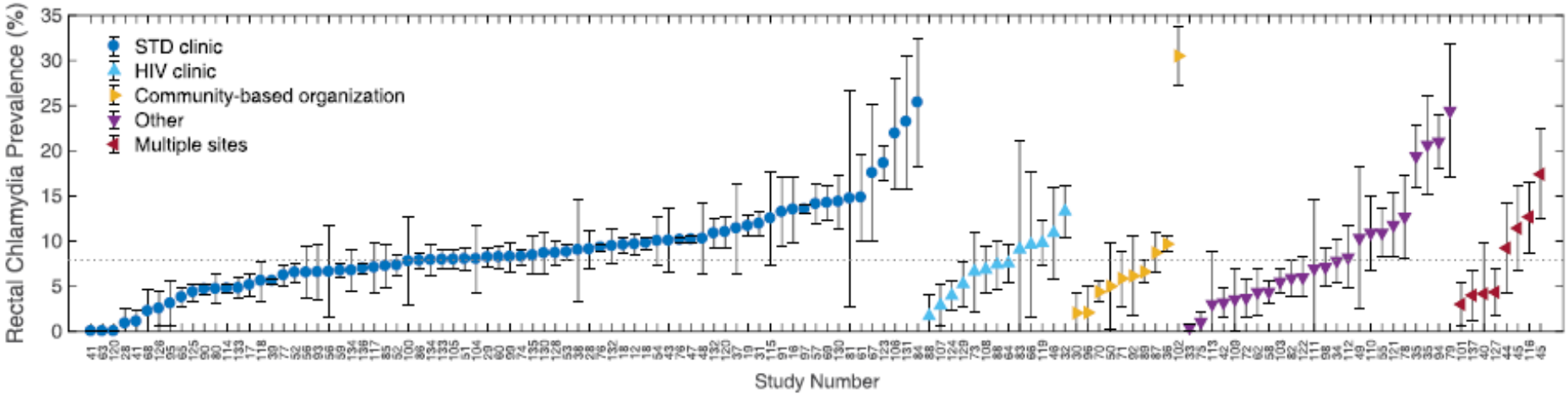


Figure 2. Rectal chlamydia prevalence by study site; dashed line depicts unweighted median prevalence (7.9%).

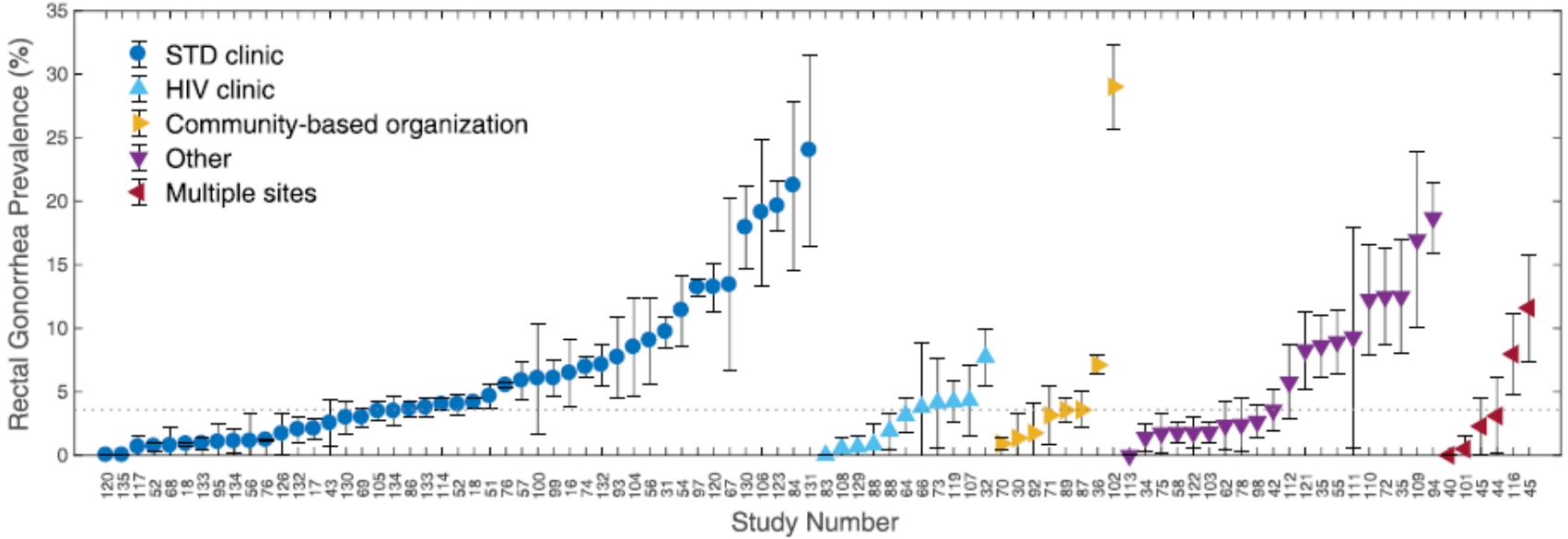
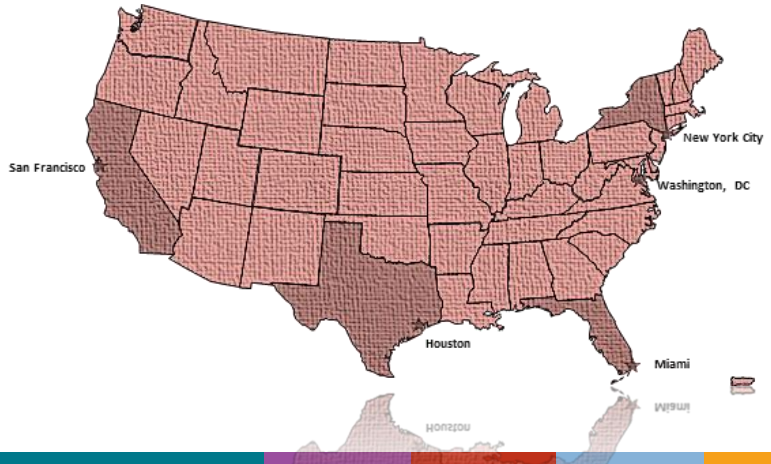


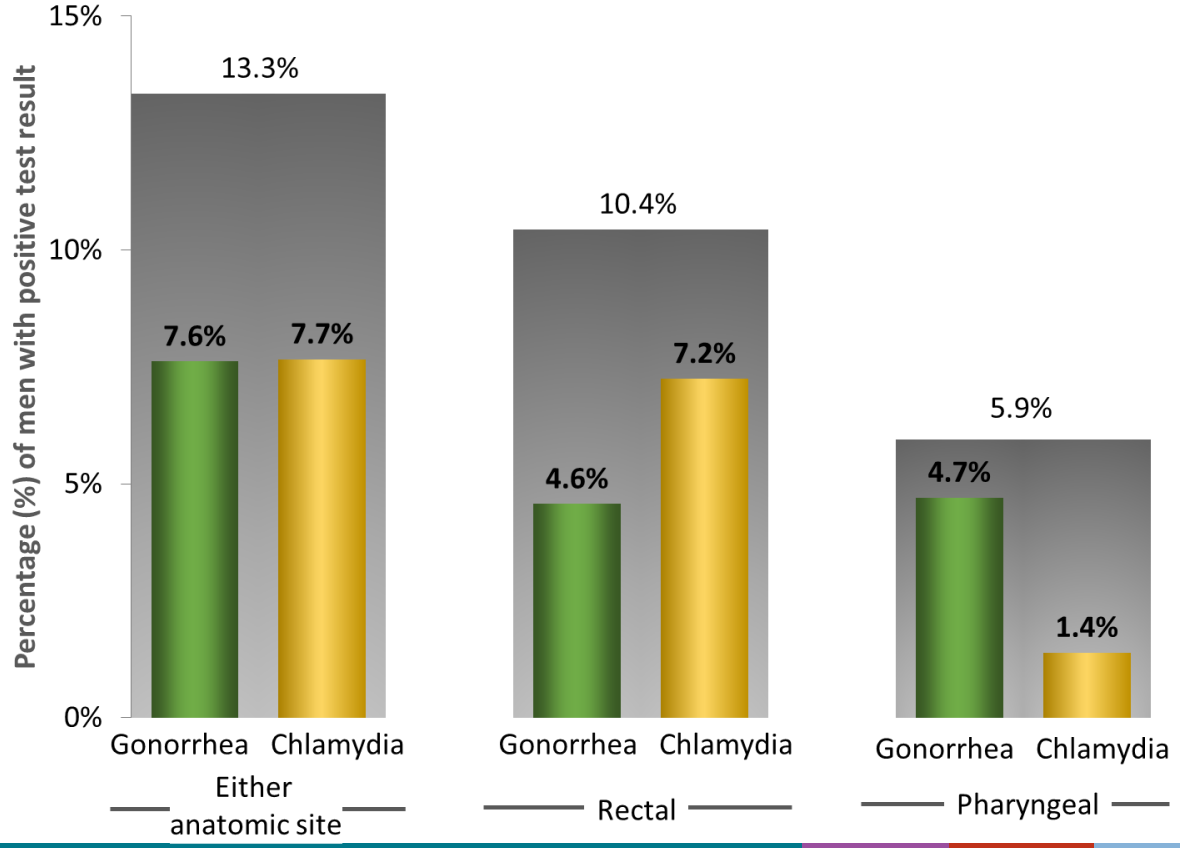
Figure 4. Rectal gonorrhea prevalence by study site; dashed line depicts unweighted median prevalence (3.6%).

STI testing in NHBS-MSM5 (2017)

- Inaugural addition of STI testing to NHBS
- 5 cities: Houston, Miami, New York City, San Francisco, Washington, D.C.
- Self-collected rectal and pharyngeal specimens for gonorrhea and chlamydia testing
- Testing performed at CDC and San Francisco public health laboratories
- Results returned and
  treatment referrals made



Prevalence of extragenital gonorrhea (GC) and chlamydia (CT) among venue-attending MSM by anatomic site, NHBS, 2017



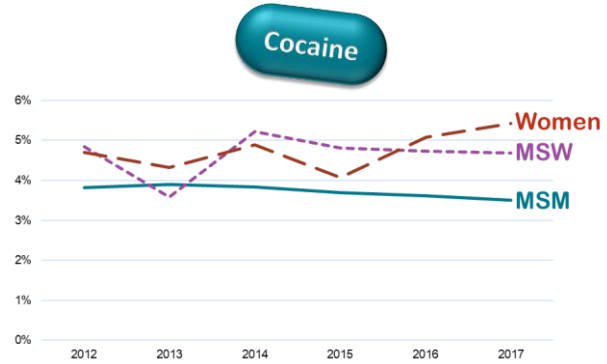
Note: Participants may have >1 positive result

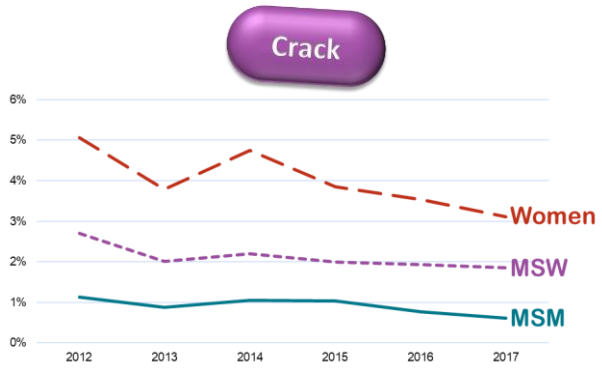
Prevalence of Extragenital GC/CT among MSM

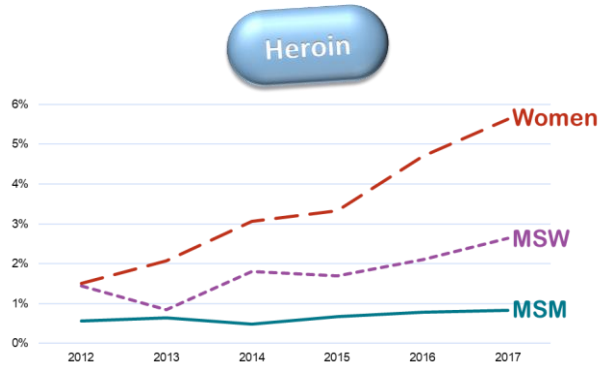
	Rectal Gonorrhea	Rectal Chlamydia	Pharyngeal Gonorrhea	Pharyngeal Chlamydia
Chan et al 2016	0.20% - 24.0%	2.1% - 23.0%	0 - 16.5%	0 – 3.6%
Dewart et al 2018	6.1% (weighted average)	9.0% (weighted average)		
NHBS MSM 2017	3.6%	7.9%	4.6%	1.4%

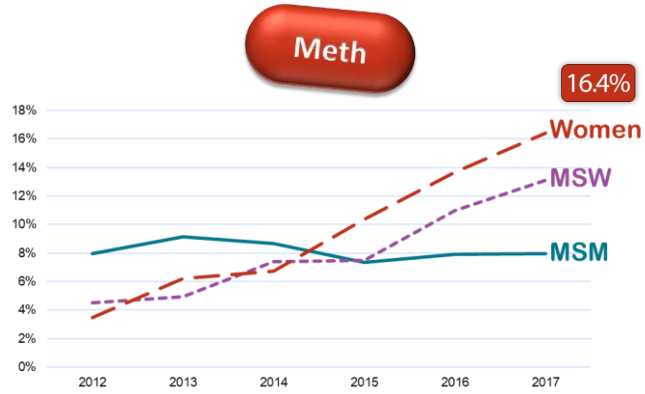
MSM Sexual Behavior

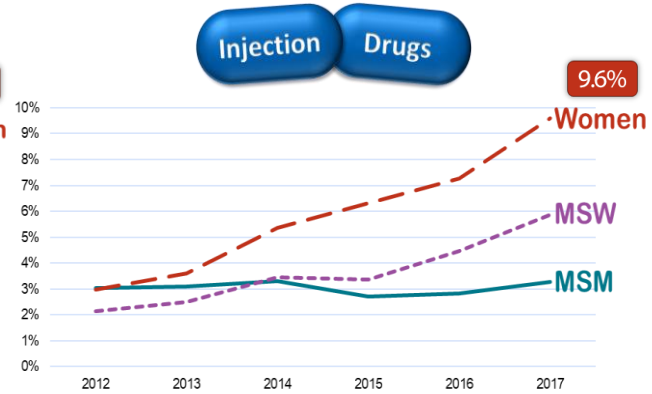
Self-Reported Drug Use Among P&S Syphilis Cases* in the US, by Sex and Sexual Behavior, 2012-2017*







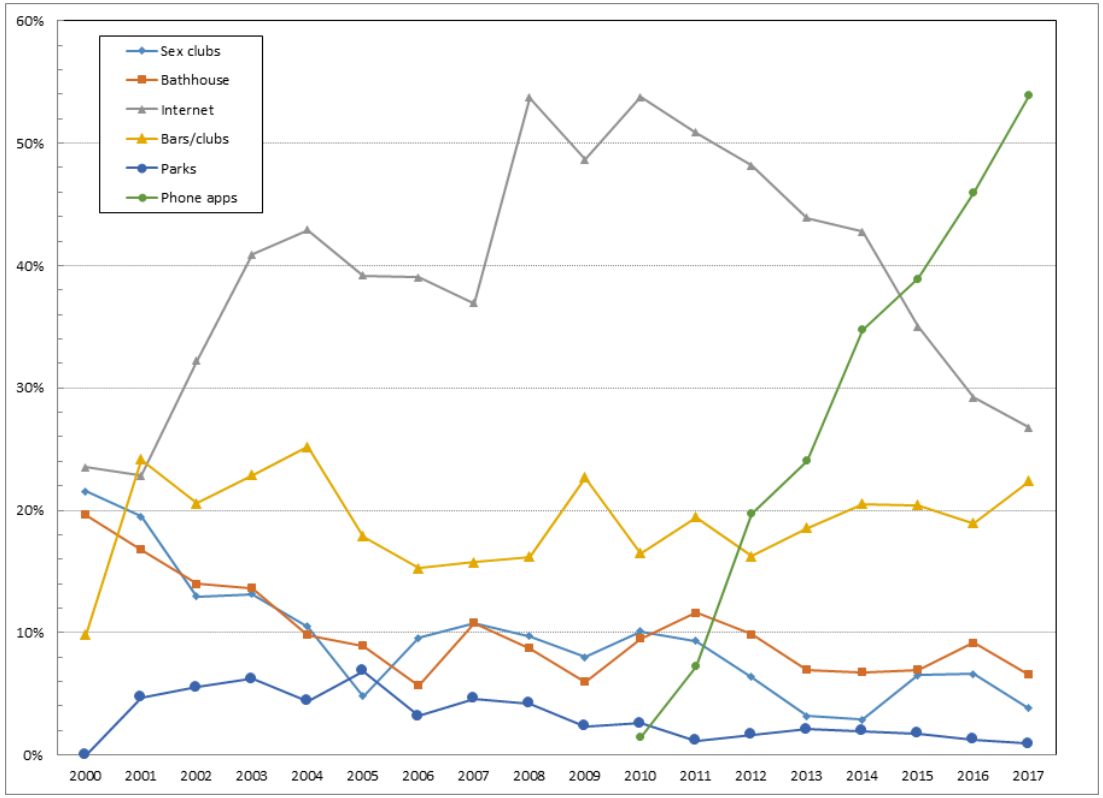




- % MSM reporting each substance stable
- Women with greatest % increase reporting meth, heroin, IDU
- % increase reporting meth use similar among MSW and women

*With substance use data; 2017 data are preliminary

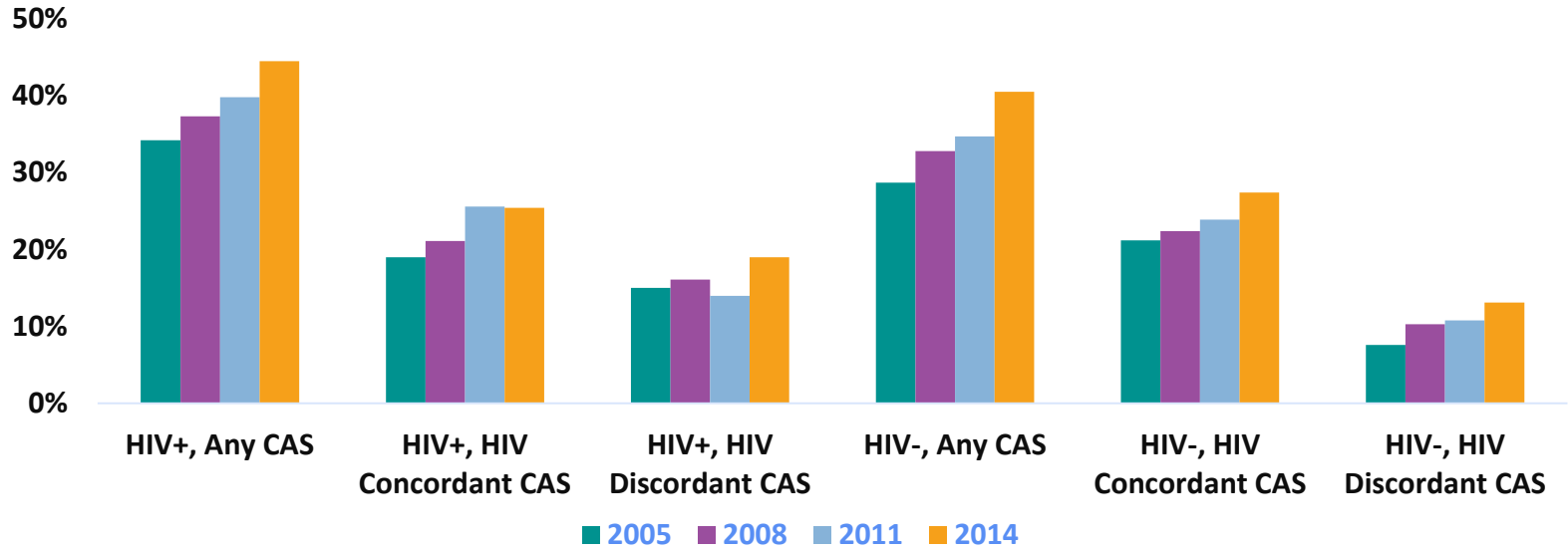
Venues for meeting sexual partners reported by interviewed early syphilis cases among men who have sex with men, San Francisco, 2000 to 2017



Nguyen TQ, Kohn RP, Ng RC, Philip SS, Cohen SE. Historical and current trends in the epidemiology of syphilis in San Francisco, 1955-2016.

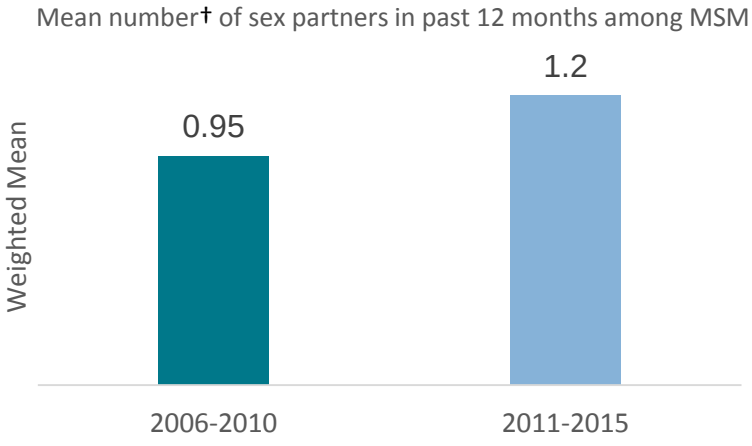
Condomless anal sex (CAS) increased among all MSM groups regardless of HIV infection status

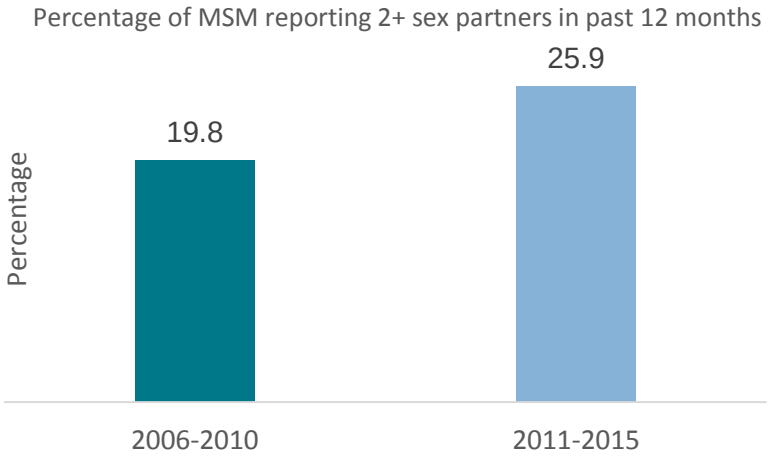
Sexual Behaviors at Last Sex among Sexually Active **MSM** by Self-Reported HIV Status, National HIV Behavioral Surveillance, US, 2005-2014



Adapted from: Paz-Bailey G, Mendoza M, Finlayson T, Wejnert C, Le B, Rose C, Raymond HF, and Prejean J for the NHBS Study Group; Trends in Condom Use among Men Who Have Sex with Men in the United States: the Role of Antiretroviral Therapy and Sero-Adaptive Strategies; *AIDS*; 2016 .

The number of sex partners has increased among MSM from 2006-2010* to 2011-2015*





Note. NSFG data includes respondents aged 15-44 years
*Data collection for 2006-2010: June 2006 – June 2010; Data collection for 2011-2015: September 2011 to September 2015
† The number of sex partners in the past 12 months for heterosexual intercourse was top-coded at 20 (i.e. any response higher than 20 was set at 20 by NCHS). In 2006-2010, the number of sex partners was top-coded at 6 for MSM and NOT top-coded for MSM in 2011-15.

STDs and PreP

Original article

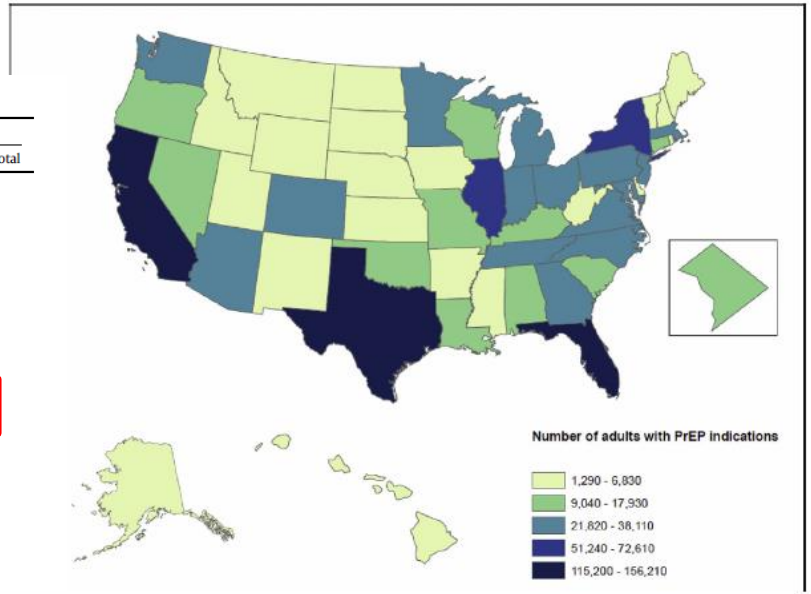
Estimates of adults with indications for HIV pre-exposure prophylaxis by jurisdiction, transmission risk group, and race/ethnicity, United States, 2015

Dawn K. Smith, MD, MS, MPH [a,*], Michelle Van Handel, MPH [b], Jeremy Grey, PhD [c]

[a] Division of HIV/AIDS Prevention (DHAP), National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP), Centers for Disease Control and Prevention (CDC), Atlanta, GA
[b] NCHHSTP, CDC, Atlanta, GA
[c] Division of STD Prevention (DSTDP), NCHHSTP, CDC, Atlanta, GA

Table 2
Estimated number of adults with PrEP indications in 50 states and the District of Columbia, by transmission risk group, 2015

States	Total*	MSM		HET		PWID	
	Number	Number	% Of total	Number	% Of total	Number	% Of total
Alabama	11,840	7680	64.9	3640	30.7	520	4.4
Alaska	2360	1470	62.3	880	37.3	0	0.0
Arizona	25,350	18,920	74.6	4240	16.7	2190	8.6
Arkansas	4610	3350	72.7	970	21.0	290	6.3
California	156,210	129,820	83.1	18,640	11.9	7750	5.0
Colorado	24,310	20,110	82.7	3340	13.7	850	3.5
Connecticut	9640	5830	60.5	3090	32.1	710	7.4
Delaware	4010	2390	59.6	1470	36.7	150	3.7
Florida	115,200	73,570	63.9	36,670	31.8	4970	4.3
Georgia	35,700	25,330	71.0	8930	25.0	1440	4.0
Hawaii	4890	3700	75.7	720	14.7	470	9.6
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Illinois	51,240	39,600	77.3	9770	19.1	1870	3.6
Indiana	23,480	12,320	52.5	4430	18.9	6740	28.7
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Kansas	4400	3410	77.5	840	19.1	150	3.4
Kentucky	12,190	9100	74.7	2440	20.0	660	5.4
Louisiana	13,390	8380	62.6	3960	29.6	1050	7.8
Maine	3250	2220	68.3	660	20.3	370	11.4
Maryland	27,390	15,700	57.3	10,130	37.0	1550	5.7
Massachusetts	21,890	12,670	57.9	6430	29.4	2790	12.7
Michigan	27,540	20,700	75.2	5230	19.0	1600	5.8
Minnesota	21,820	15,180	69.6	5720	26.2	920	4.2
Mississippi	5010	3480	69.5	1330	26.5	200	4.0
Missouri	17,930	13,220	73.7	3740	20.9	960	5.4
Montana	2500	1880	75.2	380	15.2	250	10.0
Nebraska	2470	1930	78.1	480	19.4	60	2.4
Nevada	9710	7770	80.0	1400	14.4	540	5.6
New Hampshire	2650	1890	71.3	380	14.3	380	14.3
New Jersey	26,610	15,380	57.8	8350	31.4	2870	10.8
New Mexico	5600	4560	81.4	500	8.9	540	9.6
New York	72,610	48,740	67.1	18,120	25.0	5750	7.9
North Carolina	29,820	21,160	71.0	7430	24.9	1230	4.1
North Dakota	1320	630	47.7	510	38.6	170	12.9
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]



Summary of Guidance for PrEP Use

	Men Who Have Sex With Men	Heterosexual Women and Men	Injection Drug Users
Detecting substantial risk of acquiring HIV infection:	• Sexual partner with HIV • Recent bacterial STD • High number of sex partners • History of inconsistent or no condom use • Commercial sex work	• Sexual partner with HIV • Recent bacterial STD • High number of sex partners • History of inconsistent or no condom use • Commercial sex work • Lives in high-prevalence area or network	• HIV-positive injecting partner • Sharing injection equipment • Recent drug treatment (but currently injecting)
Clinically eligible:	• Documented negative HIV test before prescribing PrEP • No signs/symptoms of acute HIV infection • Normal renal function, no contraindicated medications • Documented hepatitis B virus infection and vaccination status		
Prescription	Daily, continuing, oral doeses of TDF/FTC (Truvada), ≤90 day supply		
Other services:	• Follow-up visits at least every 3 months to provide: • HIV test, medication adherence counseling, behavioral risk reduction support, side effect assessment, STD symptom assessment • At 3 months and every 6 months after, assess renal function • Every 6 months test for bacterial STDs		
	• Do oral/rectal STD testing	• Assess pregnancy intent • Pregnancy test every 3 months	• Access to clean needles/ syringes and drug treatment services

Source: US Public Health Service. Preexposure prophylaxis for the prevention of HIV infection in the United States —2014: a clinical practice guideline.

Clinical Infectious Diseases

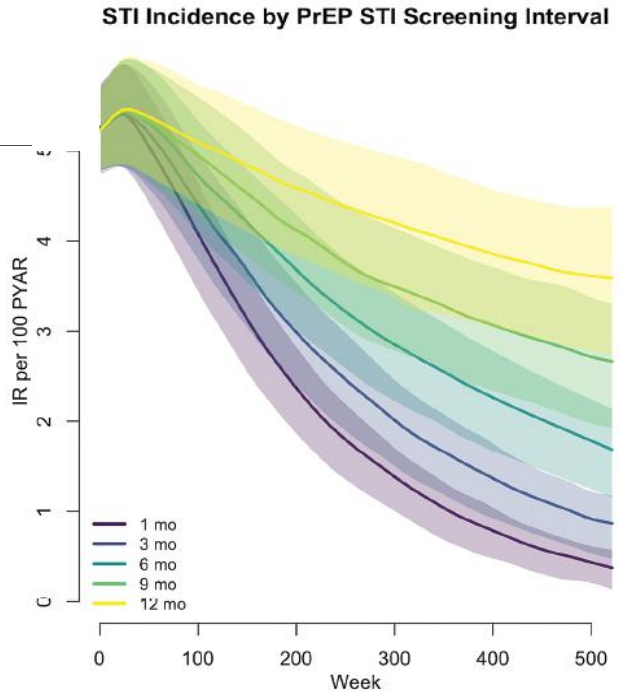
MAJOR ARTICLE

Incidence of Gonorrhea and Chlamydia Following Human Immunodeficiency Virus Preexposure Prophylaxis Among Men Who Have Sex With Men: A Modeling Study

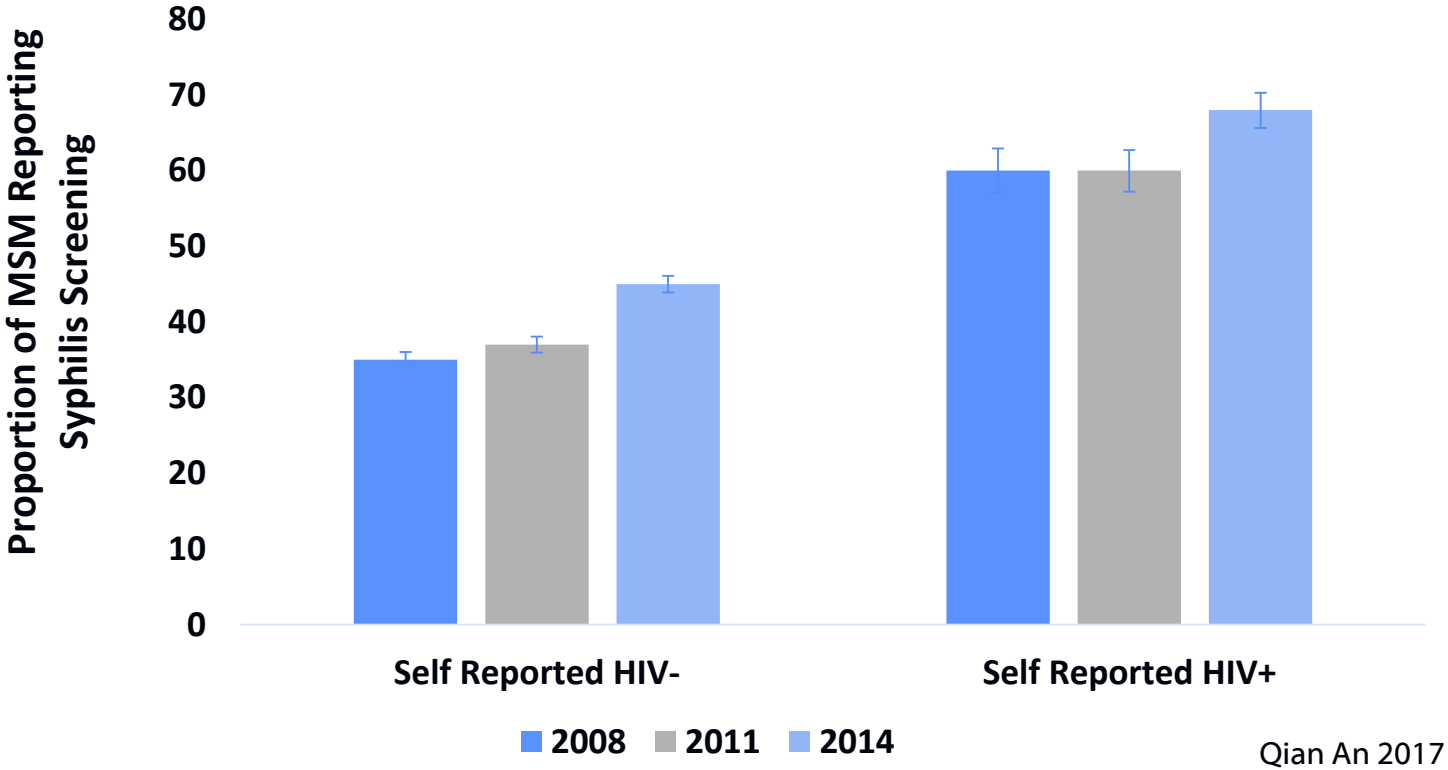
Samuel M. Jenness,[1] Kevin M. Weiss,[1] Steven M. Goodreau,[2] Thomas Gift,[3] Harrell Chesson,[3] Karen W. Hoover,[4] Dawn K. Smith,[4] Albert Y. Liu,[5] Patrick S. Sullivan,[1] and Eli S. Rosenberg[1]

[1]Department of Epidemiology, Emory University, Atlanta, Georgia; [2]Department of Anthropology, University of Washington, Seattle; [3]Division of STD Prevention, and [4]Division of HIV/AIDS Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia; and [5]San Francisco Department of Public Health, California

Over 10 year periods, PrEP associated with a ~40% in chlamydia and gonorrhea prevalence among MSM



Proportion of Sexually Active MSM Who Report Being Screened for Syphilis in the Prior 12 Months, National HIV Behavioral Surveillance



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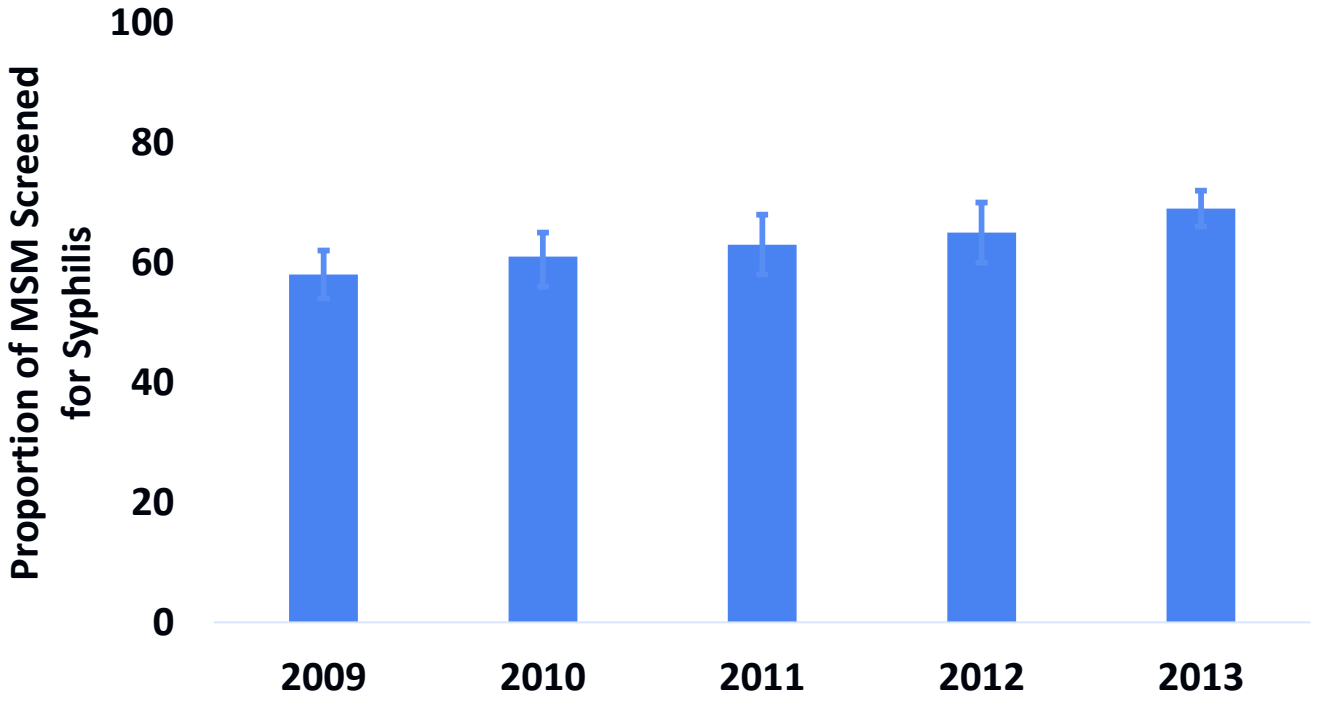
Proportion of Sexually Active HIV-positive MSM in Medical Care Screened for Syphilis in the Prior 12 Months, Medical Monitoring Project, 2009–2013



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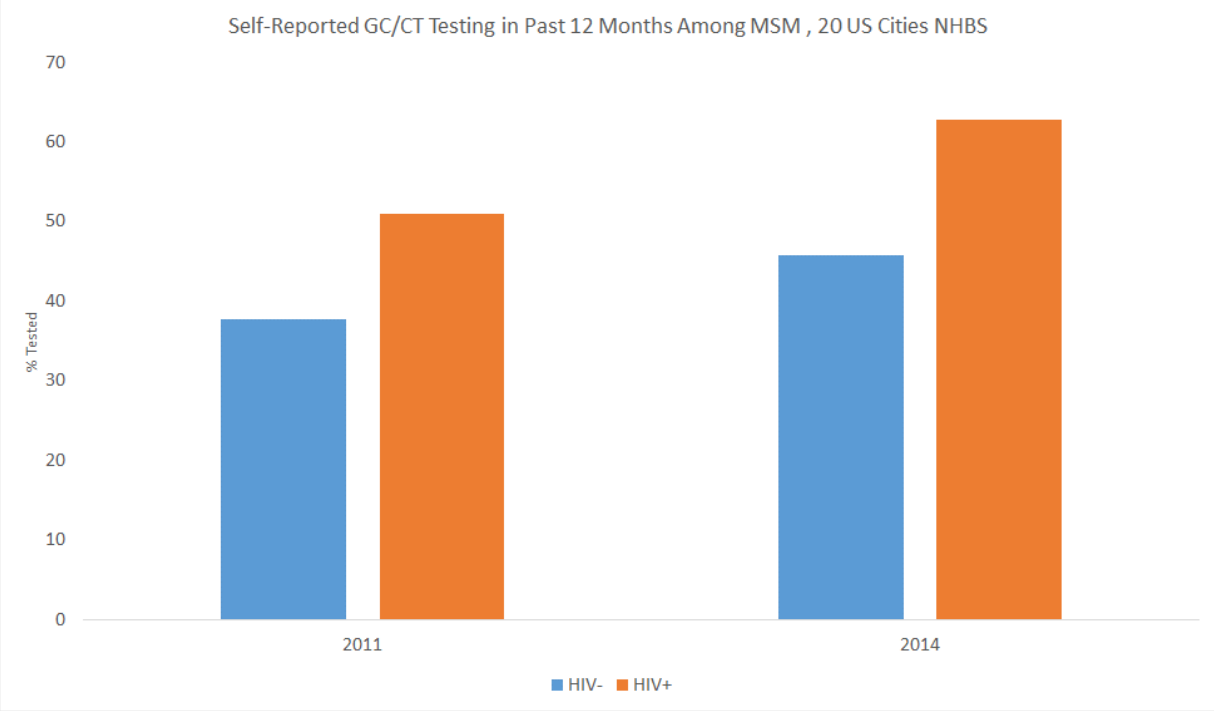
Self-Reported Chlamydia and Gonorrhea Testing and Diagnosis Among Men Who Have Sex With Men—20 US Cities, 2011 and 2014

Brooke E. Hoots, PhD, Elizabeth A. Torrone, PhD,† Kyle T. Bernstein, PhD,† Gabriela Paz-Bailey, MD, PhD,* and for the NHBS Study Group*



Effects of Pre-exposure Prophylaxis for the Prevention of Human Immunodeficiency Virus Infection on Sexual Risk Behavior in Men Who Have Sex With Men: A Systematic Review and Meta-analysis

**Michael W. Traeger,[1,2] Sophia E. Schroeder,[1,3] Edw
Mark A. Stoove[1,4,a]**

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Sciences, Lund University, Malmö, Sweden; and [4]School of Pub
[6]Peter Doherty Institute of Infection and Immunity, University of
Australia

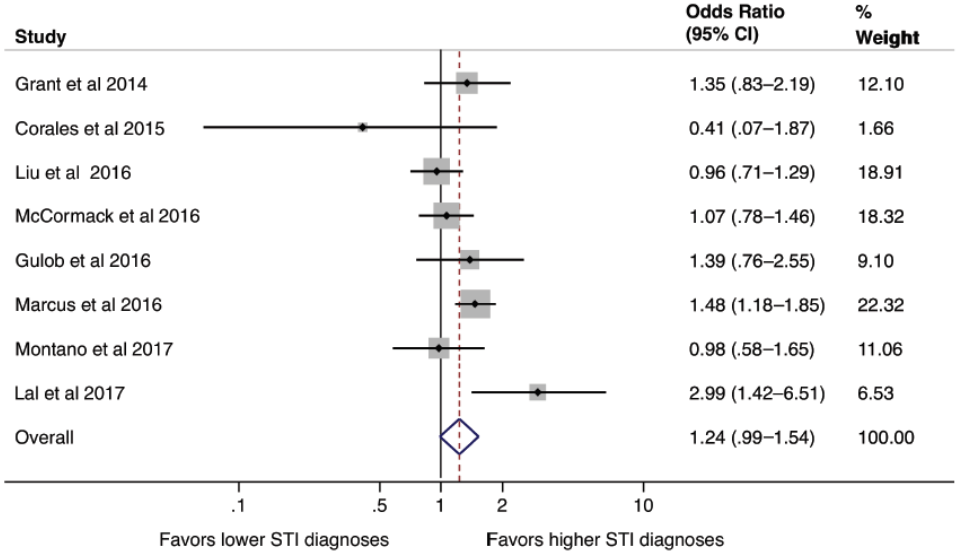

Figure 2. Random effects meta-analysis of effects of pre-exposure prophylaxis on sexually transmitted infection diagnosis. Abbreviations: CI, confidence interval; STI, sexually transmitted infection.

Summary

- MSM disproportionately affected by bacterial STDs
- Reported MSM STD morbidity appears to be increasing
- MSM risk behaviors may be changing at a population level
- HIV PrEP poses both challenges and opportunities to reduce STD morbidity among MSM

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- 1600 Clifton Road NE, Atlanta, GA 30333
- Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
- Visit: www.cdc.gov | Contact CDC at: 1-800-CDC-INFO or www.cdc.gov/info

- The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.