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HIV and STI Prevention among LGBTQ People

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Kevin L. Ard, MD, MPH

National LGBT Health Education Center, The Fenway Institute
Director of the Sexual Health Clinic, Massachusetts General Hospital

Our Roots

Fenway Health

- Independent 501(c)(3) FQHC
- Founded 1971
- Mission: To enhance the wellbeing of the LGBT community as well as people in our neighborhoods and beyond through access to the highest quality health care, education, research and advocacy
- Integrated Primary Care Model, including HIV services

The Fenway Institute

- Research, Education, Policy



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Today's Faculty

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Disclosures

I have no financial disclosures.

On-demand PrEP and doxycycline PEP are not FDA-approved.



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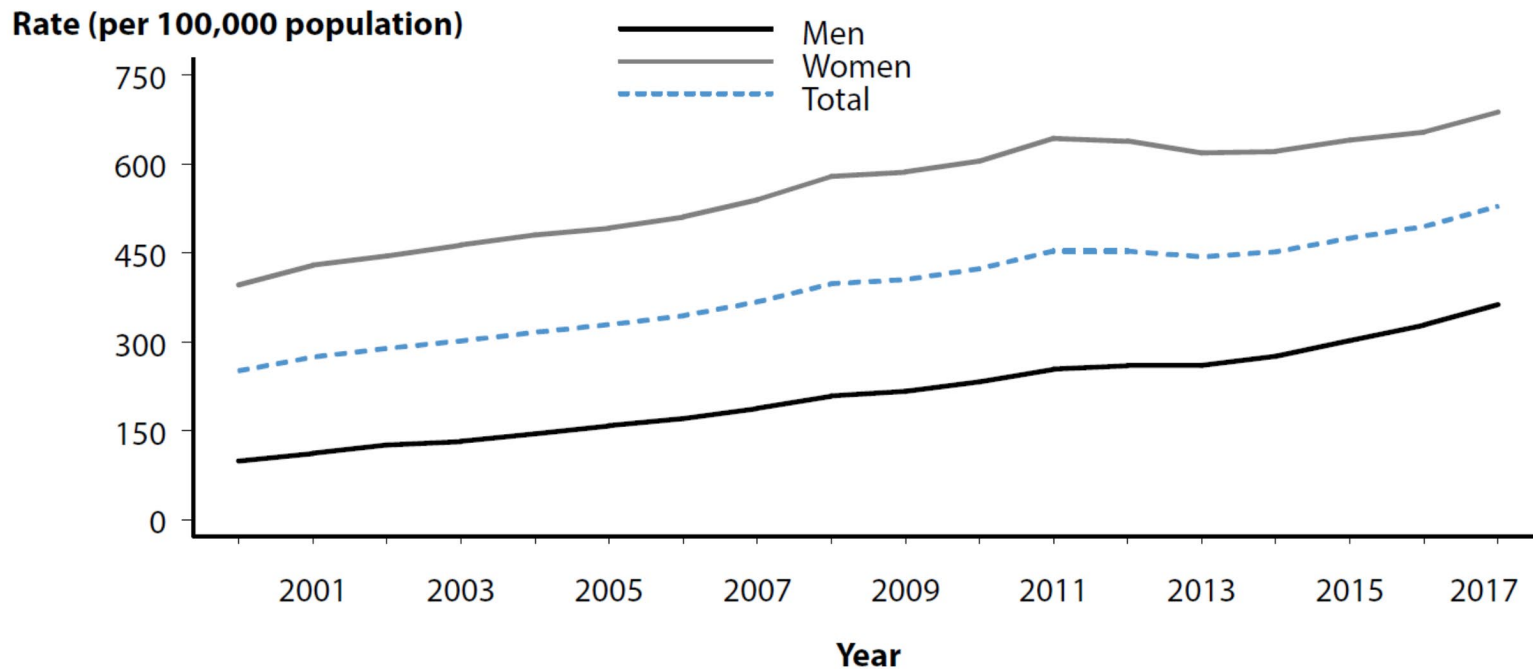
Learning objectives

1. Describe risk factors for HIV and STIs among LGBTQ people.
2. Summarize strategies to reduce HIV and STIs among LGBTQ people.
3. Identify how to incorporate a package of prevention services into routine clinical care for LGBTQ people.

Caveats

- Many (most?) LGBTQ people do not face a high risk of STIs.
- Clinical care must be individualized, not based on group risk.
- Data about STIs among cisgender LGB women are limited.
- Terms that describe identity and behavior are imperfect and change over time.

The rate of chlamydia diagnosis is increasing.



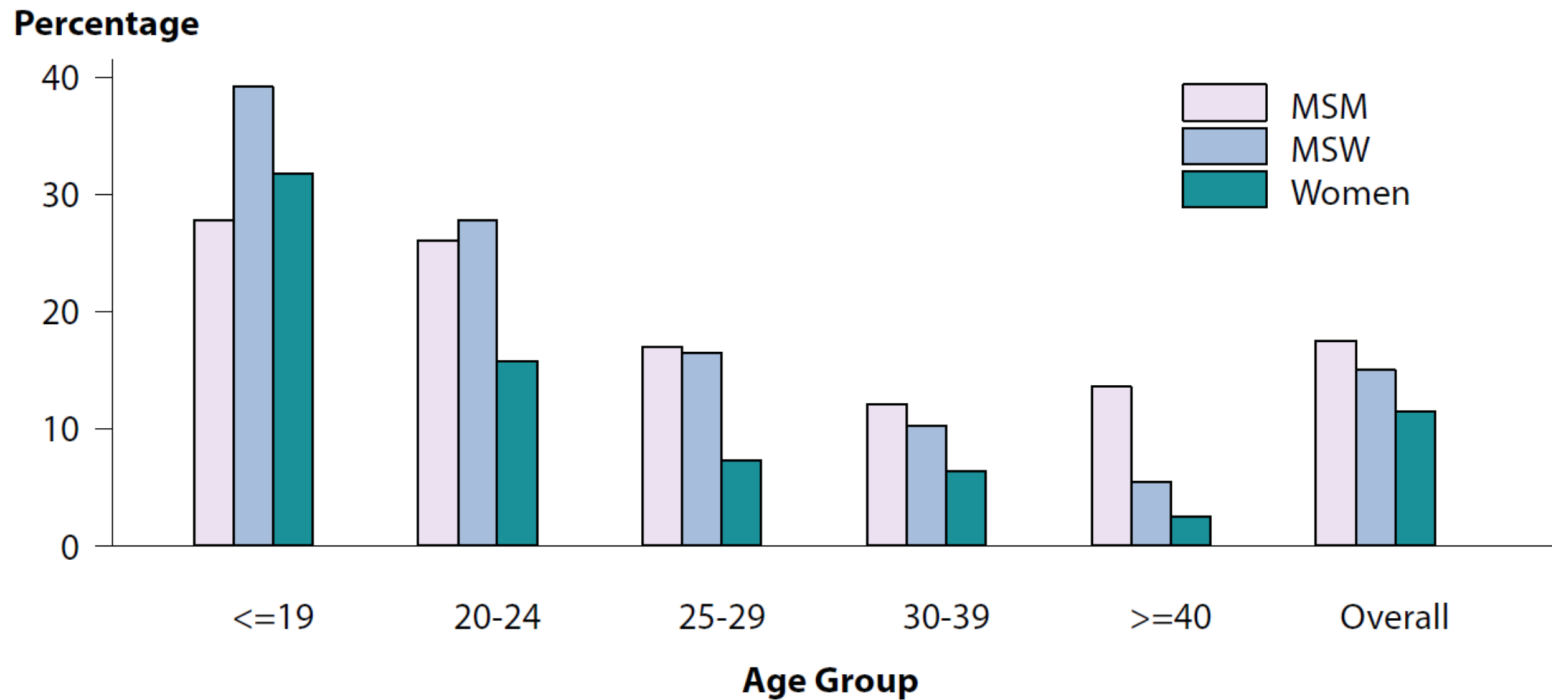
Sexually Transmitted Disease Surveillance 2017,
CDC



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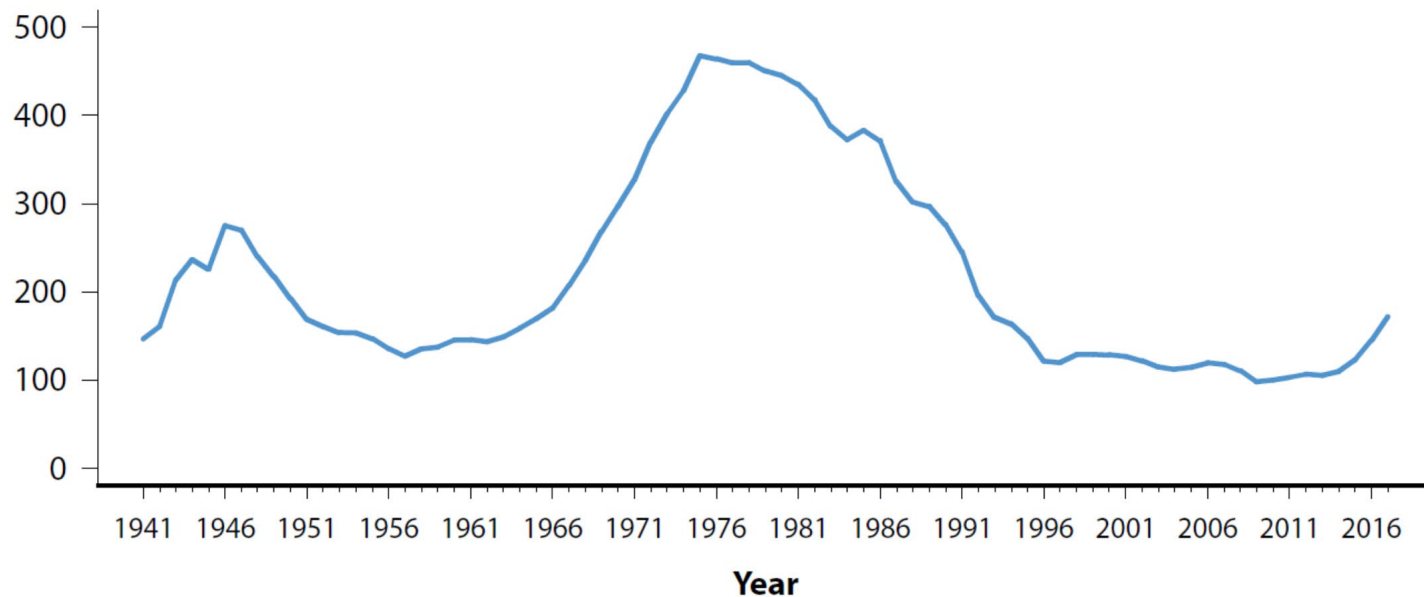
Proportion of STD clinic patients testing positive for chlamydia



Sexually Transmitted Disease Surveillance 2017,
CDC

The rate of gonorrhea diagnosis is increasing.

Rate (per 100,000 population)



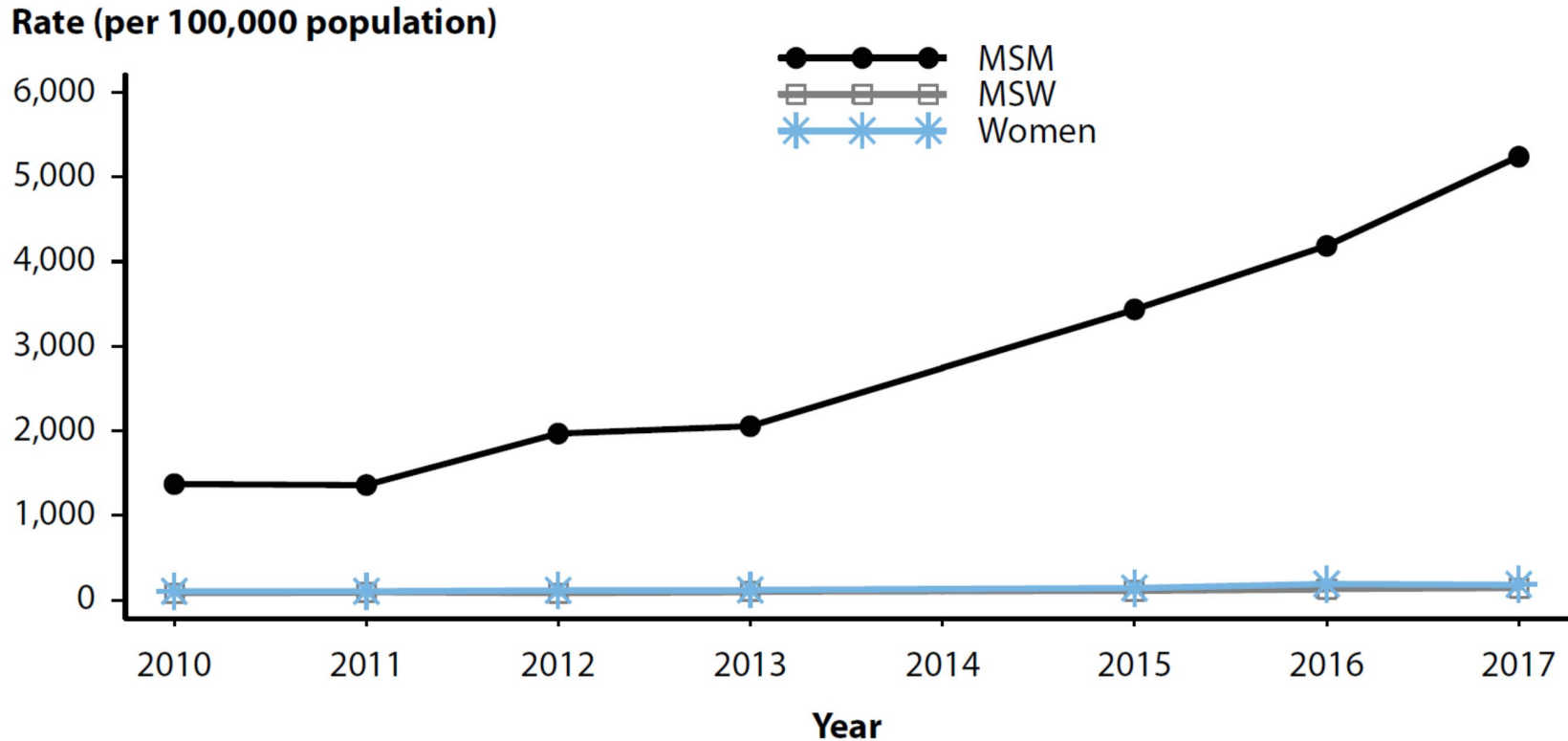
Sexually Transmitted Disease Surveillance 2017,
CDC



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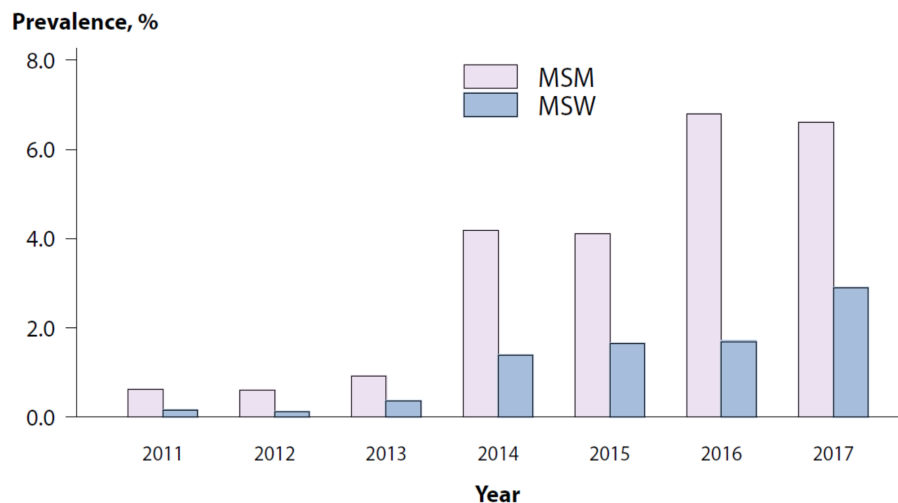
MSM face an increasing disparity in the rate of gonorrhea.



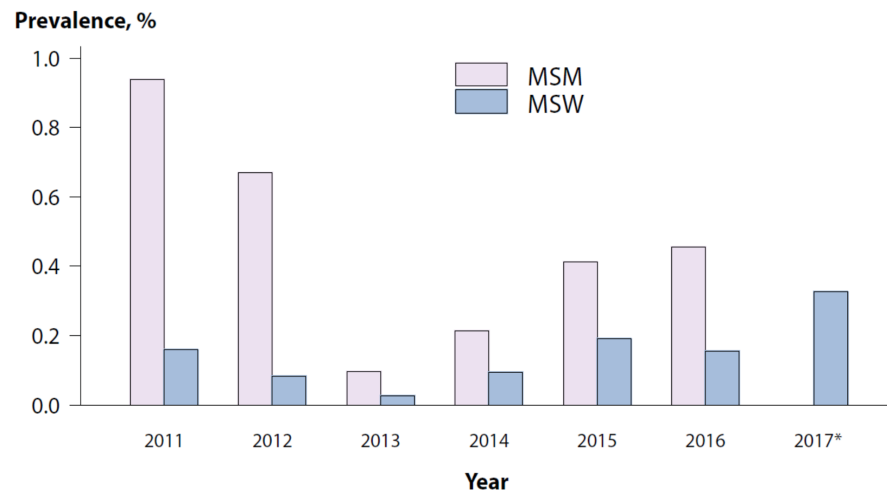
Sexually Transmitted Disease Surveillance 2017,
CDC

Neisseria gonorrhoeae — Percentage of Urethral Isolates with Elevated Azithromycin Minimum Inhibitory Concentrations (MICs) ($\geq 2.0 \mu\text{g/ml}$) and Elevated Ceftriaxone MICs ($\geq 0.125 \mu\text{g/ml}$) by Reported Sex of Sex Partners, Gonococcal Isolate Surveillance Project (GISP), 2011–2017

A. Azithromycin



B. Ceftriaxone



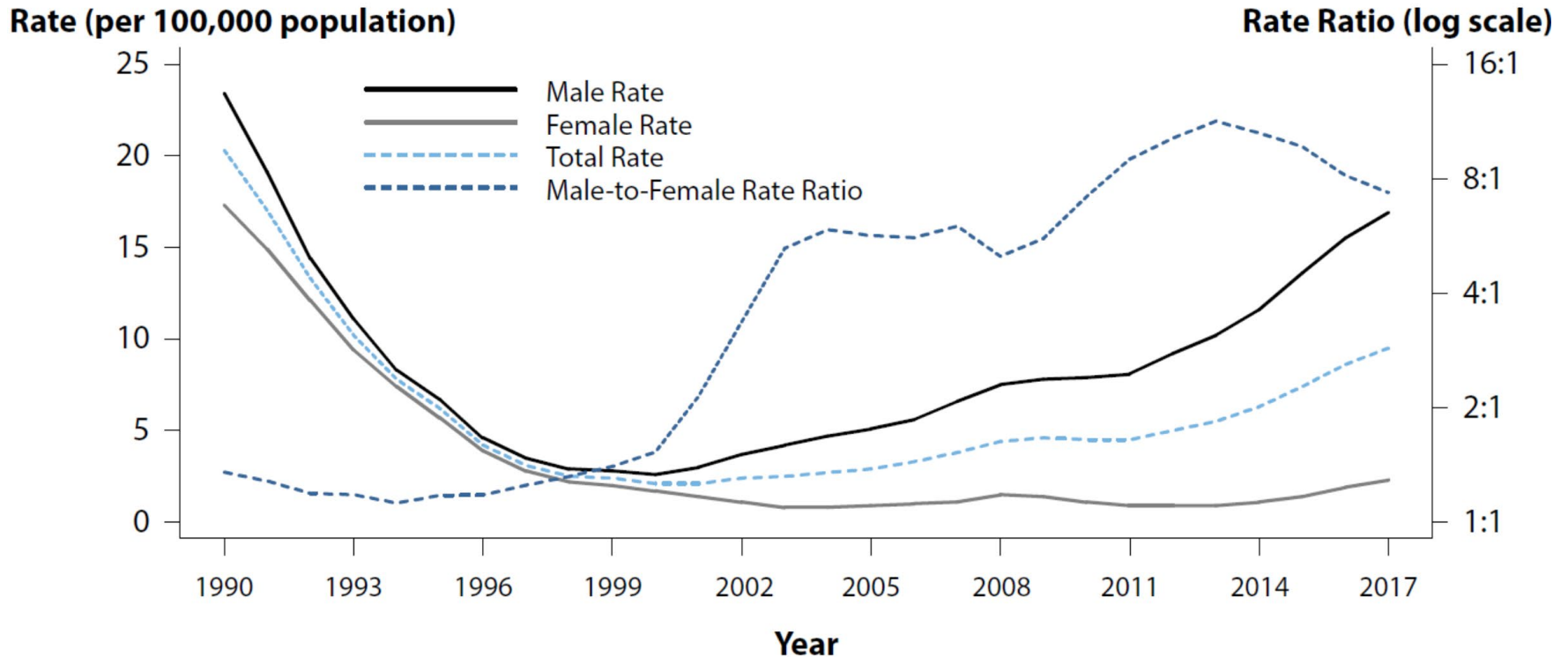
* No cases of elevated ceftriaxone MICs were reported among MSM in 2017.

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.



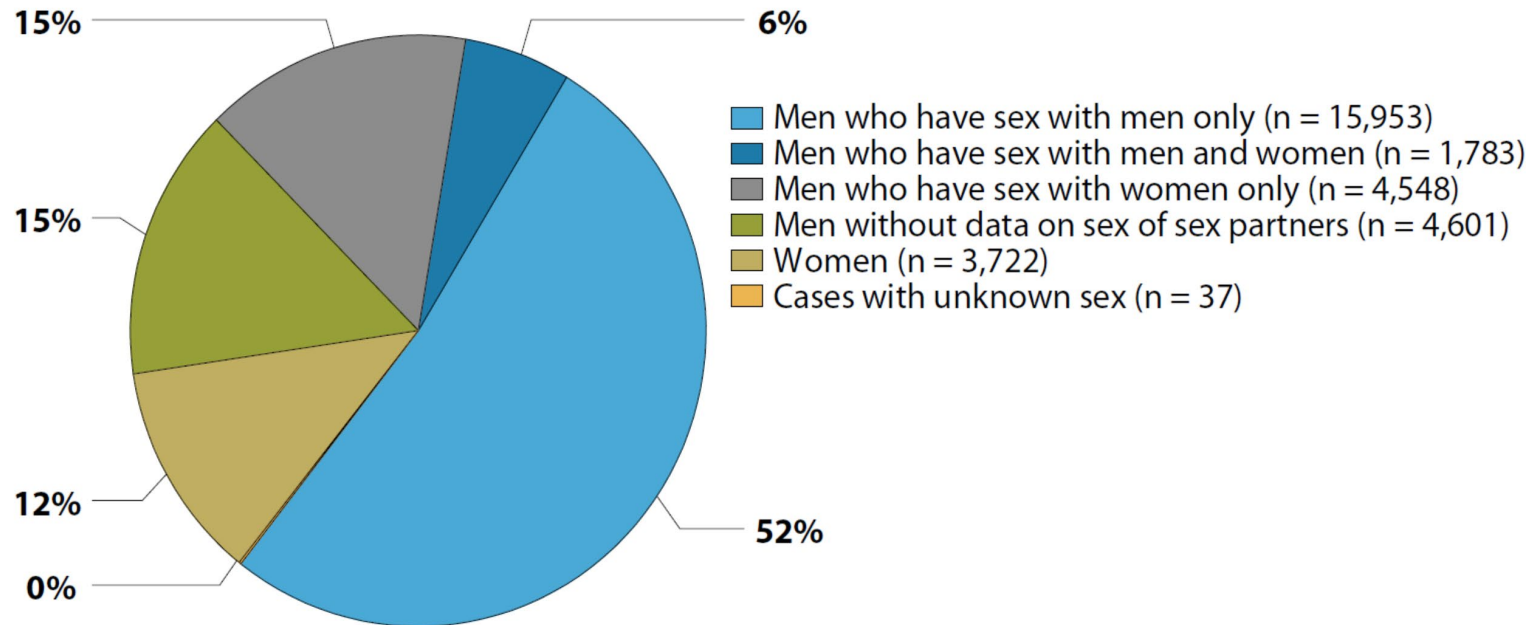
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The rate of syphilis diagnosis is increasing.



Sexually Transmitted Disease Surveillance 2017,
CDC

A majority of new syphilis infections occur in MSM.

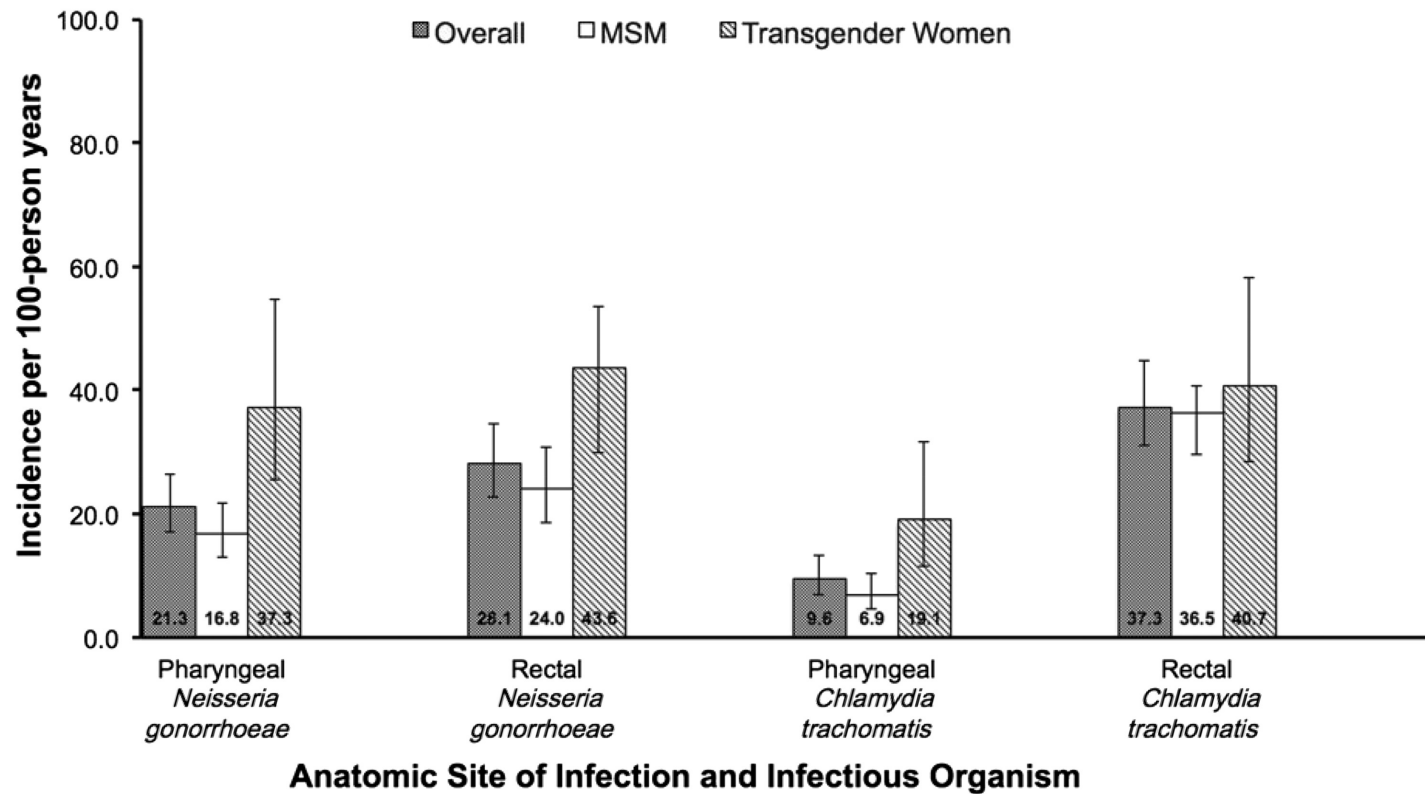


Sexually Transmitted Disease Surveillance 2017,
CDC

Some transgender populations face a high burden of STIs.

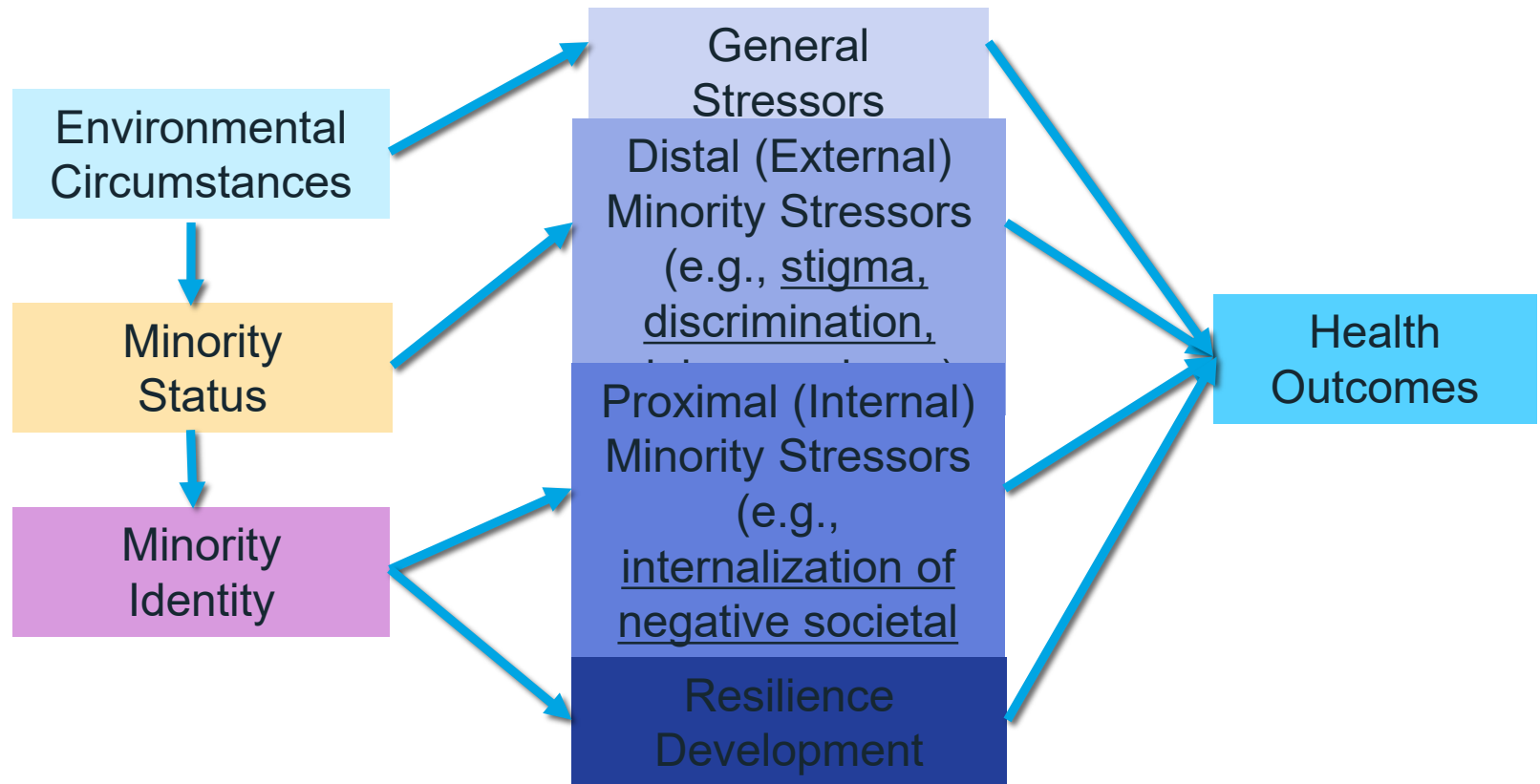
- **United States systematic review:**
 - STI lifetime prevalence = 21.1%, greater in MTF than FTM people
- **Prospective study of 230 MTF people New York City:**
 - Syphilis incidence 3.6% per year
 - Gonorrhea incidence 4.2% per year
 - Chlamydia incidence 4.5% per year
- **Retrospective study of 145 young people in Boston:**
 - Prevalence of syphilis 2.8%
 - Prevalence of gonorrhea and chlamydia 2.1% each
- **Transgender women in iPrEX:**
 - 38% reported an STI in the prior 6 months

1. Herbst JH, Jacobs ED, Finlayson TJ, et al. Estimating HIV prevalence and risk behaviors of transgender persons in the United States: a systematic review. *AIDS Behav.* 2008;12(1):1.
2. Nuttbrock L, Bockting W, Rosenblum A, et al. Gender abuse, depressive symptoms, and HIV and other sexually transmitted infections among male-to-female transgender persons: a three-year prospective study. *Am J Public Health.* 2013;103(2):300.
3. Reisner SL, Vettes R, White JM, et al. Laboratory-confirmed HIV and sexually transmitted infection seropositivity and risk behavior among sexually-active transgender patients at an adolescent and young adult urban community health center. *AIDS Care.* 2015;27(8):1031.



Allan-Blietz L, Konda KA, Calvo GM, et al. Int J STD AIDS. 2018;29:568-576.

Minority Stress Model (adapted from Meyer)



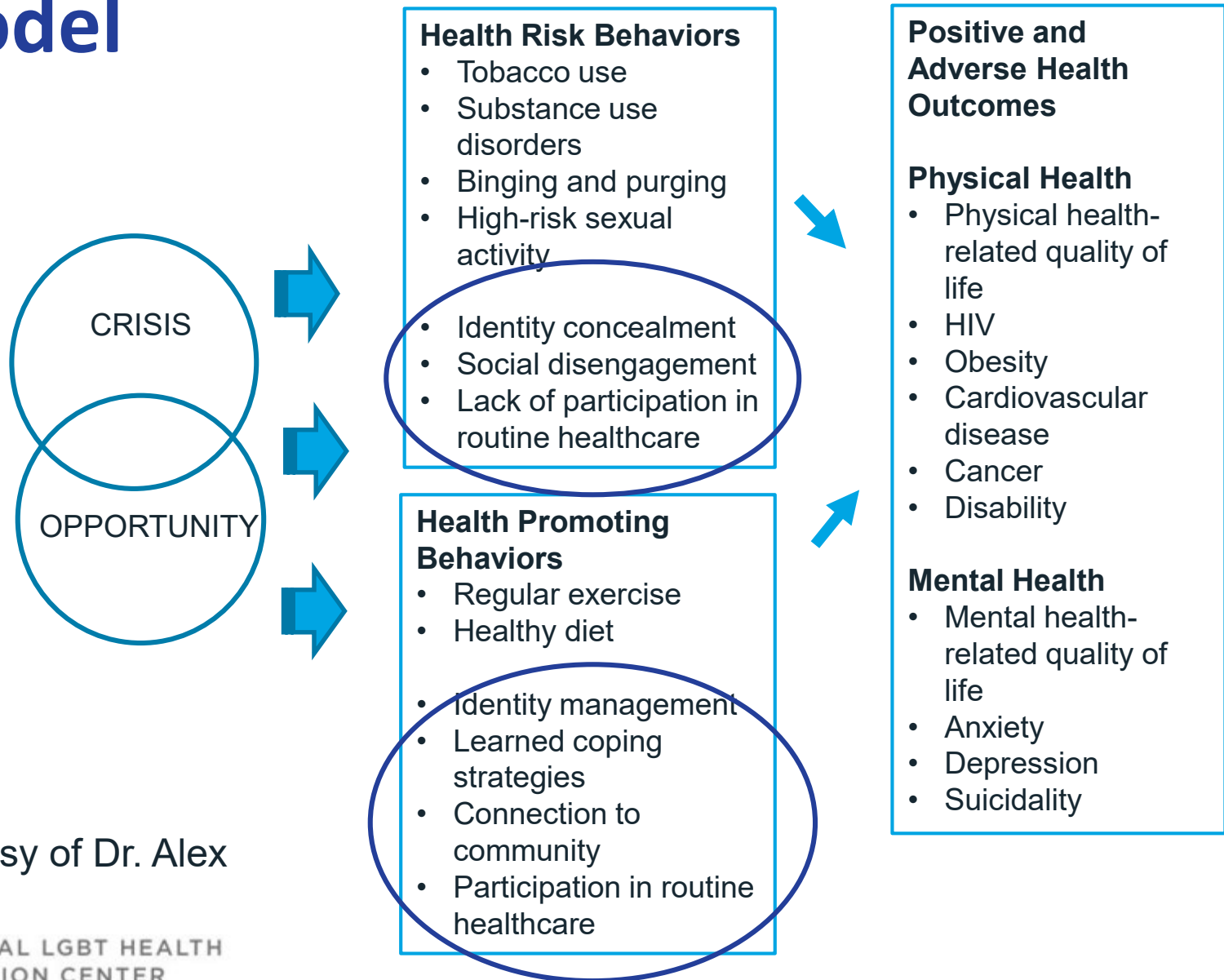
Slide courtesy of Dr. Alex Keuroghlian



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Minority Stress and Adaptive Coping Model



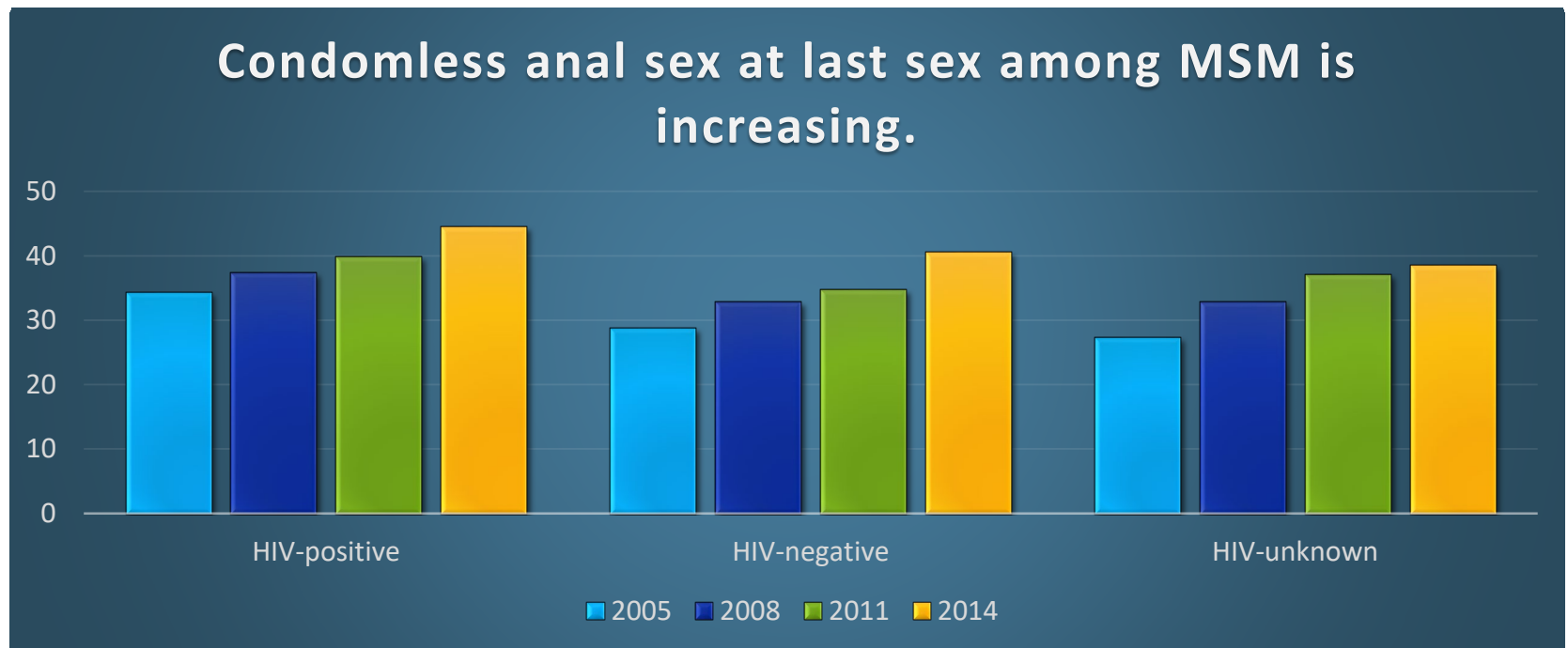
Slide courtesy of Dr. Alex Keuroghlian

Estimated Per-Act Probability of Acquiring HIV from an Infected Source, by Exposure Act*

Type of Exposure	Risk per 10,000 Exposures
Parenteral	
Blood Transfusion	9,250
Needle-Sharing During Injection Drug Use	63
Percutaneous (Needle-Stick)	23
Sexual	
Receptive Anal Intercourse	138
Insertive Anal Intercourse	11
Receptive Penile-Vaginal Intercourse	8
Insertive Penile-Vaginal Intercourse	4
Receptive Oral Intercourse	Low
Insertive Oral Intercourse	Low

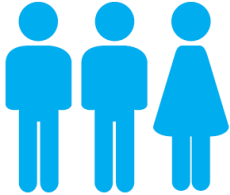
HIV risk behaviors, CDC, 2015

Condom use is falling among MSM.



Paz-Bailey G, AIDS, 2016

Sexual histories should be routine and free of assumptions.



Partners



Practices



**Past History
of STDs**



**Protection
from STDs**



**Pregnancy
Plans**



Approach to clinical care

- Trauma-informed
- Greet the patient while they are dressed
- Use a chaperone
- Describe what you intend to do in a step-by-step fashion
- Only ask about, and examine, what is necessary for the clinical issue at hand

Poteat T. Transgender people and sexually transmitted infections. UCSF Center for Excellence in Transgender Health. 2018. Available at: <http://transhealth.ucsf.edu/trans?page=guidelines-stis>.

Strategies to prevent HIV and STIs among LGBTQ people

- Condoms
- HIV/STI screening and treatment
- Point-of-care STI testing
- PrEP, nPEP, and HIV treatment as prevention
- Vaccinations
- Novel interventions



What do we say about condoms in 2018?

- One item on a menu of options for HIV/STI prevention
- Condom counseling must adapt to the era of biobehavioral HIV prevention
- Advantages and disadvantages:
 - Protect against a wide range of STIs
 - Widely available; not a medical intervention
 - Use is apparent to partners
 - Efficacy is imperfect (as with all strategies); 70% effective at preventing HIV among MSM
 - Consistent condom use is rare
 - Some patients are unlikely to benefit from condoms (e.g., mutually monogamous serodifferent couple in which the partner living with HIV is virologically suppressed)

CDC's screening recommendations for MSM

- HIV antibody/antigen assay
- Syphilis serology
- NAAT for *N. gonorrhoeae* and *C. trachomatis*
 - From the urethra/urine and rectum for both, if exposed
 - From the pharynx for *N. gonorrhoeae* only
- At least once: Hepatitis B surface antigen
- Yearly, if living with HIV: HCV antibody assays

Screening for transgender people and sexual minority women is based on risk assessment.

“Clinicians should assess STD- and HIV-related risks for their transgender patients **based on current anatomy and sexual behaviors**. Because of the diversity of transgender persons regarding surgical affirming procedures, hormone use, and their patterns of sexual behavior, providers must remain aware of symptoms consistent with common STDs and screen for asymptomatic STDs on the basis of behavioral history and sexual practices.”

What we know about gonorrhea and chlamydia testing in cisgender people

WOMEN

- NAATs are preferred.
- Sensitivity of first-catch urine is 10% less than a vaginal swab.
- A self-collected vaginal swab performs as well as a clinician-collected swab.
- Vaginal swabs perform as well as endocervical swabs.

MEN

- NAATs are preferred.
- Sensitivity of first-catch urine is the same as a urethral swab.

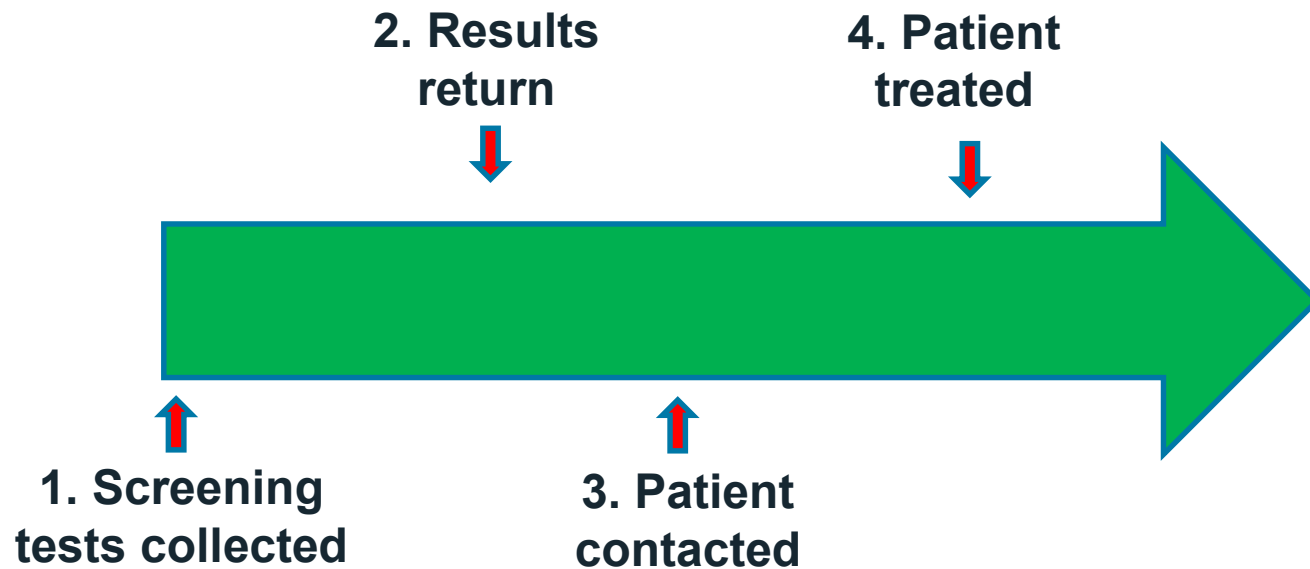
Papp JR, et al. Recommendations for the laboratory-based detection of Chlamydia trachomatis and Neisseria gonorrhoeae – 2014. MMWR. March 14, 2014/63(RR02);1.

Unanswered questions in STI screening for transgender people

- What is the risk of STIs in surgically-constructed vaginas and penises?
 - **Vaginoplasty techniques may involve urethral or colorectal mucosa, which is presumably susceptible to infection.**
- What is the optimal screening strategy for gonorrhea/chlamydia in the setting of genital reconstruction?
 - **Urine NAAT versus vaginal/urethral NAAT in vaginoplasty/phalloplasty**
 - **Some experts consider urine NAAT preferred.**
- Do STIs present differently in reconstructed tissue?
 - **Case report of neovaginal gonorrhea presenting as coital bleeding**

1. Poteat T. Transgender people and sexually transmitted infections. UCSF Center for Excellence in Transgender Health. 2018. Available at: <http://transhealth.ucsf.edu/trans?page=guidelines-stis>.
2. Van der Sluis WB, Bouman MB, Gijls L, van Bodegraven AA. Gonorrhoea of the sigmoid neovagina in a male-to-female transgender. Int J STD AIDS. 2015;26(8):595.

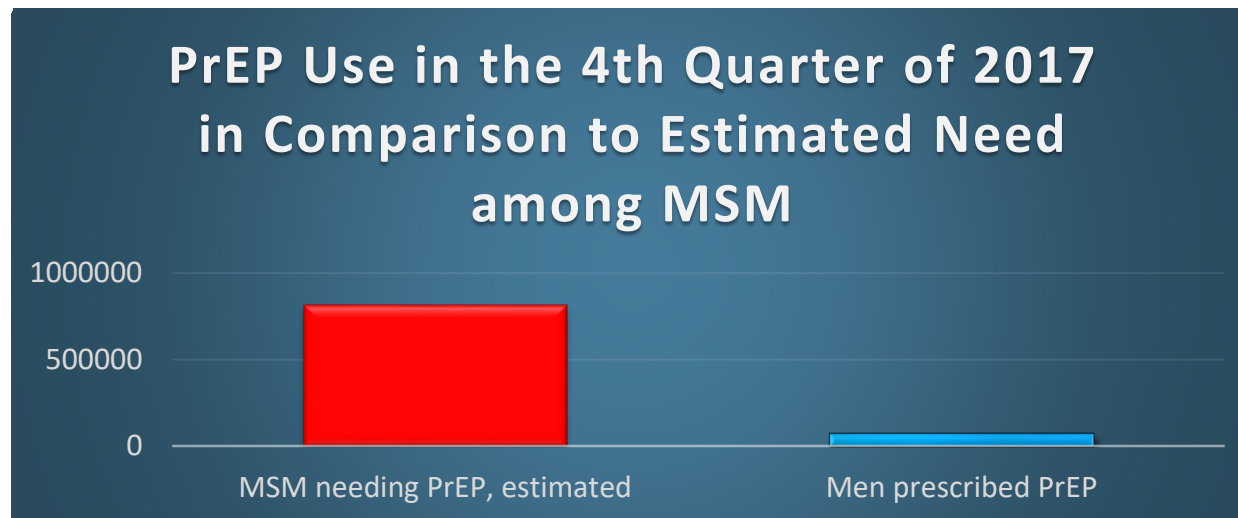
Point-of-care testing for STIs may decrease transmission but shortening duration of infectivity.



Amsterdam STI clinic modelling study:

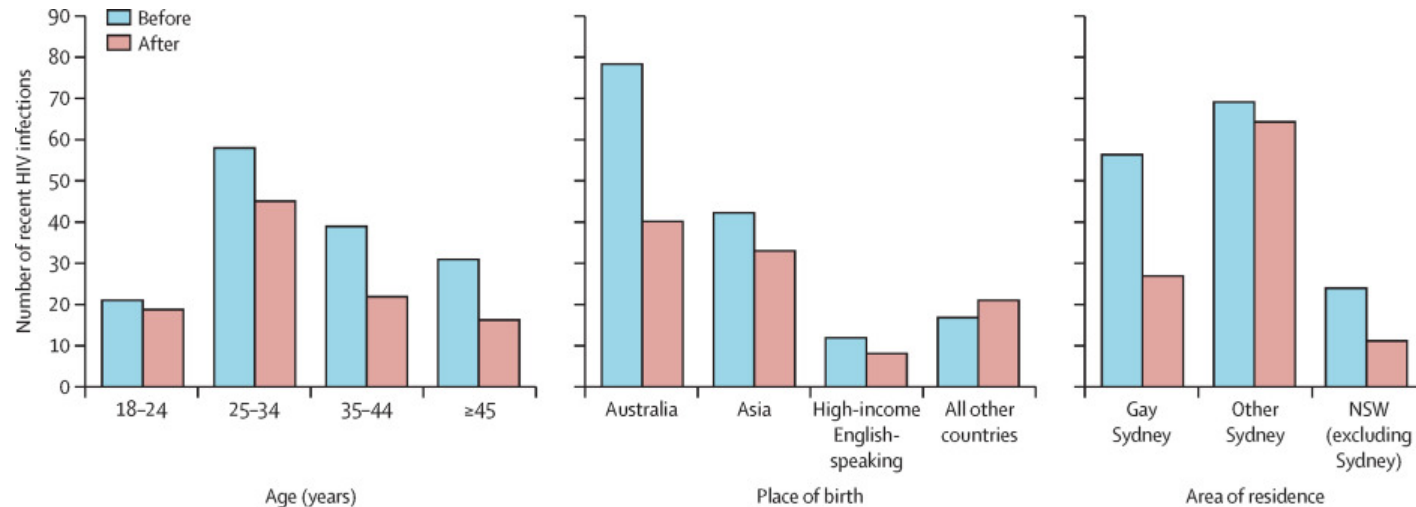
- 35% of MSM had sexual contexts in the time between testing and treatment (23% of whom had CAS)
- POC testing for all MSM anticipated to decrease gonorrhea prevalence by 11% over 5 years

Uptake of PrEP is not commensurate with need.



1. Siegler AJ, et al. The prevalence of pre-exposure prophylaxis use and the pre-exposure prophylaxis-to-need ratio in the fourth quarter of 2017, United States. *Annals of Epidemiology*. 2018;<https://doi.org/10.1016/j.annaepidem.2018.06.005>.
2. Smith D, et al. By race/ethnicity, blacks have the highest number needing PrEP in the United States, 2015. 25th Conference on Retroviruses and Opportunistic Infections (CROI 2018), Boston, abstract 86, 2018.

High uptake of PrEP among MSM dramatically reduced new HIV infections in Australia.



Grulich AE, Lancet HIV, 2018

Reducing barriers PrEP uptake

- Same-day initiation
- PrEP availability in non-traditional settings (e.g., pharmacies, health vans, community centers)
- Eliminating the need to see a clinician at each laboratory visit
- Protocolized care and benefits navigation



PrEPDAP can help pay for PrEP in MA

- Massachusetts residency is required
- Income limit (500% FPL: \$60,700 for a single person in 2018)
- Approved clients are not charged a copay at the pharmacy
- PrEPDAP can help clients to navigate benefits
 - MassHealth, Medicare, Gilead resources
- Application and further information: www.crine.org/prepdap
- Help paying for PEP also available: www.crine.org/npep

Other state PrEP drug assistance programs

- **Washington PrEPDAP**
 - Out-of-pocket costs, medical visit copays, lab costs
 - No income limit
- **New York PrEP-AP**
 - Medical visit & lab costs only (in ADAP network)
 - 435% FPL income limit (\$52,461/yr gross)
- **Illinois PrEP4Illinois**
 - Out-of-pocket costs
 - No income limit
- **Colorado**
 - Out-of-pocket costs, medical copays
 - 500% FPL income limit
- **California PrEP-AP**
 - Out-of-pocket costs for PrEP and STI treatment drugs; medical copays and lab costs
 - 500% FPL income limit
- **Virginia & Florida** provide PrEP at no cost through county health departments

Consider on-demand PrEP

Pericoital TDF/emtricitabine PrEP, also known as on-demand, event-driven, or “2-1-1” dosing may be considered as an alternative to daily PrEP for MSM with infrequent sexual exposures (evidence rating Ala). This regimen is not recommended in other risk groups or in patients with active HBV infection because of the risk of hepatitis flare and hepatic decompensation (evidence rating BIIa).

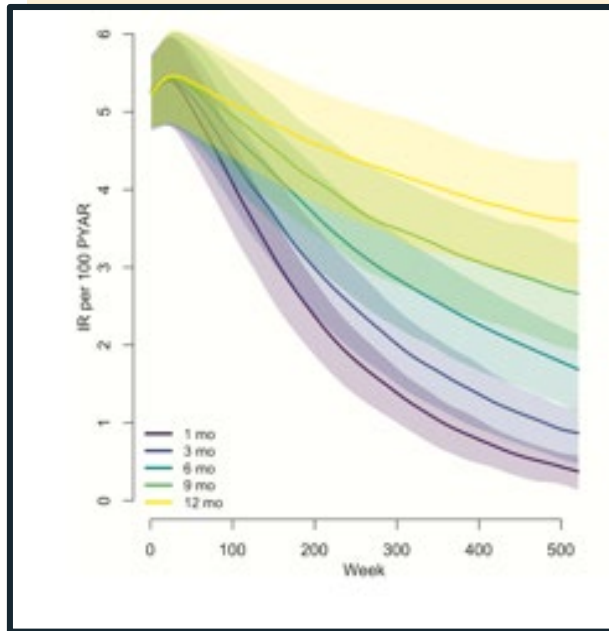
Saag M, et al. Antiretroviral drugs for treatment and prevention of HIV infection in adults. JAMA. 2018;320(4):379-396.



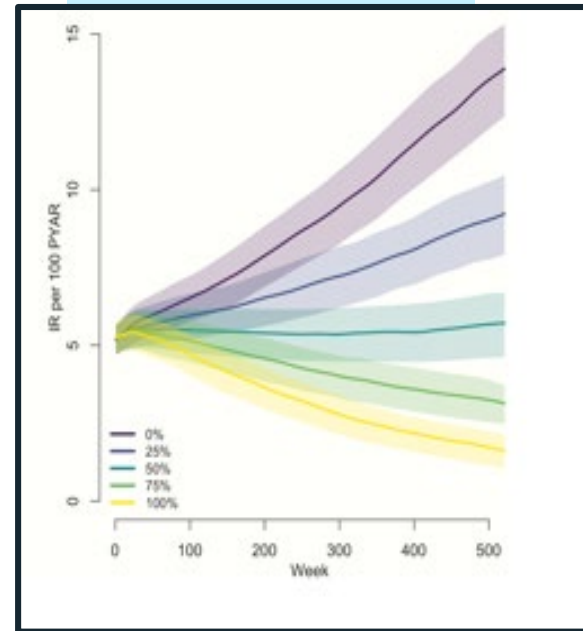
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STI Incidence by PrEP STI Screening Interval



STI Incidence by Proportion



From: Incidence of Gonorrhea and Chlamydia Following Human Immunodeficiency Virus Preexposure Prophylaxis Among Men Who Have Sex With Men: A Modeling Study
 Clin Infect Dis. 2017;65(5):712-718. doi:10.1093/cid/cix439
 Clin Infect Dis | © The Author 2017. Published by Oxford University Press for the Infectious Diseases Society of America. All rights reserved. For permissions, e-mail: journals.permissions@oup.com.

People not on PrEP should know when and how to access nPEP.

- 2 scenarios:
 - Condomless sex with an HIV-infected person
 - Condomless anal sex with an MSM of unknown HIV status
- Must be started within 72 hours of exposure
- 28 days of antiretrovirals (usually tenofovir-emtricitabine + either raltegravir or dolutegravir)
- Reduces the risk of HIV by at least 81%



**Hepatitis A
Hepatitis B
Human papillomavirus
(Meningococcus)**

1. Workowski KA, Berman S. Sexually transmitted diseases treatment guidelines, 2010. MMWR. 2010;59:RR-12.
2. FDA licensure of quadrivalent human papillomavirus vaccine (HPV4, Gardasil) for use in males and guidance from the Advisory Committee on Immunization Practices (ACIP). MMWR. 2010;59(20):630-632.



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HPV Vaccine Expanded for People Ages 27 to 45



About 14 million women and men become infected with the human papillomavirus each year in the United States, according to the Centers for Disease Control and Prevention.

Keith Bedford/The Boston Globe, via Getty Images

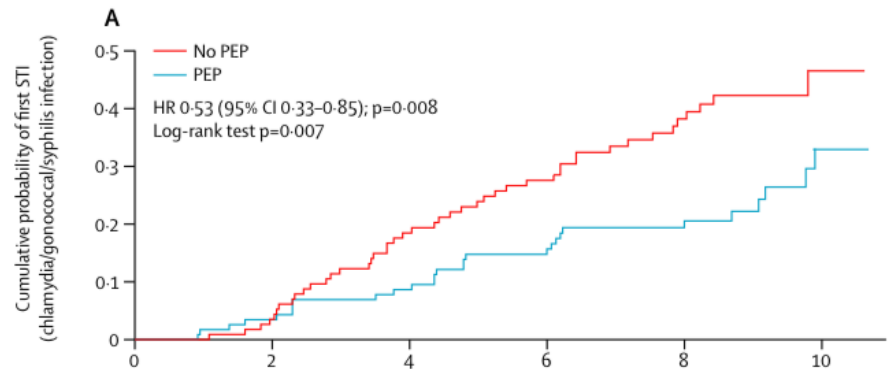


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Doxycycline PEP prevents syphilis and chlamydia among MSM.

- 232 MSM in a trial of open-label, on-demand PrEP with TDF-FTC
- Randomized to doxycycline within 24 hours of sex or no PEP
- Doxycycline reduced chlamydia and syphilis infections but not gonorrhea



Molina JM, Lancet Infect Dis, 2018

PEP with doxycycline is generally well-tolerated.

	PEP (n=116)	No PEP (n=116)	p value
Any adverse events	106 (91%)	104 (90%)	0.65
Any serious adverse events	5 (4%)	10 (9%)	0.18
Any grade 3 or 4 events	4 (3%)	8 (9%)	0.24
Treatment discontinuation because of adverse events	8 (7%)	NA	..
Gastrointestinal adverse events	62 (53%)	47 (41%)	0.05
Drug-related gastrointestinal adverse events	29 (25%)	16 (14%)	0.03
Nausea or vomiting	10 (9%)	3 (3%)	..
Abdominal pain	14 (12%)	5 (4%)	..
Diarrhoea	6 (5%)	9 (8%)	..
Other gastrointestinal disorders	5 (4%)	1 (1%)	..

Molina JM, Lancet Infect Dis, 2018

Doxycycline post-exposure prophylaxis: let the debate begin



Should physicians prescribe doxycycline to prevent syphilis? In their study published in *The Lancet Infectious Diseases*, Jean-Michel Molina and colleagues¹ report on the findings of the first large, open-label randomised control trial to help answer this question.² Their findings show that, among men who have sex with men (MSM) who were using pre-exposure prophylaxis (PrEP) for HIV and who had a median of ten partners every 2 months, taking doxycycline within 24 h after sex reduced the incidence of chlamydia by 70% when compared with no

could rightly argue that the antibiotic is commonly prescribed for many conditions, including in 6-month courses for acne.⁵ A key issue to discuss with patients, however, is the number of doses of doxycycline that are required to prevent one case of syphilis. In the present study, men had a median of 120 sexual acts a year (based on a median of 10 per month) and had an incidence of syphilis of about 13 per 100-person years.¹ Most MSM have substantially fewer partners and are less sexually active and have a lower incidence of syphilis than those



Published Online
December 8, 2017
[http://dx.doi.org/10.1016/S1473-3099\(17\)30726-0](http://dx.doi.org/10.1016/S1473-3099(17)30726-0)

See **Articles** page 308

Fairley CK, Lancet Infect Dis, 2018



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The NEW ENGLAND JOURNAL *of* MEDICINE

ORIGINAL ARTICLE

Single-Dose Zoliflodacin (ETX0914) for Treatment of Urogenital Gonorrhea

Stephanie N. Taylor, M.D., Jeanne Marrazzo, M.D., M.P.H.,
Byron E. Batteiger, M.D., Edward W. Hook, III, M.D., Arlene C. Seña, M.D., M.P.H.,
Jill Long, M.D., M.P.H., Michael R. Wierzbicki, Ph.D., Hannah Kwak, M.H.S.,
Shacondra M. Johnson, B.S.P.H., Kenneth Lawrence, Pharm.D.,
and John Mueller, Ph.D.



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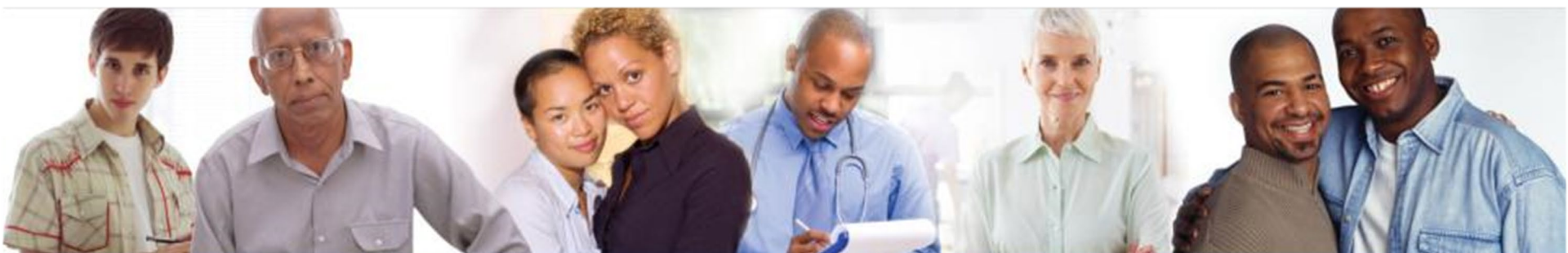
Recap

- Provide LGBTQ-affirming, trauma-informed care
- Make the sexual history part of routine care
- STI self-screening and “express” screening
- Reduce barriers to PrEP: Same-day initiation?
- Make a PEP plan for those who may benefit
- Vaccinate
- Consider doxycycline for MSM who have a high risk of STIs



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Thank you!

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This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number U30CS22742, Training and Technical Assistance National Cooperative Agreements (NCAs) for \$449,981.00 with 0% of the total NCA project financed with non-federal sources. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government