

The syndemic of HIV, STI, substance use and other behavioral health conditions

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Northwest Mental Health Technology Transfer Center

Sexual Health Series

July 16, 2024

Agenda

- Review the epidemiology of HIV and syphilis in the United States
- Discuss the syndemic connections between HIV/STI, substance use, and behavioral health
- Review HIV, syphilis, and hepatitis screening guidelines
- Explore how to integrate HIV/STI prevention into your work
- Get to know how public health can be a partner in this work

Lack of essential health, social, and community services

Trauma
Childhood
Historical
Intergenerational
Racial

Poverty **Housing crisis**

Cultural, Social Disconnection

Mass incarceration

Community violence

Mental health

Substance use

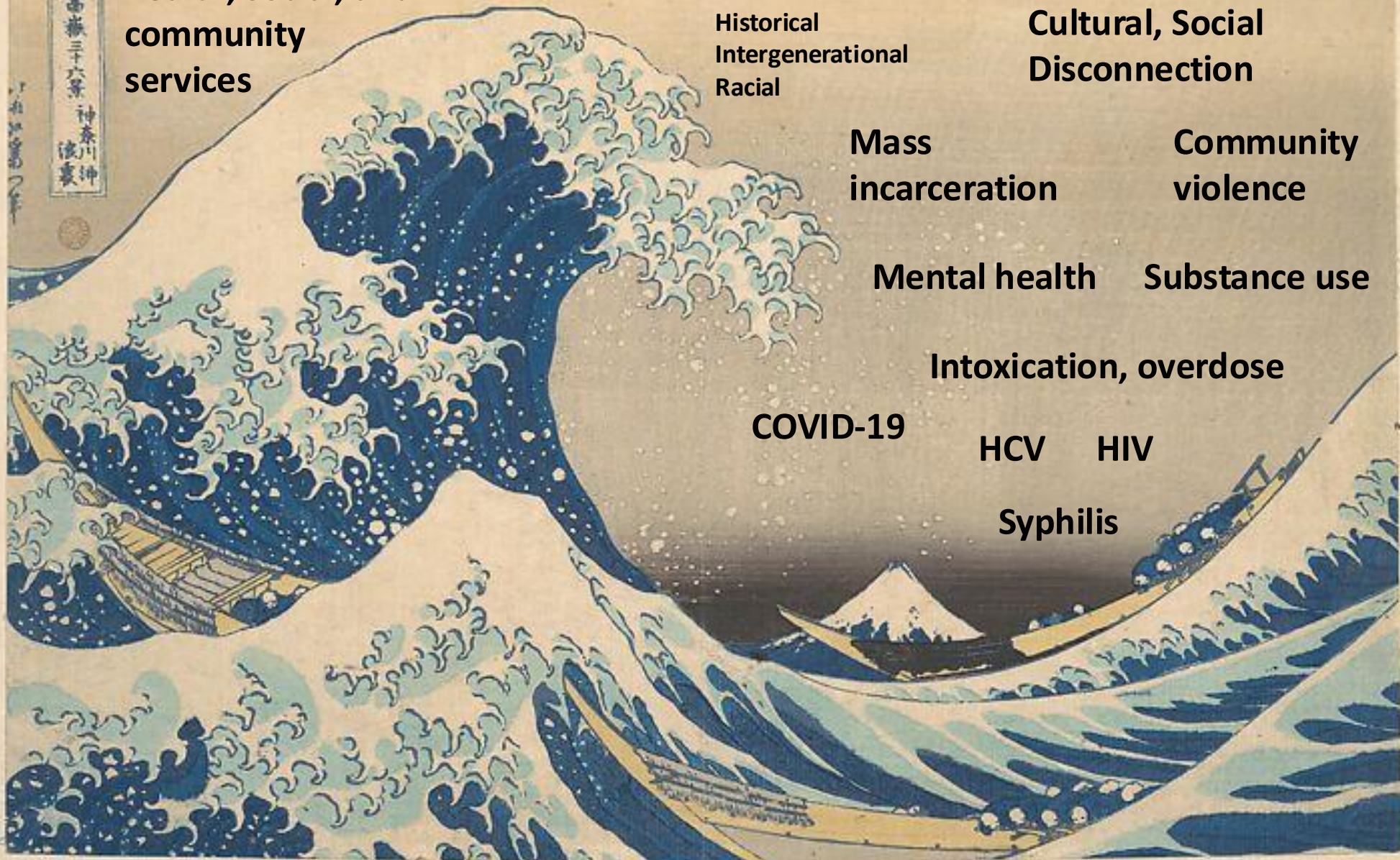
Intoxication, overdose

COVID-19

HCV **HIV**

Syphilis

富嶽三十六景 神奈川沖浪裏
葛飾画



Screening, testing, and treating Sexually Transmitted Infections (STIs) is part of SAMHSA's whole person approach to behavioral health treatment and substance use prevention.

*-- letter to colleagues from Dr. Miriam Delphin-Rittmon,
US Assistant Secretary for Mental Health and Substance
Use and Director of SAMHSA, January 30, 2024*



In 2019, the United States set a goal for Ending the HIV Epidemic (EHE)

Ending the HIV Epidemic



HHS Has Launched A New Initiative to End the HIV Epidemic in America



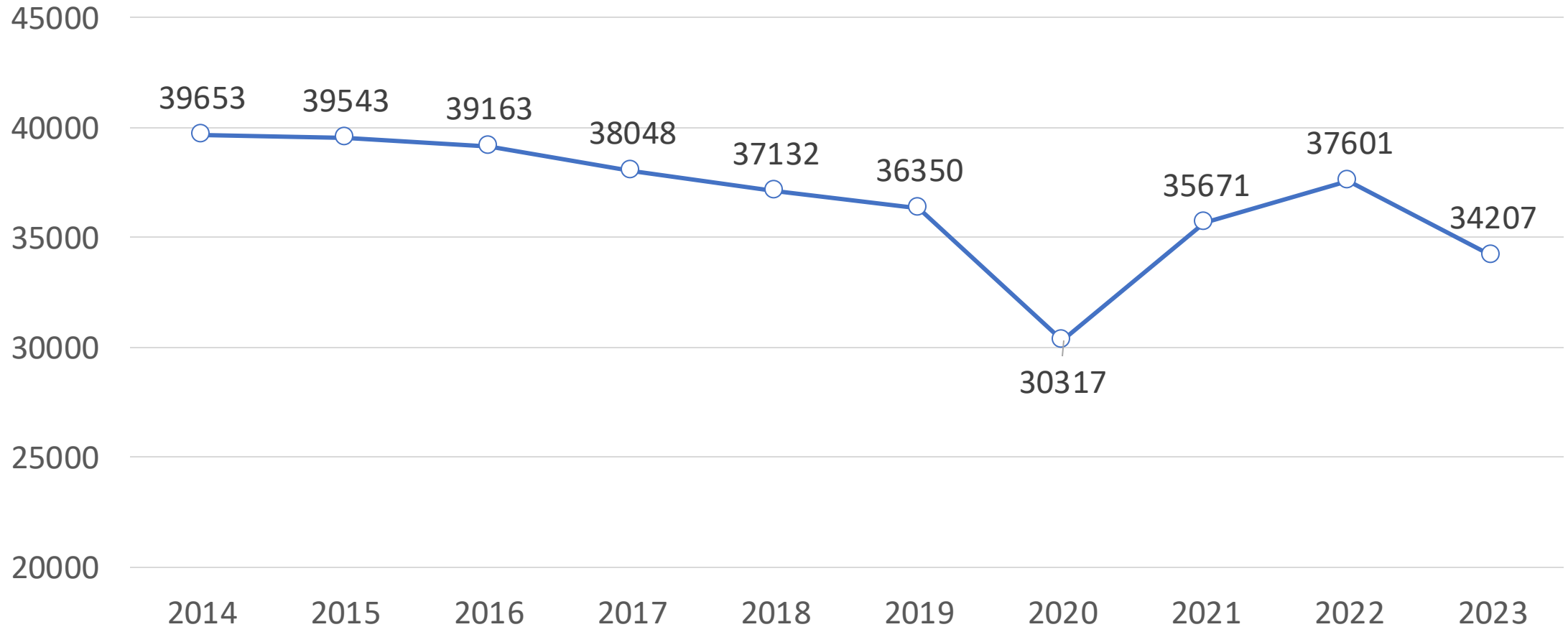
GOAL:

75% reduction in new HIV infections in 5 years and at least **90%** reduction in 10 years.



We're not on track to meet those goals...

[CDC Atlas Plus, 2024](#)

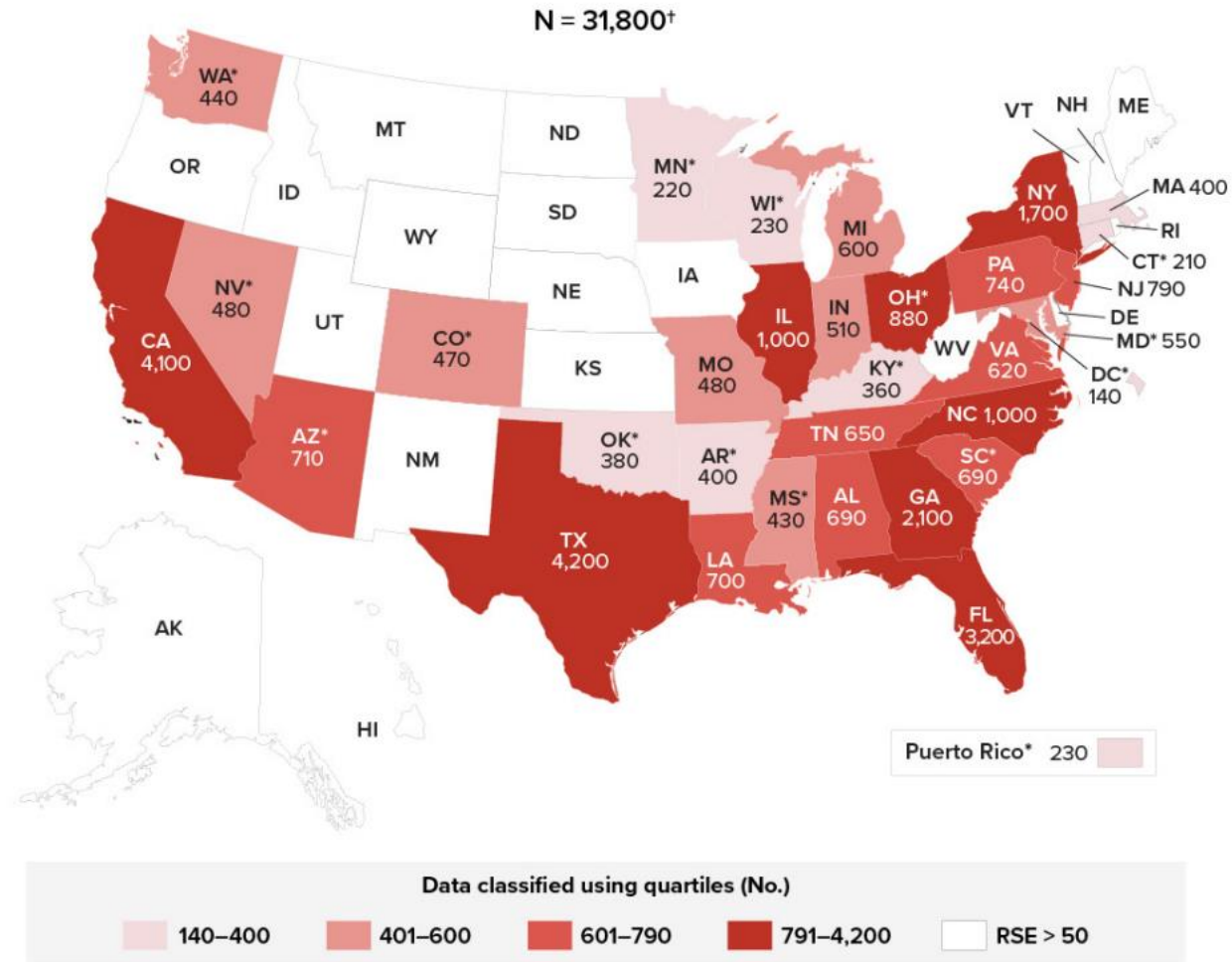


Eight states account for over half of new HIV infections

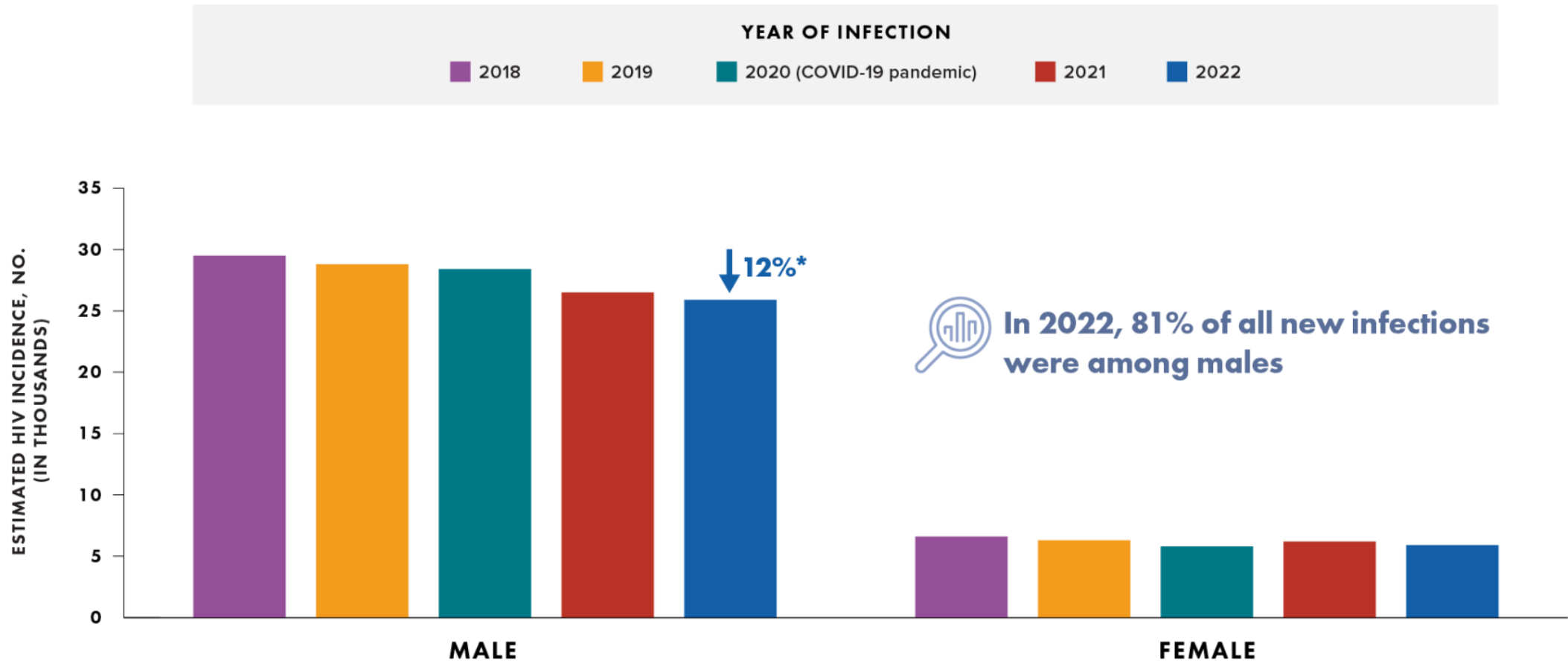


In 2022, 57% of new infections were in eight states:

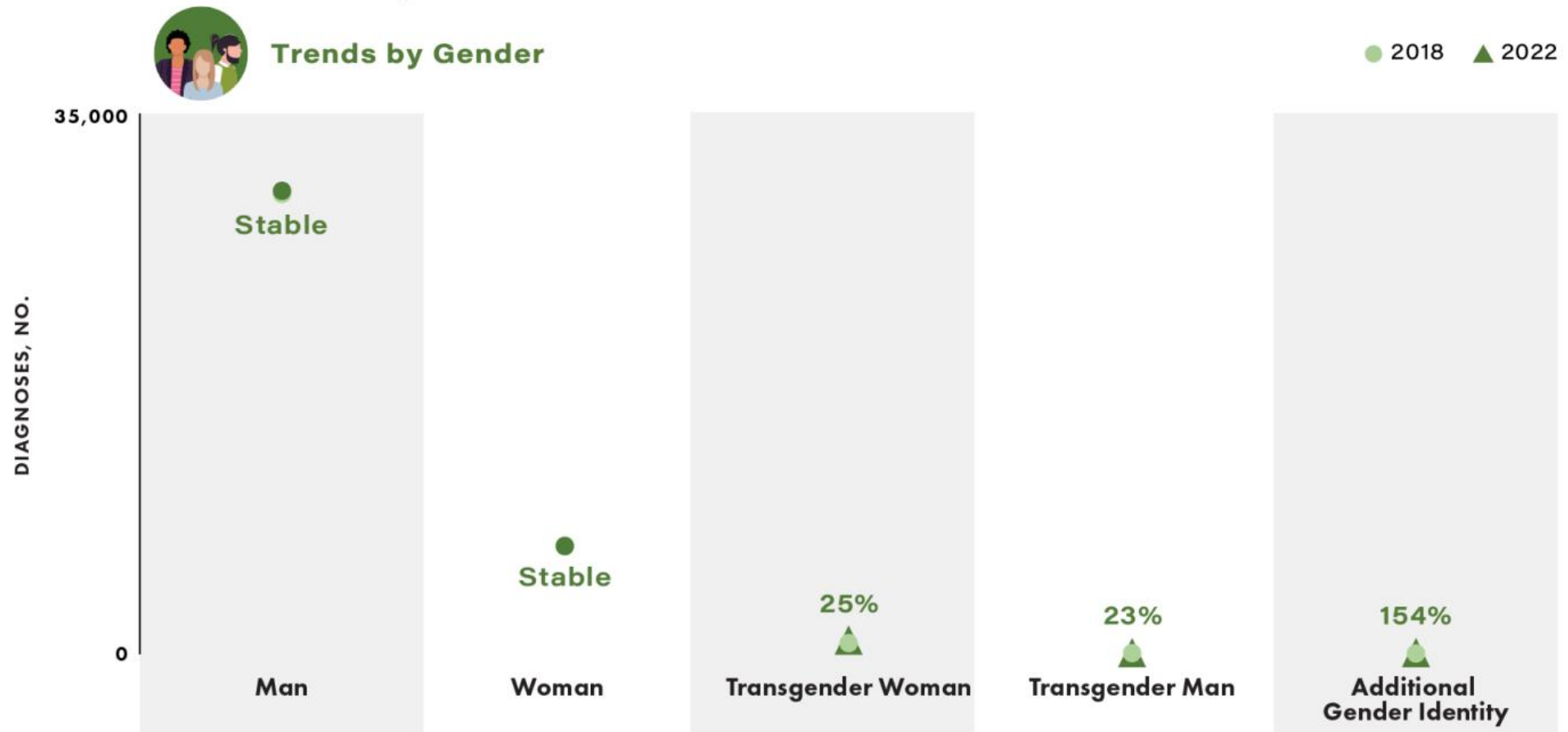
- California
- Florida
- Georgia
- Illinois
- New York
- North Carolina
- Ohio
- Texas



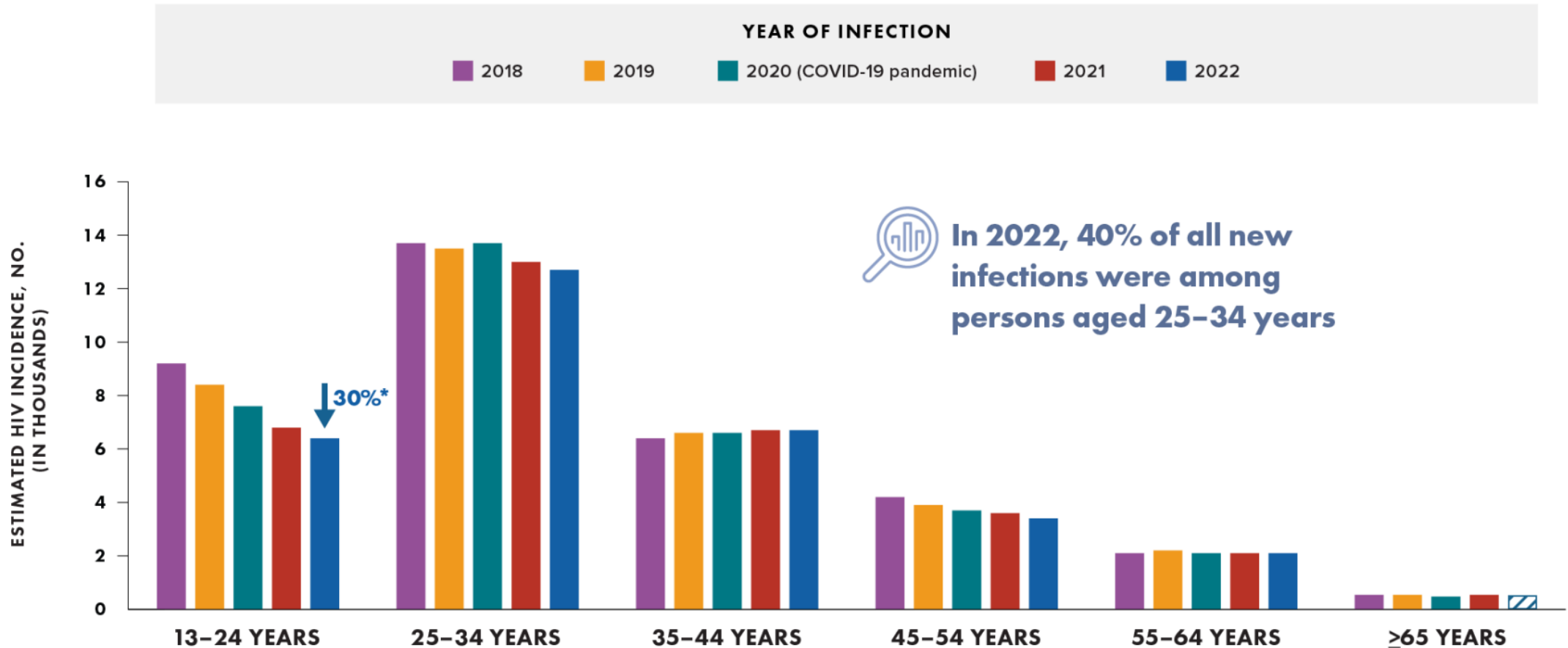
People assigned male at birth experienced a 12% reduction in new HIV diagnoses



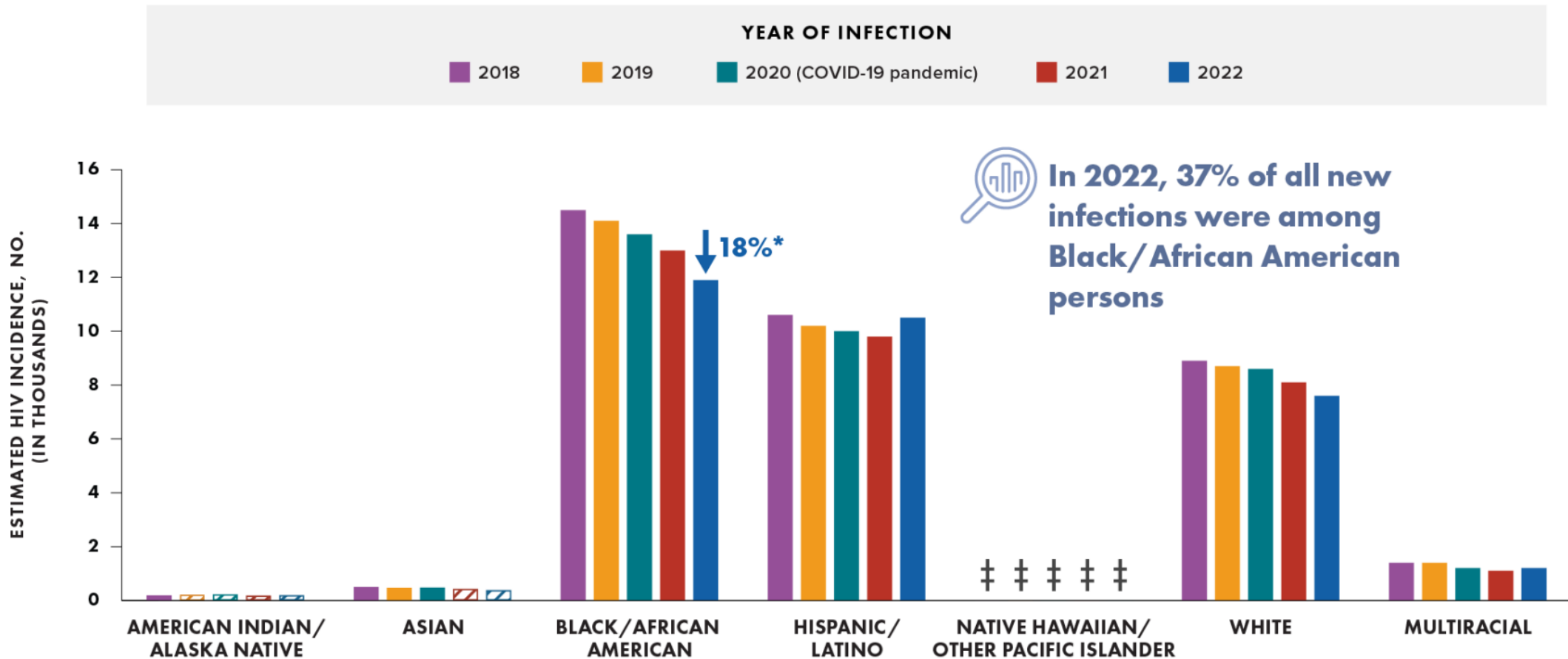
Transgender and nonbinary people experienced increases in new HIV diagnoses



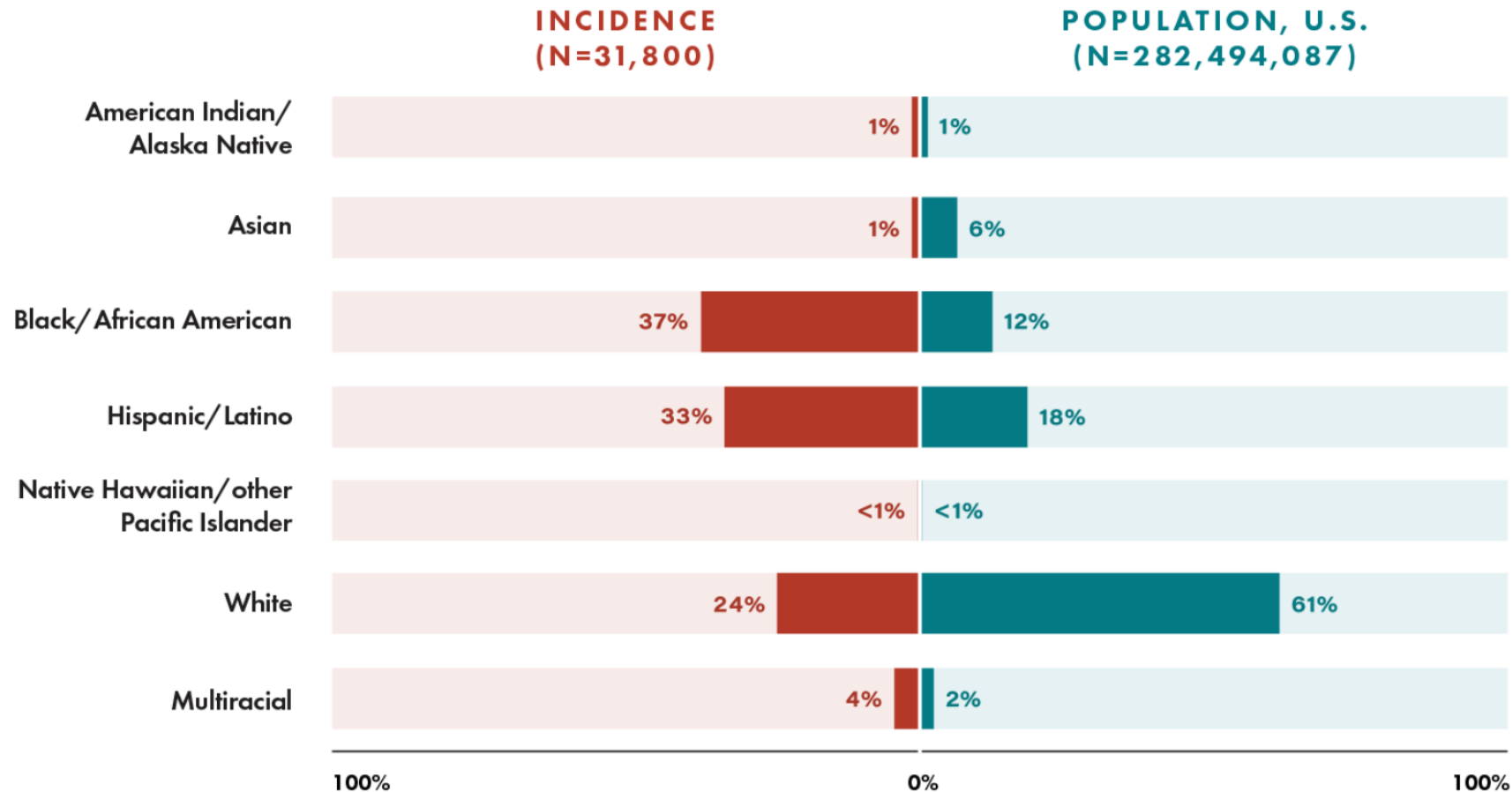
People 13-24 years of age experienced a 30% reduction in new HIV diagnoses



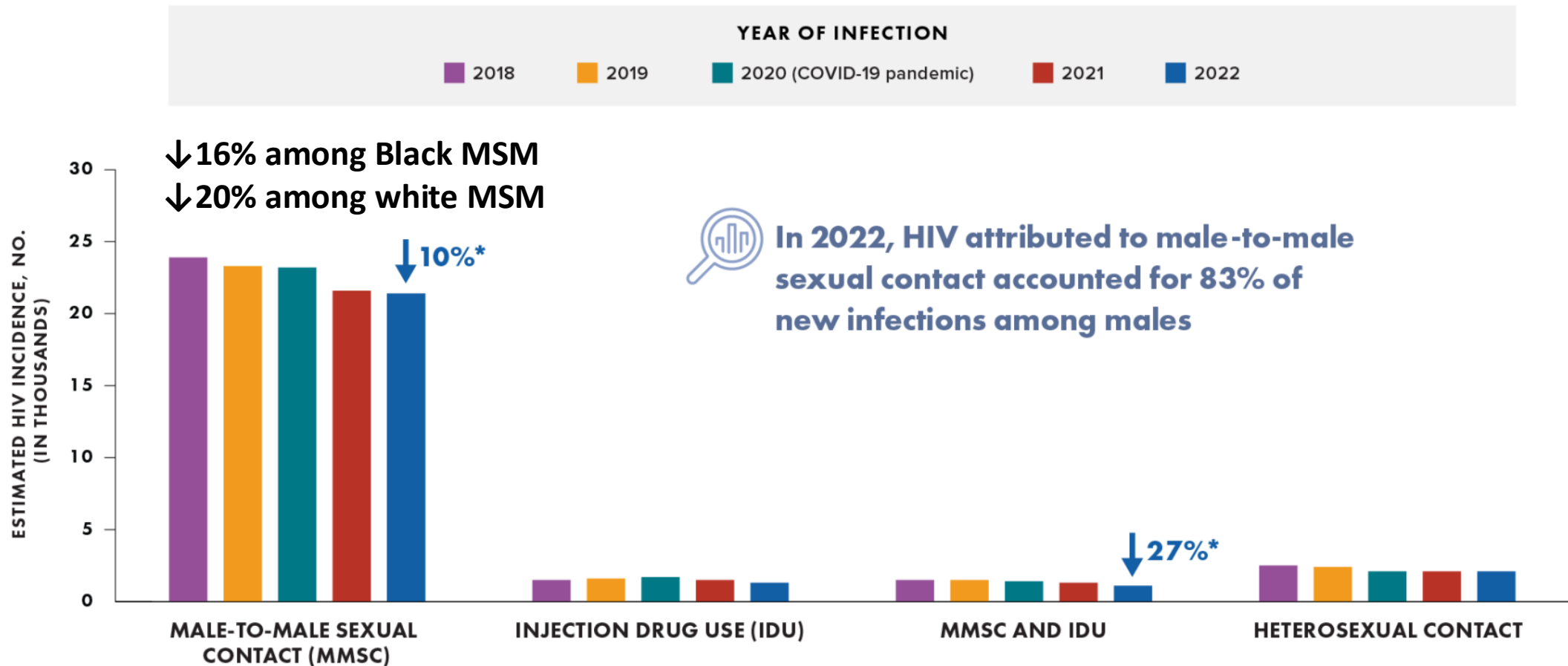
Black Americans experienced an 18% reduction in new HIV diagnoses



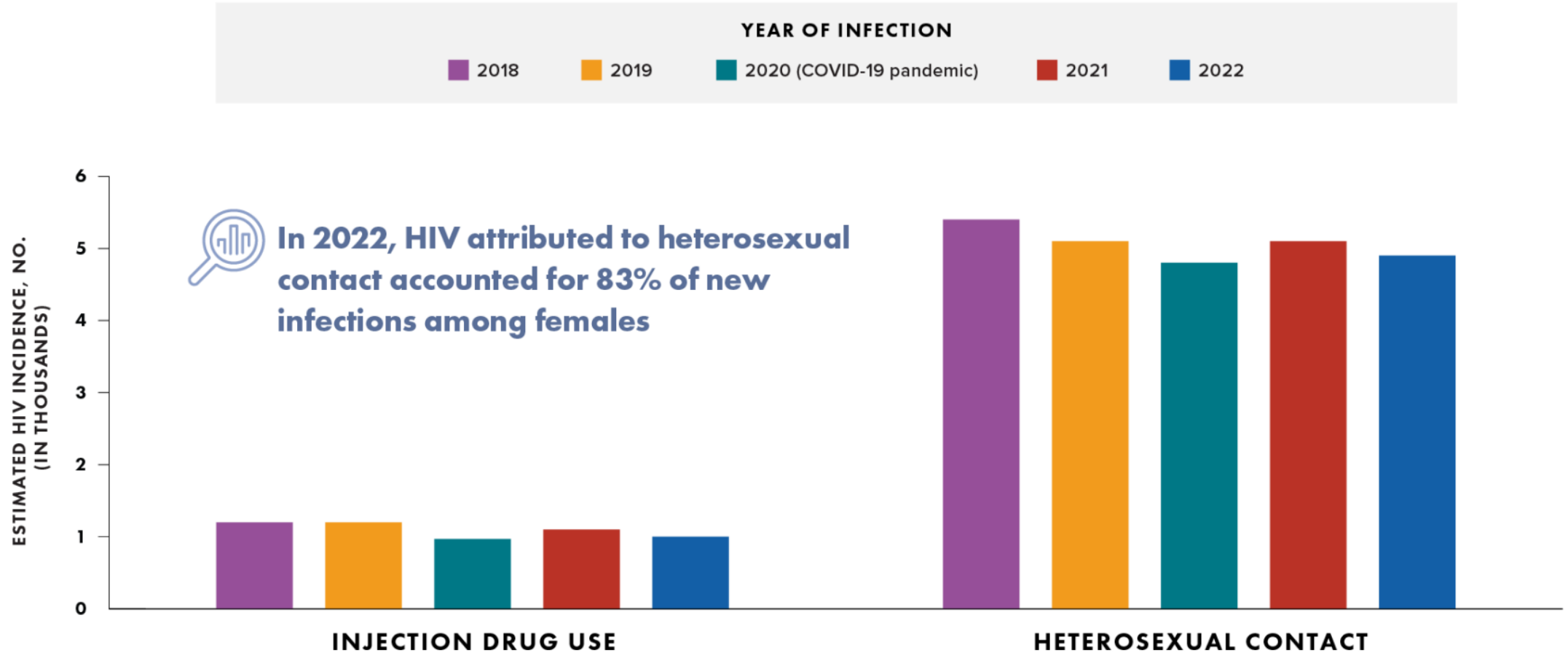
Racism drives inequities in new HIV diagnoses in the United States



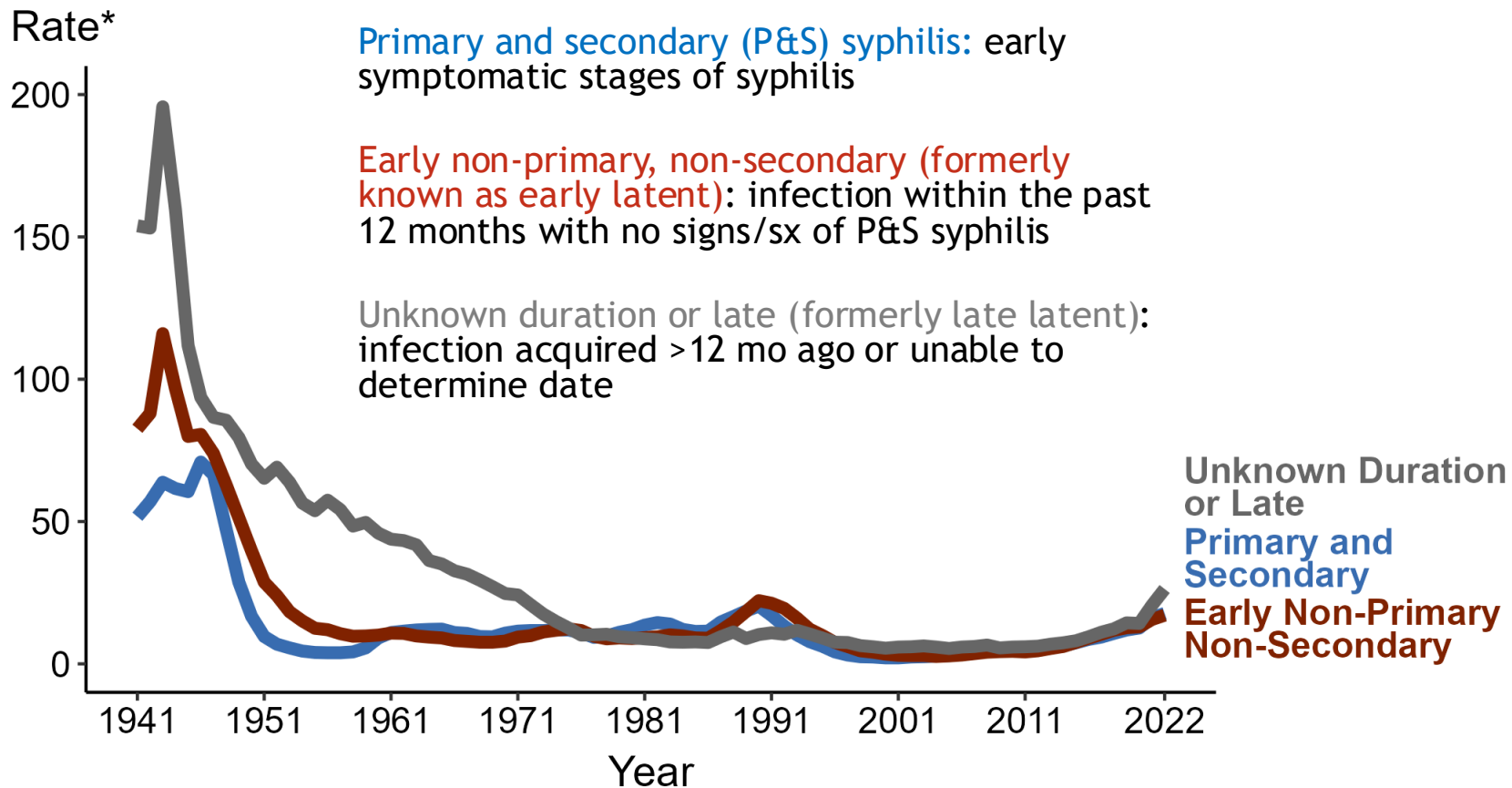
New HIV diagnoses among people assigned male at birth fell 10% among those who report sex with men



While new HIV diagnoses among people assigned female at birth were stable across transmission modes



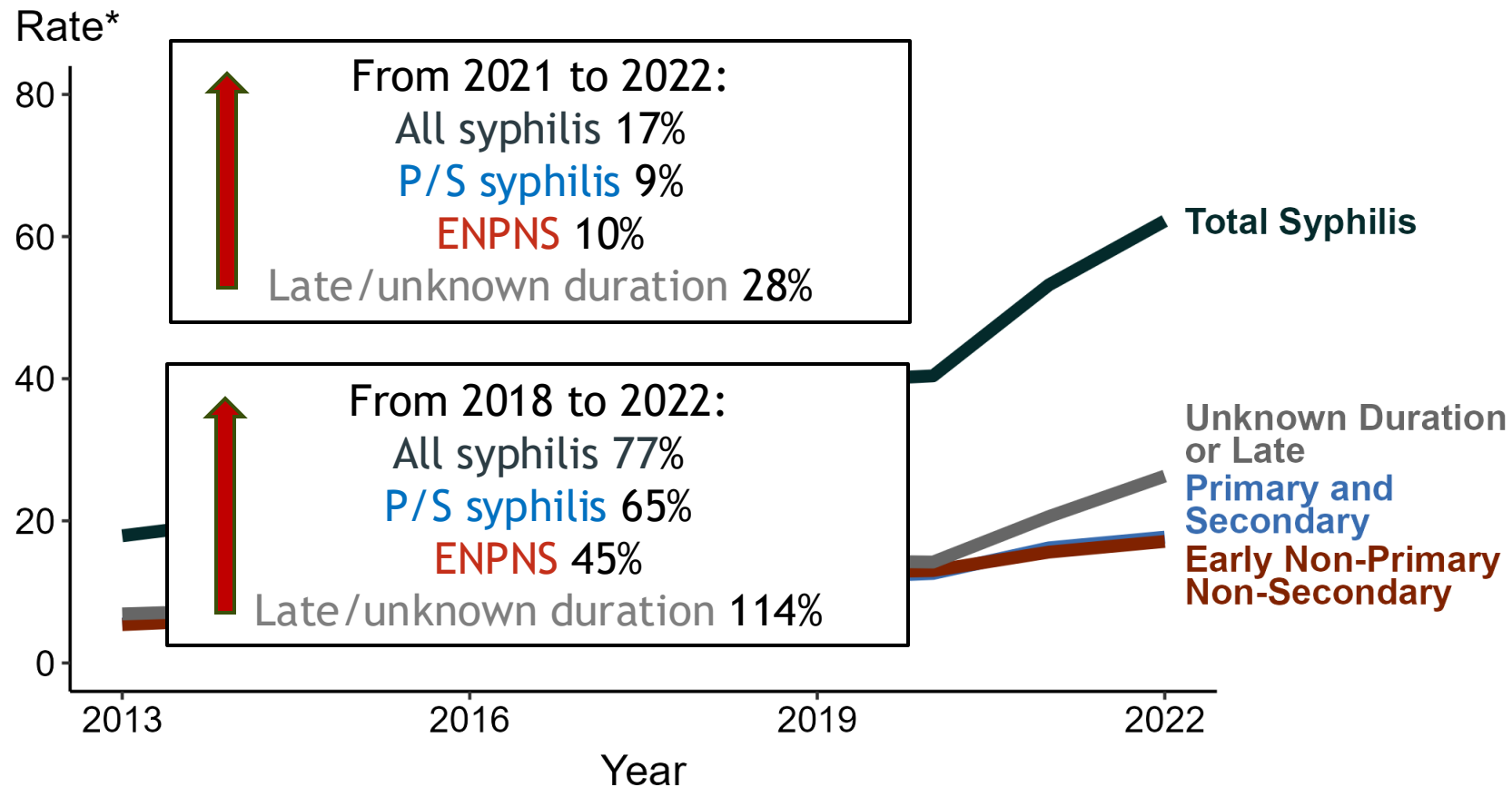
Syphilis is back — Rates of Reported Cases by Stage of Infection, United States, 1941–2022



* Per 100,000



Recent Rapid Rises in Syphilis — Rates of Reported Cases by Stage of Infection, United States, 2013–2022

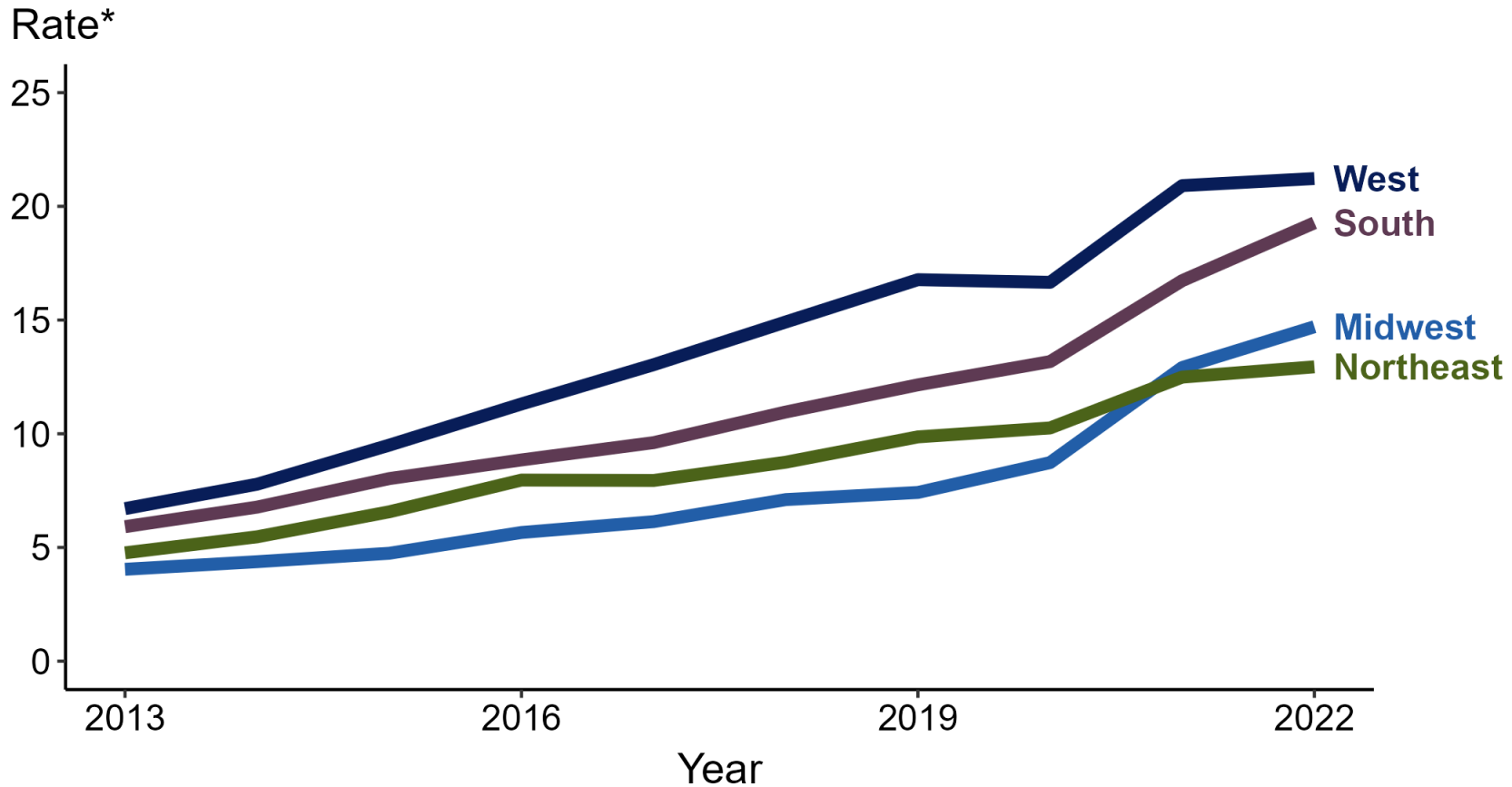


* Per 100,000

NOTE: Includes all stages of syphilis and congenital syphilis



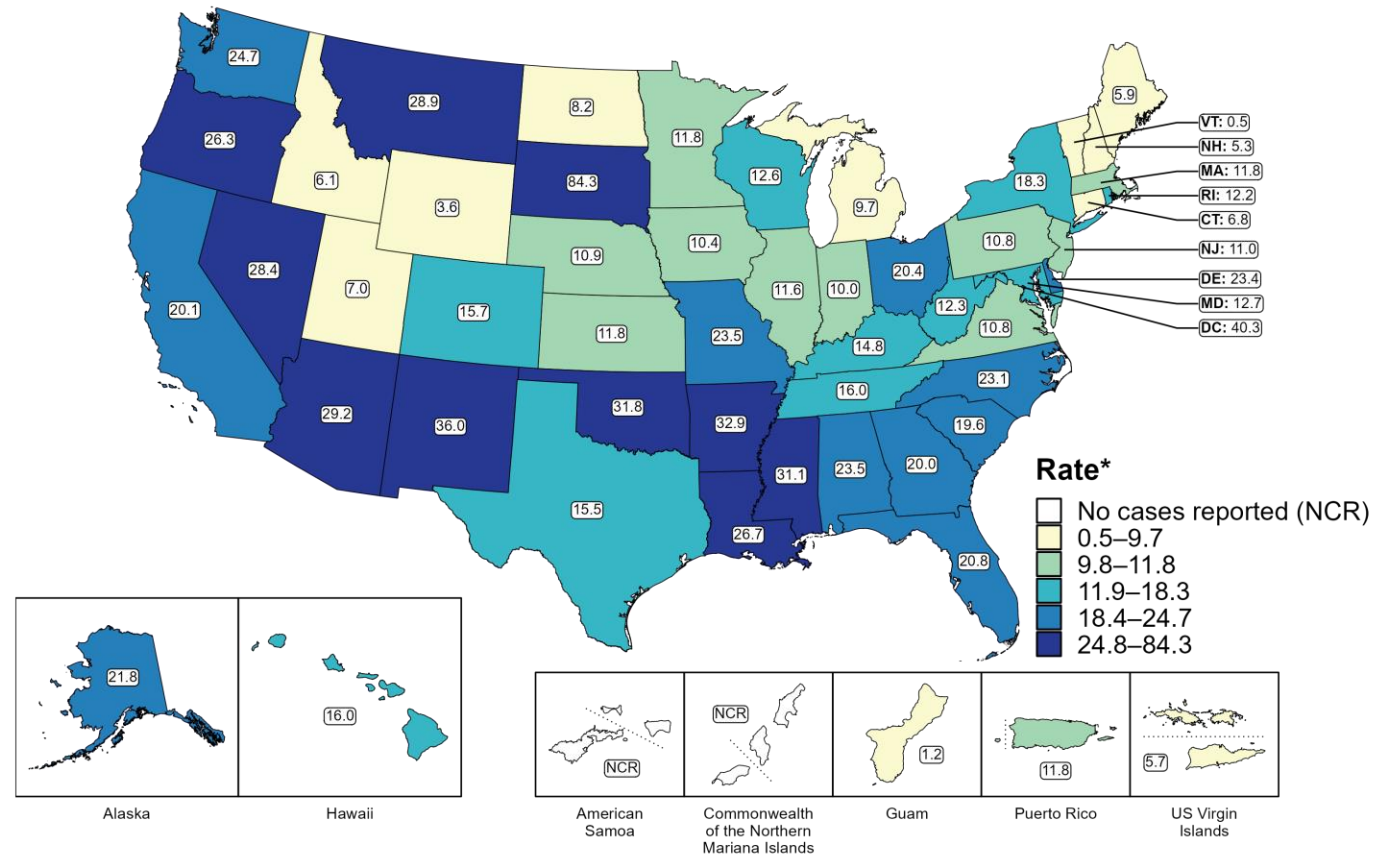
The West and the South Experience the Greatest Rates of Primary and Secondary Syphilis — Rates of Reported Cases by Region, United States, 2013–2022



* Per 100,000



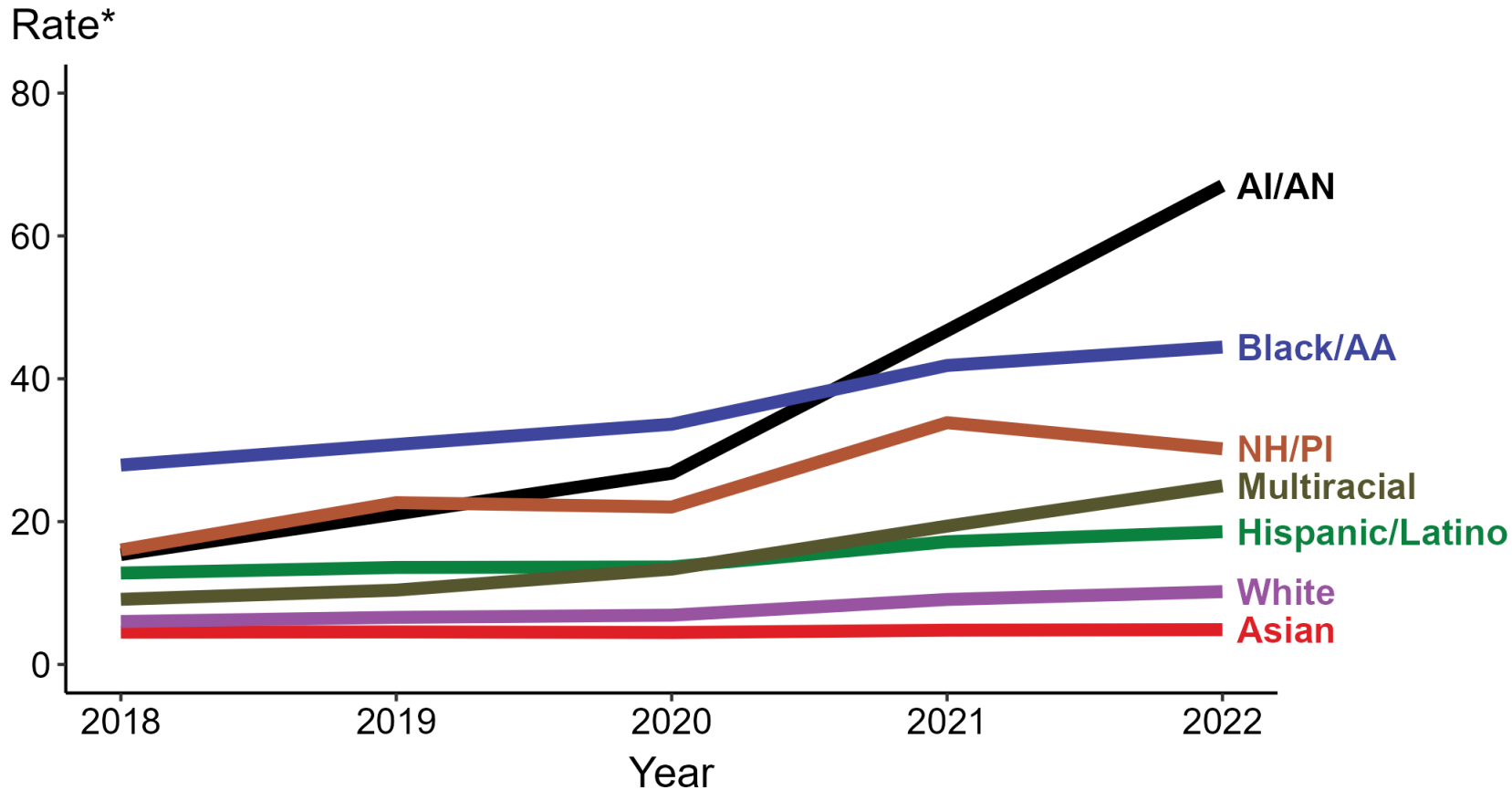
Primary and Secondary Syphilis — Rates of Reported Cases by Jurisdiction, United States and Territories, 2022



* Per 100,000



Racism Drives Inequities in Primary and Secondary Syphilis — Rates of Reported Cases by Race/Hispanic Ethnicity, United States, 2018–2022



AI/AN people experienced the greatest increase in the rate of primary and secondary syphilis.

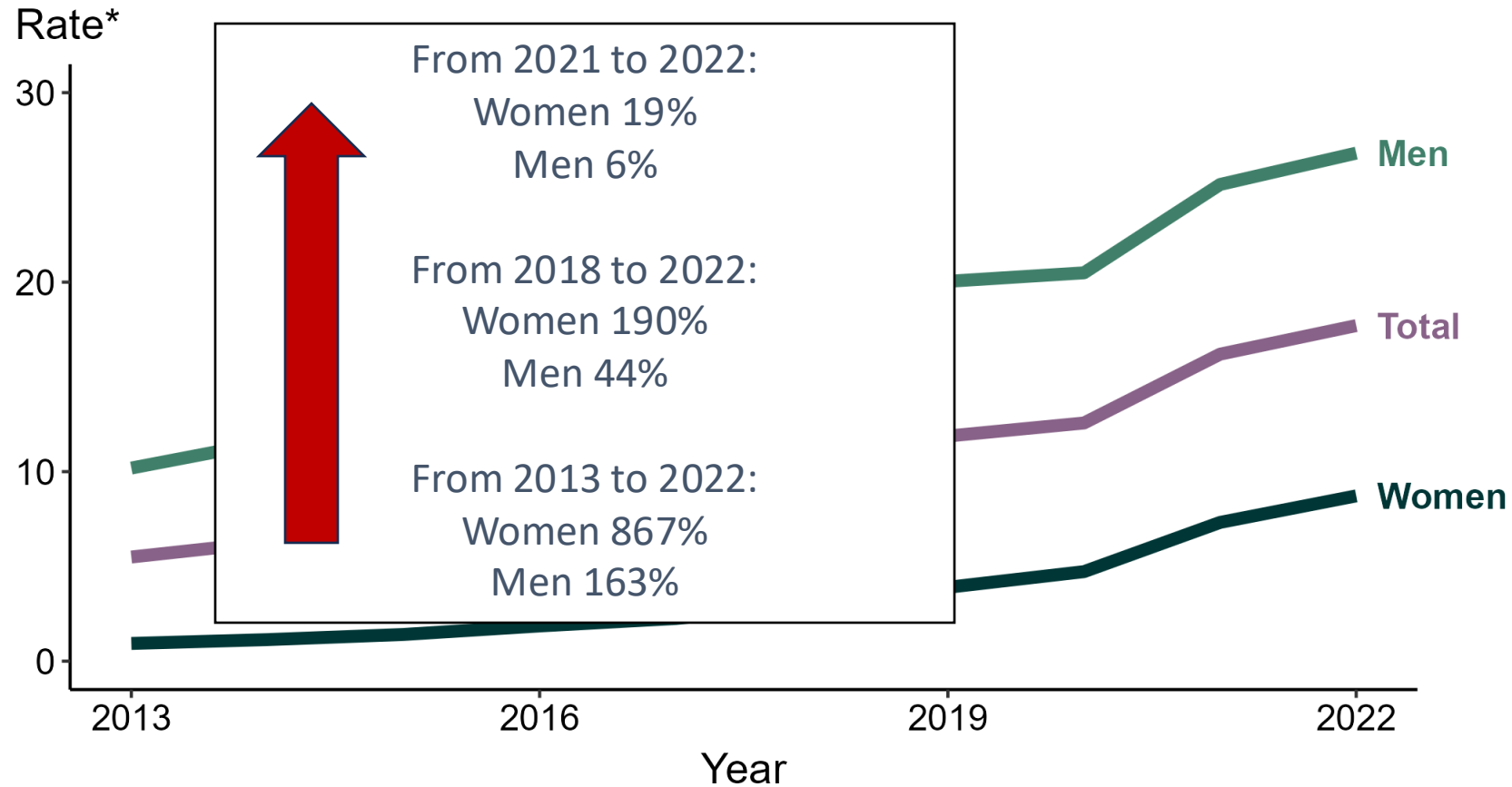
From 2021 to 2022: 44% ↑
 From 2018 to 2022: 335% ↑

* Per 100,000

ACRONYMS: AI/AN = American Indian or Alaska Native; Black/AA = Black or African American; NH/PI = Native Hawaiian or other Pacific Islander



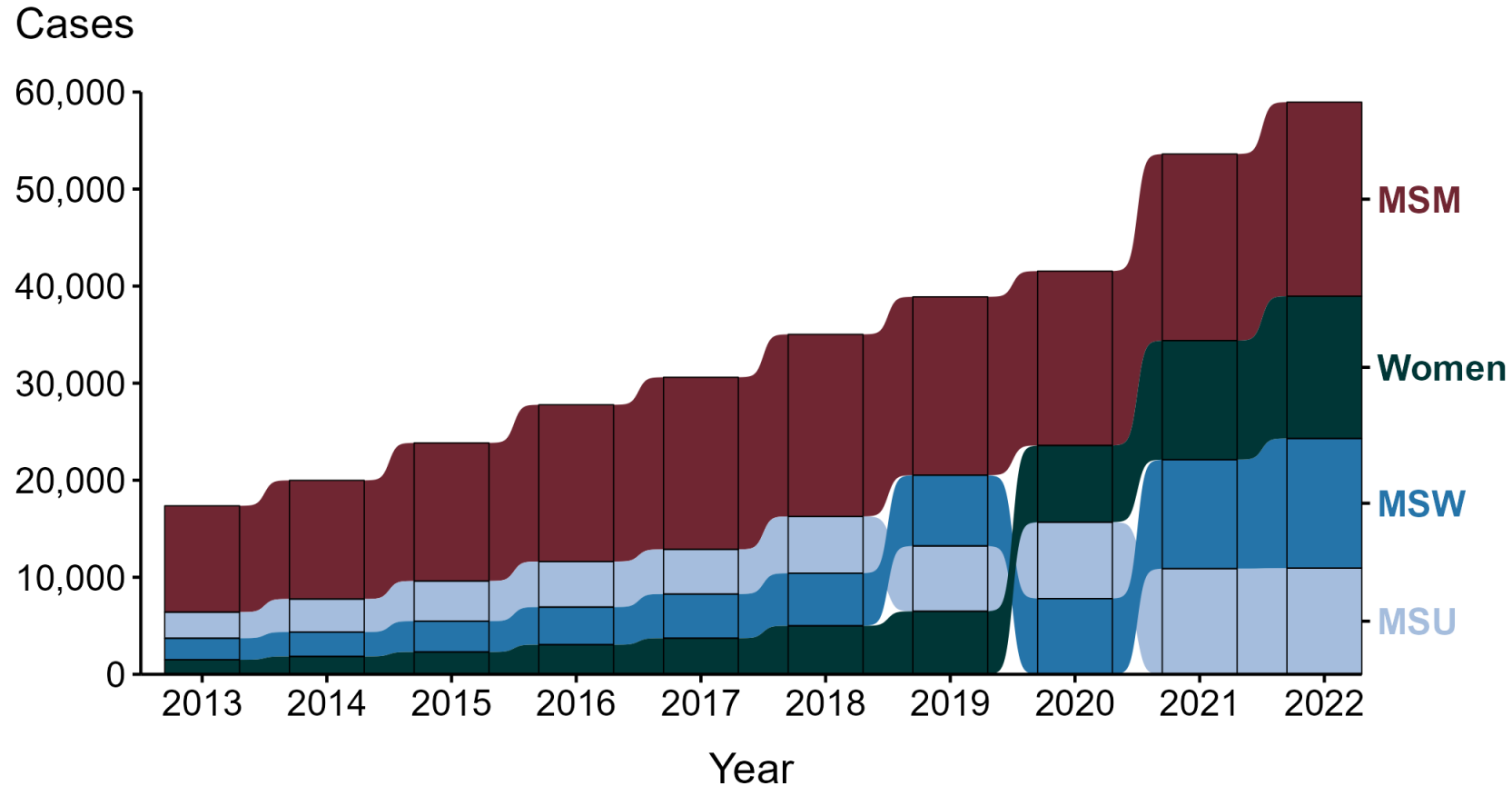
The Increase in Primary and Secondary Syphilis Is Affecting Women More than Men — Rates of Reported Cases by Sex, United States, 2013–2022



* Per 100,000



With a Recent, Rapid Rise in Primary and Secondary Syphilis Among Women — Reported Cases by Sex and Sex of Sex Partners, United States, 2013–2022

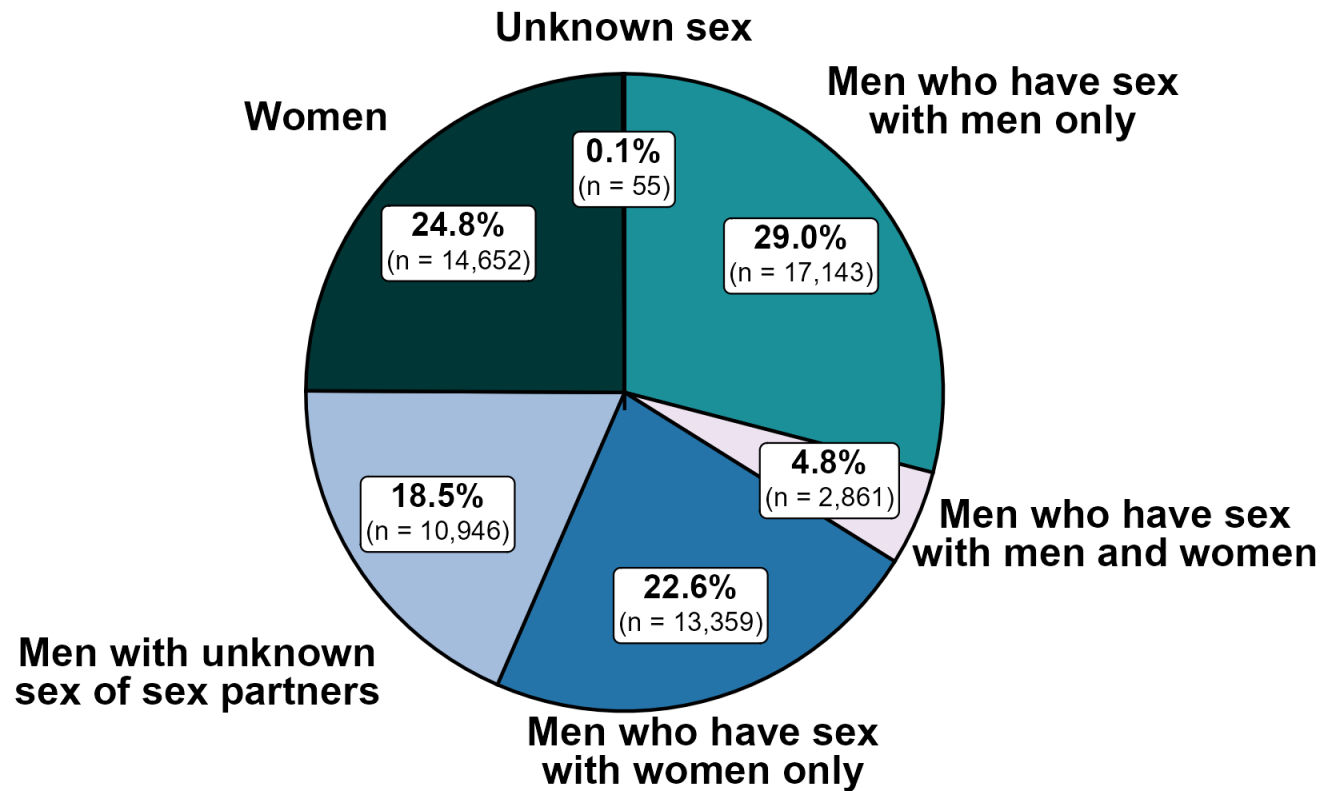


ACRONYMS: MSM = Men who have sex with men; MSU = Men with unknown sex of sex partners; MSW = Men who have sex with women only

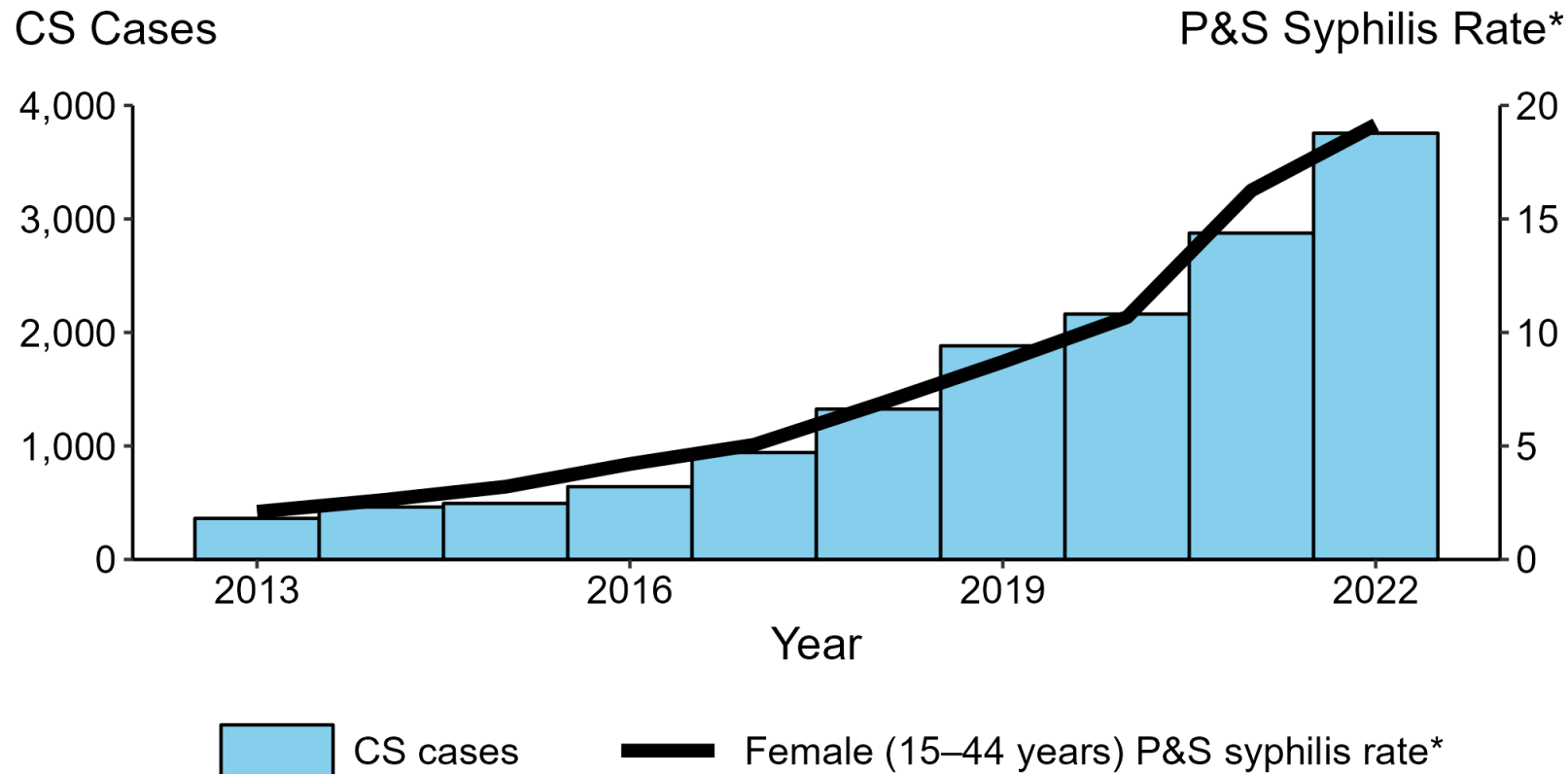


Such that Women Comprise 25% of all Primary and Secondary Syphilis — Distribution of Cases by Sex and Sex of Sex Partners, United States, 2022

Women + MSW + MSWM = 52.2% of cases



As a Consequence, Congenital Syphilis is Up Dramatically — Reported Cases by Year of Birth and Rates of Reported Cases of Primary and Secondary Syphilis Among Women Aged 15–44 Years, United States, 2013–2022

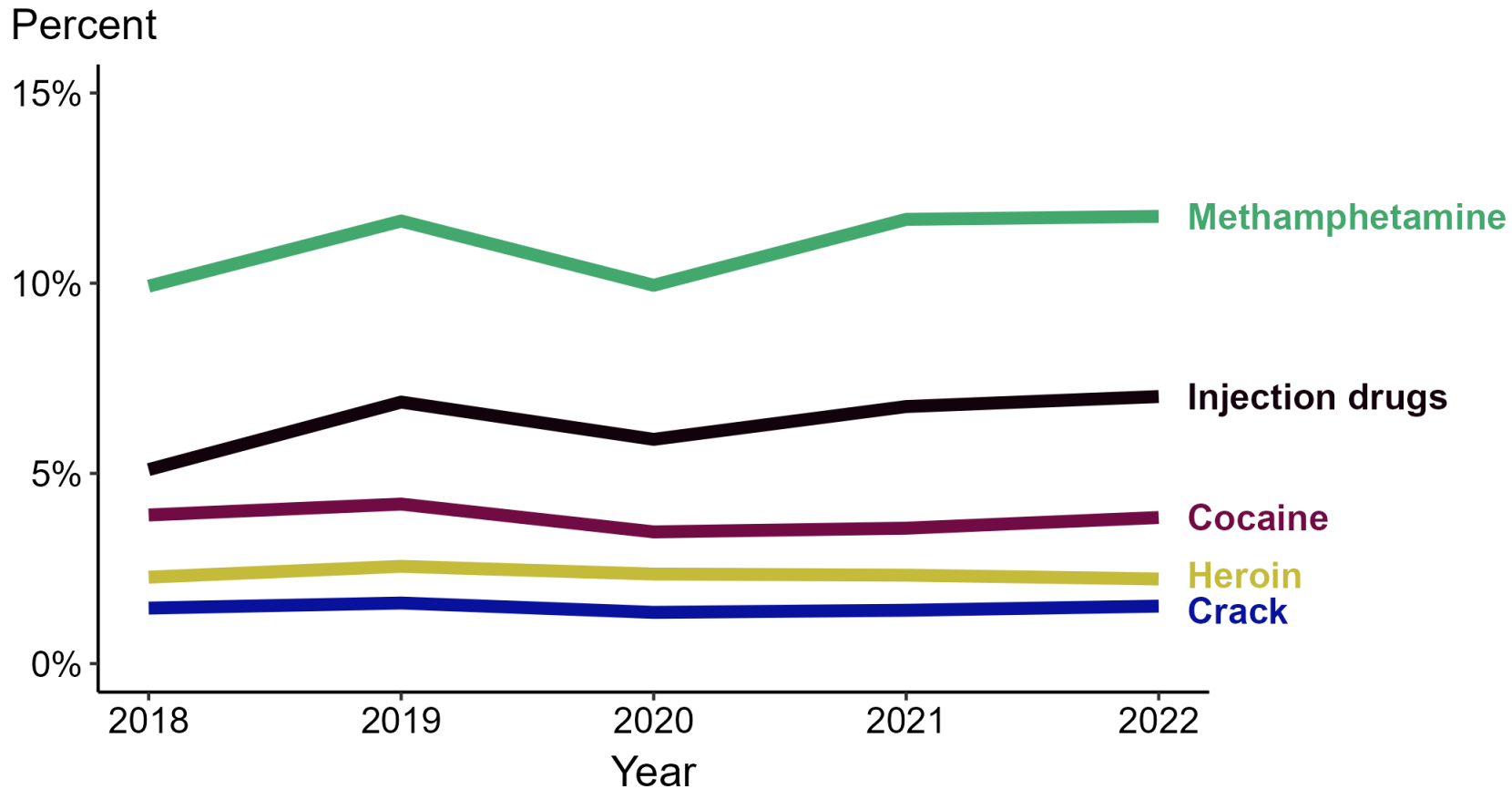


* Per 100,000

ACRONYMS: CS = Congenital syphilis; P&S Syphilis = Primary and secondary syphilis



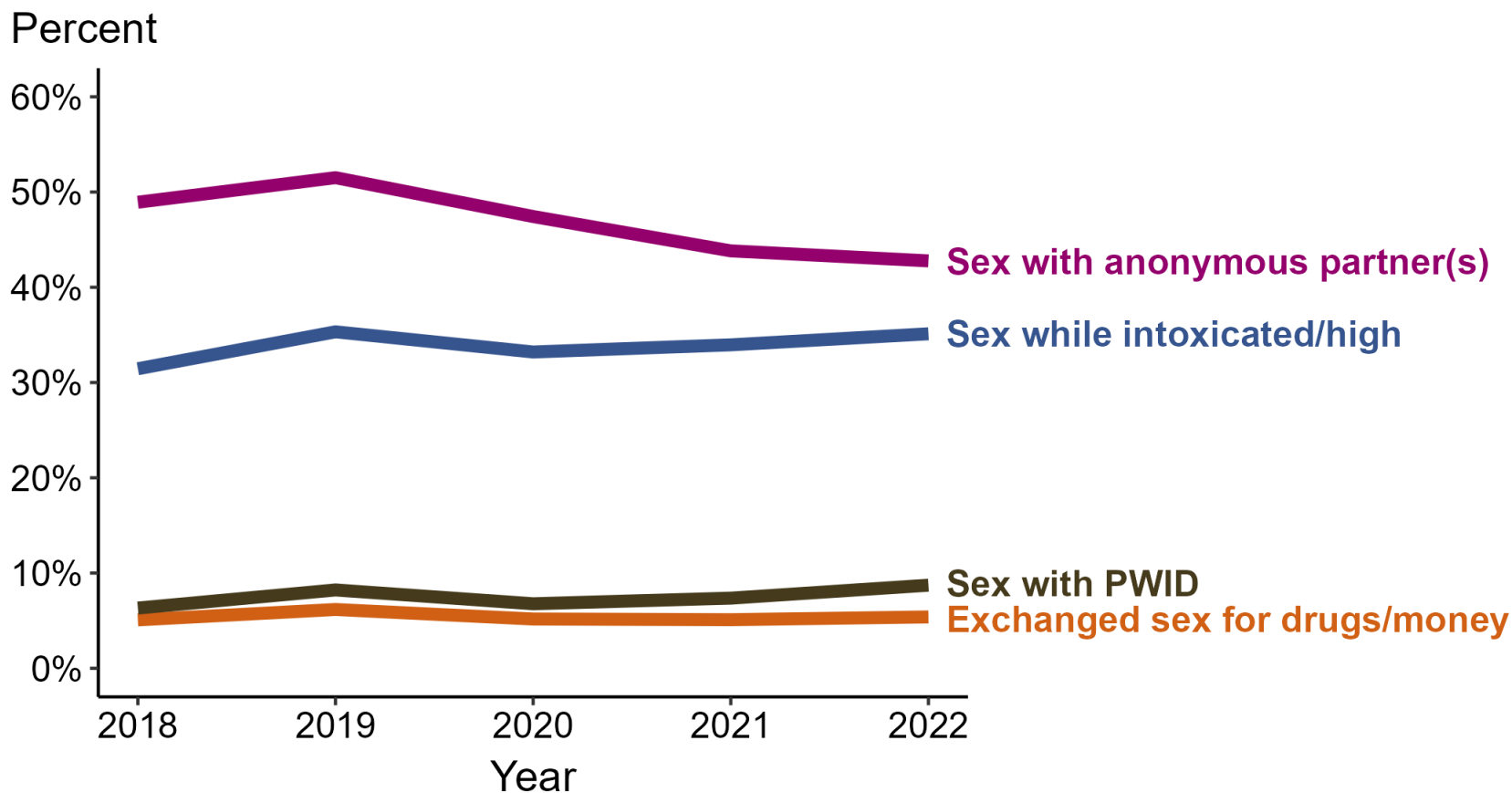
Primary and Secondary Syphilis — Percentage of Cases Reporting Selected Substance Use Behaviors*, United States, 2018–2022



* Proportion reporting injection drug use, methamphetamine use, heroin use, crack use, or cocaine use within the last 12 months calculated among cases with known data (cases with missing or unknown responses were excluded from the denominator).



Primary and Secondary Syphilis — Percentage of Cases Reporting Selected Sexual Behaviors*, United States, 2018–2022

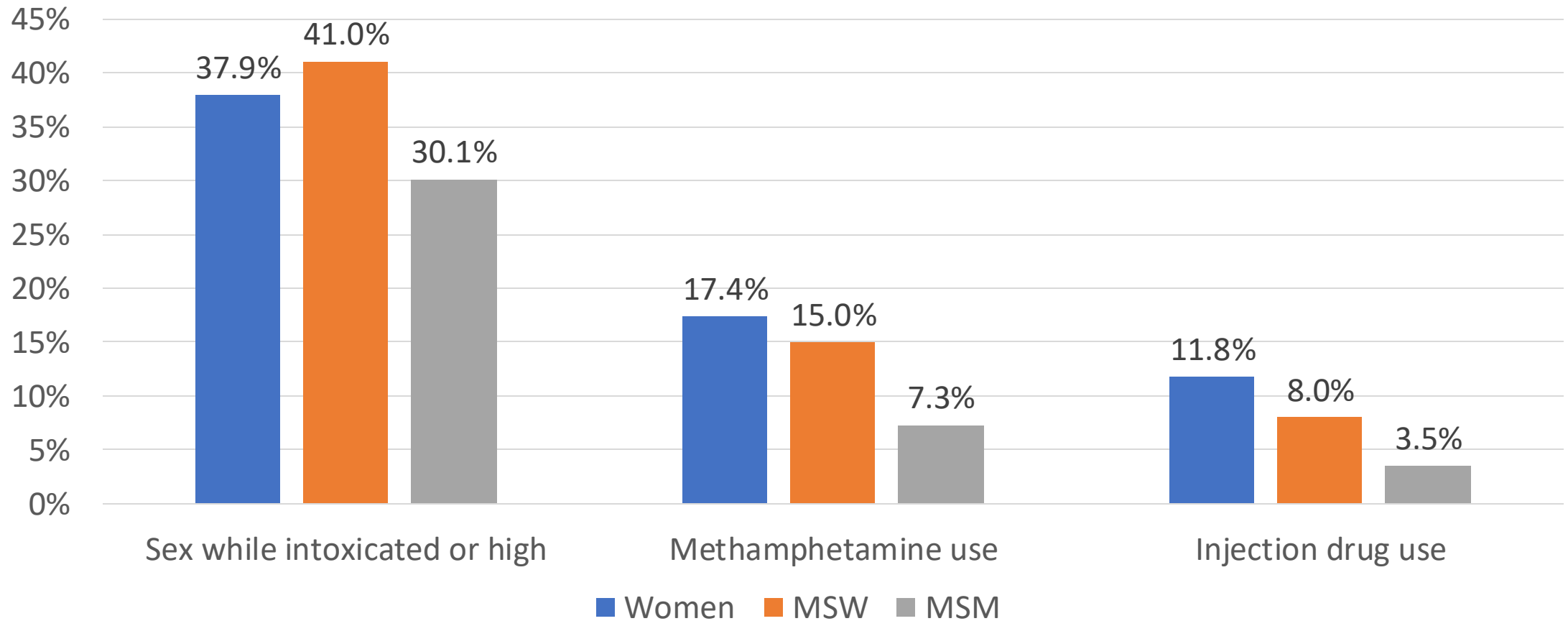


* Proportion reporting sex with PWID, sex with anonymous partners, sex while intoxicated/high on drugs, or exchanging drugs or money for sex within the last 12 months calculated among cases with known data (cases with missing or unknown responses were excluded from the denominator).

ACRONYMS: PWID = Person who injects drugs



Substance use among people diagnosed with primary and secondary syphilis in the U.S., 2022



Sexualized drug use (chemsex, PnP)

- Refers to drug use before or during sex
- Can be used to
 - Enhance the sexual experience
 - Expand sexual boundaries
 - Increase a sense of connection, intimacy
 - Increase sexual confidence, energy
 - Reduce intrusive thoughts or feelings during sex
 - Cope with negative experiences, trauma
- Outside of Europe, data is sparse, especially among women
- Communities most impacted include gay, bisexual, and other men who have sex with men, sex workers

Sexualized drug use: commonly used drugs

Crystal
methamphetamine

Gamma
hydroxybutyrate
(GHB)/gamma
butyrolactone (GBL)

Alkyl nitrites
(poppers)

Ketamine

MDMA

Mephedrone

Sexualized drug use: routes of administration

Slamming

- Fastest onset, most intense effect
- Injection-related risks

Smoking

- Quick onset
- Smoking supplies often reused, burns are common

Snorting

- More gradual effect compared to slamming and smoking
- Ketamine, cocaine > crystal

Ingestion

- GHB/GBL, mephedrone
- Keeping track of timing and dosing is important

Nasal insufflation

- Poppers (do not drink, can burn the skin)

Booty bumping

- Gradual but substantial absorption through mucosal capillaries; may lead to overdose/overamping

Sexualized drug use: (some) harm reduction strategies

- Set and discuss personal guidelines and boundaries before using
- Note timing of intake to avoid stacking doses
- Adhere to a maximum time, dose per occasion
- Use test doses, avoid using multiple substance at the same time
- Use only sterile syringes, needles, and works
- Set timers to take breaks, eat, and hydrate
- Schedule a session at the start of a weekend to allow recovery before the work week
- Stick to a regular sexual network
- Make time for medical check-ups and regular testing
- Work in taking PrEP, HIV meds, doxyPEP
- Clean teeth and gums

Sexualized drug use is associated with STI, HCV, and HIV acquisition

[Guerra et al. Drug Alcohol Depend, 2020.](#)

- Meta-analysis of 19 English-language studies from Europe and North America

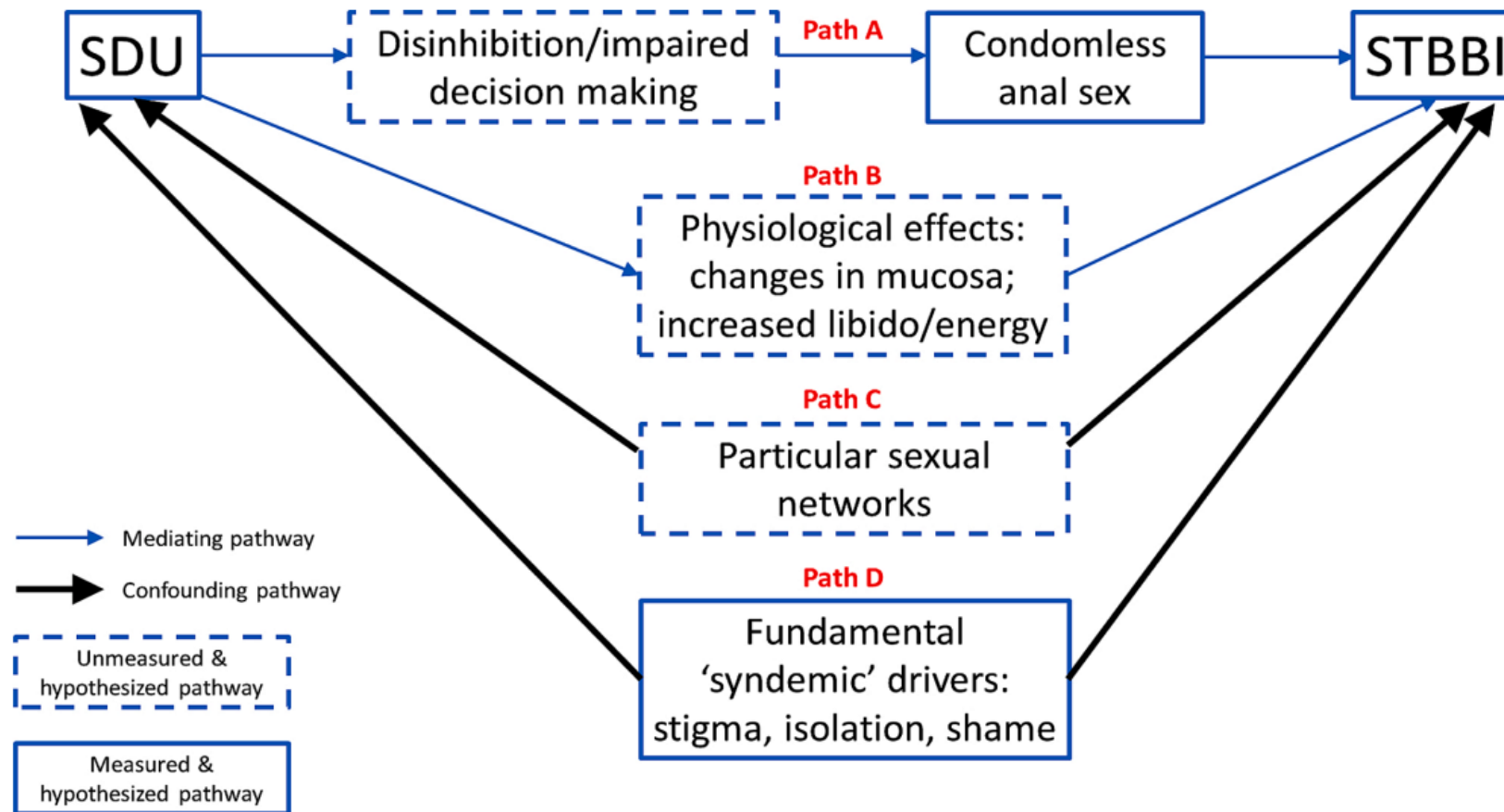
Outcome	Adjusted odds ratio	95% confidence interval
Bacterial STI (GC, CT, syphilis)	2.17	1.51, 3.14
HCV	6.07	2.46, 15.0
HIV	3.02	0.96, 9.53

- Methamphetamine use is consistently associated with not sticking with an HIV treatment plan and lower rates of viral suppression
- Data are mixed regarding the effects of chemsex on PrEP adherence

Potential pathways between sexualized drug use and STI, HCV, HIV

[Guerra et al. Drug Alcohol Depend, 2020.](#)

Making sure to take ART, PrEP, doxyPEP
Healthcare



HIV/STI acquisition among adolescents and young adults with psychiatric disorders in Taiwan

	Control group HIV/STI prevalence	HIV/STI prevalence among those with condition of interest	Adjusted HR (95%CI)
Depression ¹	2.3%	5.0%	1.54 (1.34, 1.76)
Schizophrenia ²	1.3%	3.0%	2.35 (2.08, 2.64)
Bipolar depression ³	1.1%	4.6%	4.11 (3.62, 4.66)
Borderline personality disorder ⁴	1.05%	91.0%	50.8 (33.5, 77.1)

¹[Huang et al. Medicine \(Baltimore\), 2018.](#)

²[Liang et al. Schizophrenia Bulletin, 2020.](#)

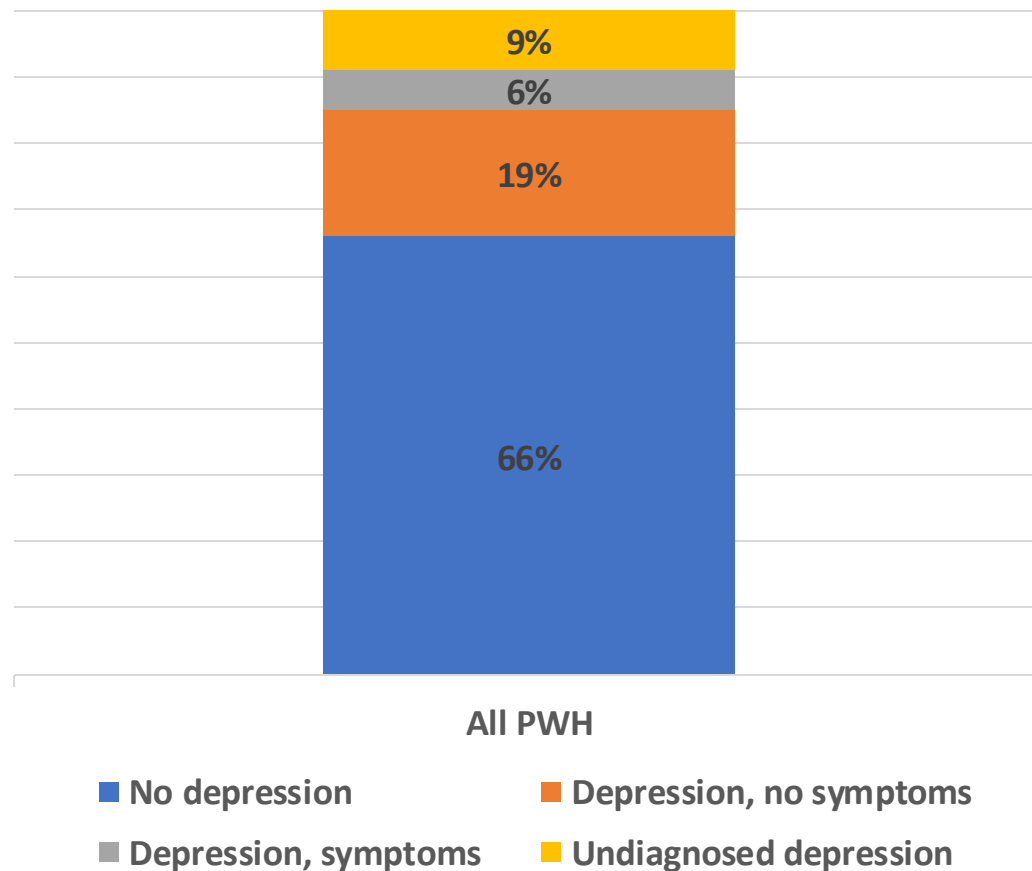
³[Chen et al. J Clin Psychiatry, 2019.](#)

⁴[Chang et al. Eur Child Adolesc Psychiatry, 2024.](#)

- Large national registry studies
- Co-morbid AUD, SUD increased risk
- STI acquisition earlier among those with condition of interest
- Among those with BPAD, longer duration of medication use reduced risk

Among people living with HIV in the United States, 34% experience depression (by symptoms or by diagnosis)

[Beer et al. AIDS Pt Care STDS, 2024.](#)



- Depression was greater among:
 - Women (cis and trans)
 - People experiencing poverty, houselessness, food insecurity, unemployment
 - People with recent and lifetime experiences of IPV, sexual violence
 - People who report greater discrimination in healthcare settings
 - People who report greater HIV-related stigma

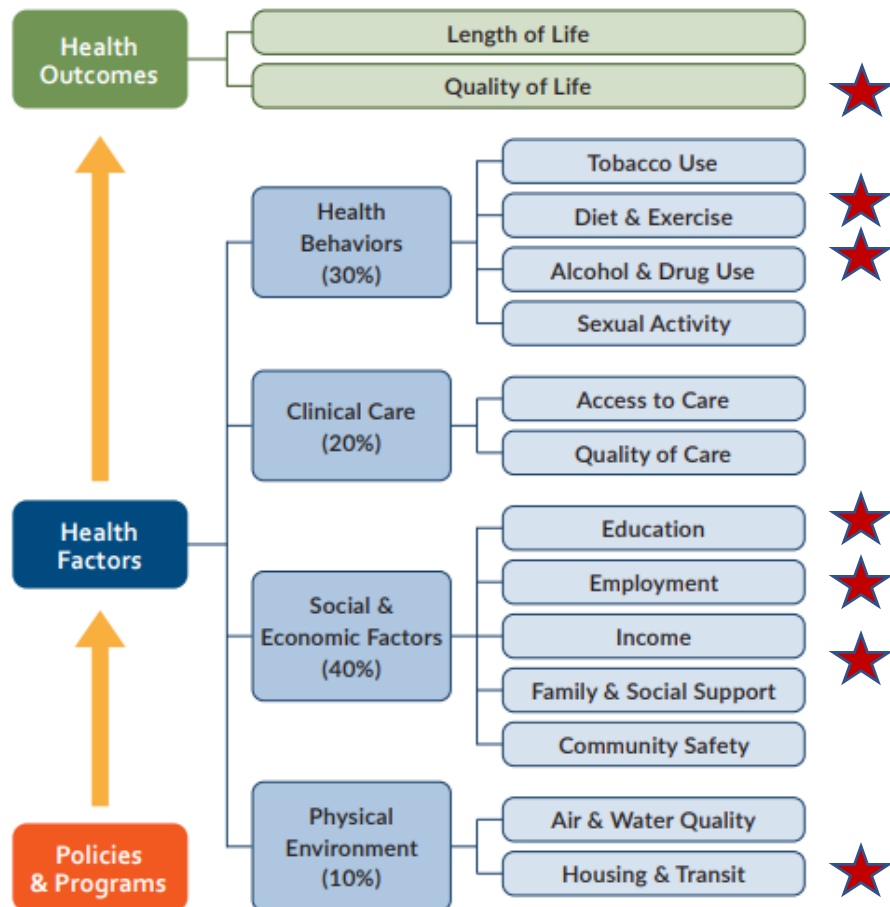
Compared to people with depression and no current symptoms, PWH with

[Beer et al. AIDS Pt Care STDS, 2024.](#)

	Undiagnosed depression	Symptomatic depression
Had an ART prescription	↓ 24%	↔
Took 100% of ART in last 30 days	↓ 12%	↓ 23%
Had an undetectable viral load	↓ 28%	↓ 9%
Missed HIV care visits	↑ 25%	↑ 53%
Prescription for an antidepressant	↓ 68%	↑ 27%
Received services from a mental health professional	↓ 23%	↔
Had an unmet need for services from a mental health professional	↑ 138%	↑ 103%

Analysis of individual- and county-level predictors of CS, Oregon, 2013-2021

County Health Rankings Model

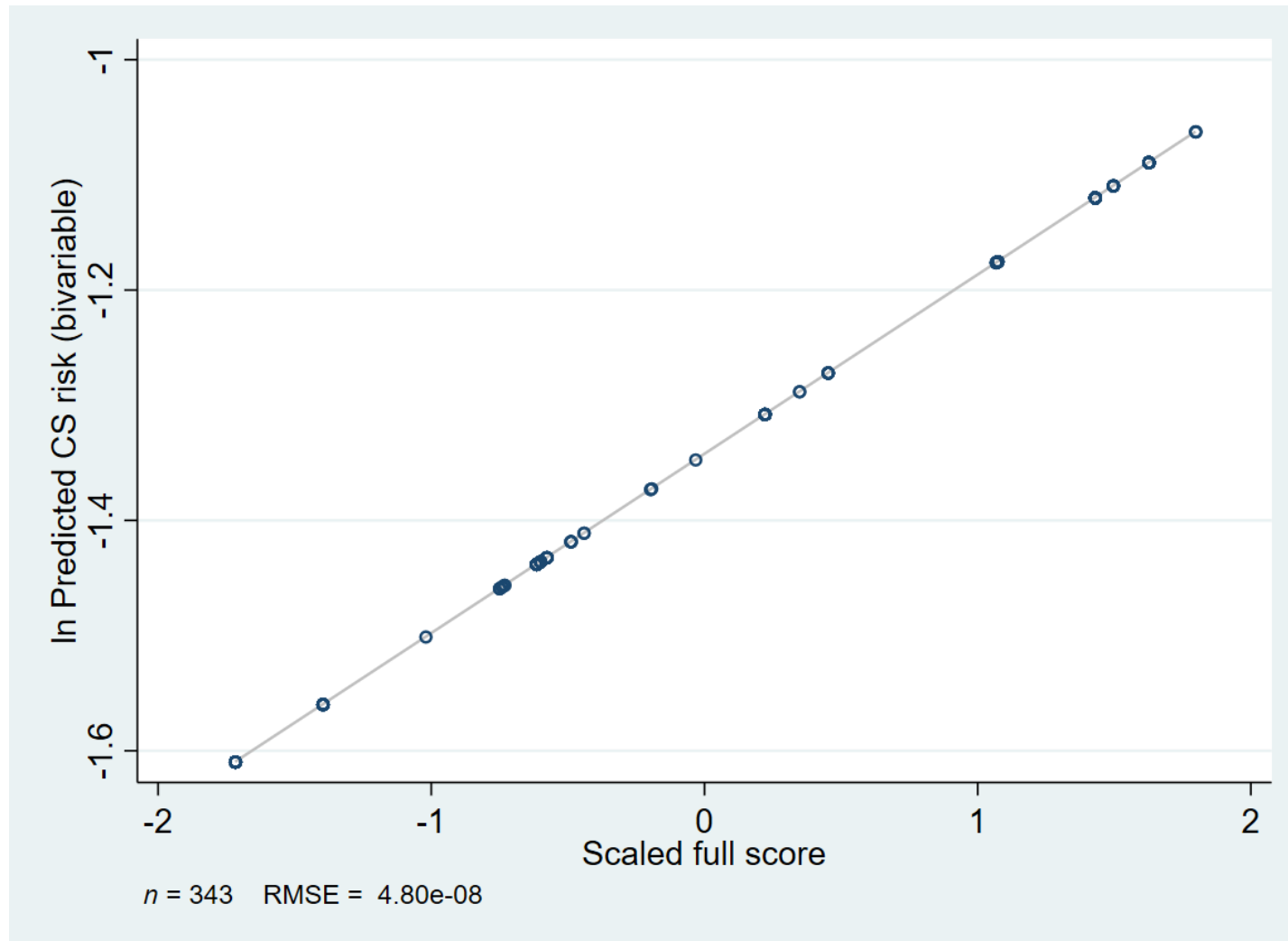


- Quality of life
 - Mental health
- Health behaviors
 - Food insecurity
 - Methamphetamine overdose
- Social and economic factors
 - Unemployment
 - Poverty, income inequality
 - Adverse childhood experiences
 - Violent crime
- Physical environment
 - Houselessness

County-level socioeconomic and behavioral health challenges

County-level metric	Source	Year
Average number of poor mental health days	BRFSS	2020
% food insecurity	Map the Meal Gap	2020
Methamphetamine overdose death rate	OHA Overdose Dashboard	2019
% unemployed	Bureau of Labor Statistics	2020
% population in poverty	ACS 5-Year Estimates	2016-2020
Income inequality ratio	ACS 5-Year Estimates	2016-2020
% population with at least 1 adverse childhood experience	BRFSS	2017-2021
Violent crime rate	FBI Crime Data	2014 & 2016
Houseless rate	Oregon PIT Count	2019

The risk of CS was greater in counties with greater socioeconomic/behavioral health challenges



County-level socioeconomic/behavioral challenges, injection drug use, and corrections involvement increase the risk of CS

	Multivariable* RR (95%CI)	Population attributable fraction
Socioeconomic/behavioral health challenges	1.22 (1.04, 1.43)	19%
Injection drug use, ever	1.88 (1.32, 2.68)	20%
Corrections involvement, ever	1.43 (1.10, 1.87)	17%

*Multivariable models also include age, race, time period, gonorrhea diagnosis in prior 2 years
CI, confidence interval; RR, risk ratio

Psychiatric presentations of syphilis

[Kaur & Khanna. Cureus, 2023.](#)

[Lin et al. J Neuropsychiatry Clin Neurosci, 2014.](#)

- Neurocognitive impairment
- Personality changes
- Mood disorders
- Psychosis
- Rare
 - Capgras syndrome: a family member has been replaced by an identical imposter
 - Geschwind syndrome: hyper religiosity and hypergraphia

TABLE 2. Neurologic and Psychiatric Symptoms from 52 NS Patients with Psychiatric Manifestations

Symptoms	Cases (percentages)	Male	Female
Cognitive impairment	34 (65.4)	28	6
Personality disorders	28 (53.9)	23	5
Delirium	25 (48.1)	18	7
Hostility	10 (19.2)	10	0
Dysarthria ^a	10 (19.2)	9	1
Confusion	9 (17.3)	5	4
Disruption of sleep–wake cycle	8 (15.4)	7	1
Incontinence of feces and urine ^a	7 (13.5)	6	1
Dysphoria	5 (9.6)	5	0
Paranoia	3 (5.8)	2	1
Hallucinations	2 (3.9)	1	1
Expansive mood	2 (3.9)	1	1
Mania	1(1.9)	0	1

^aIndicates neurological symptoms.

Opt-out universal screening recommendations for HIV and Hepatitis C

Population	Recommendation	Grade
Pregnant persons	The USPSTF recommends that clinicians screen for HIV infection in all pregnant persons, including those who present in labor or at delivery whose HIV status is unknown.	A
Adolescents and adults aged 15 to 65 years	The USPSTF recommends that clinicians screen for HIV infection in adolescents and adults aged 15 to 65 years. Younger adolescents and older adults who are at increased risk of infection should also be screened. See the Clinical Considerations section for more information about assessment of risk, screening intervals, and rescreening in pregnancy.	A

Population	Recommendation	Grade
Adults aged 18 to 79 years	The USPSTF recommends screening for hepatitis C virus (HCV) infection in adults aged 18 to 79 years.	B

Screening and Testing for Hepatitis B Virus Infection: CDC Recommendations — United States, 2023

▪ **Universal hepatitis B screening:**

- Hepatitis B screening at least once in a lifetime for adults ≥ 18 years. [\[New recommendation\]](#)

▪ **Screening pregnant persons**

- Hepatitis B screening for all pregnant people during each pregnancy, preferably in the first trimester, regardless of vaccination status or history of testing (Schillie et al. 2018).
- Pregnant adults aged ≥ 18 years should be screened with the 3-test panel unless they have received screening with the 3-test panel in the past [\[New recommendation\]](#).
- Adults with a history of 3-test panel screening and without subsequent risk can be tested for only HBsAg during pregnancy.

▪ **Risk-based testing**

- Testing for all individuals with a history of increased risk for HBV infection, regardless of age, if they were susceptible during the period of increased risk.
- Periodic testing for susceptible persons, regardless of age, with ongoing risk for exposure(s), while risk for exposures(s) persist. Offer testing if the risk for exposure occurred after previous HBV tests and while the person was susceptible.

National syphilis screening recommendations

USPSTF, 2022 (Grade A)

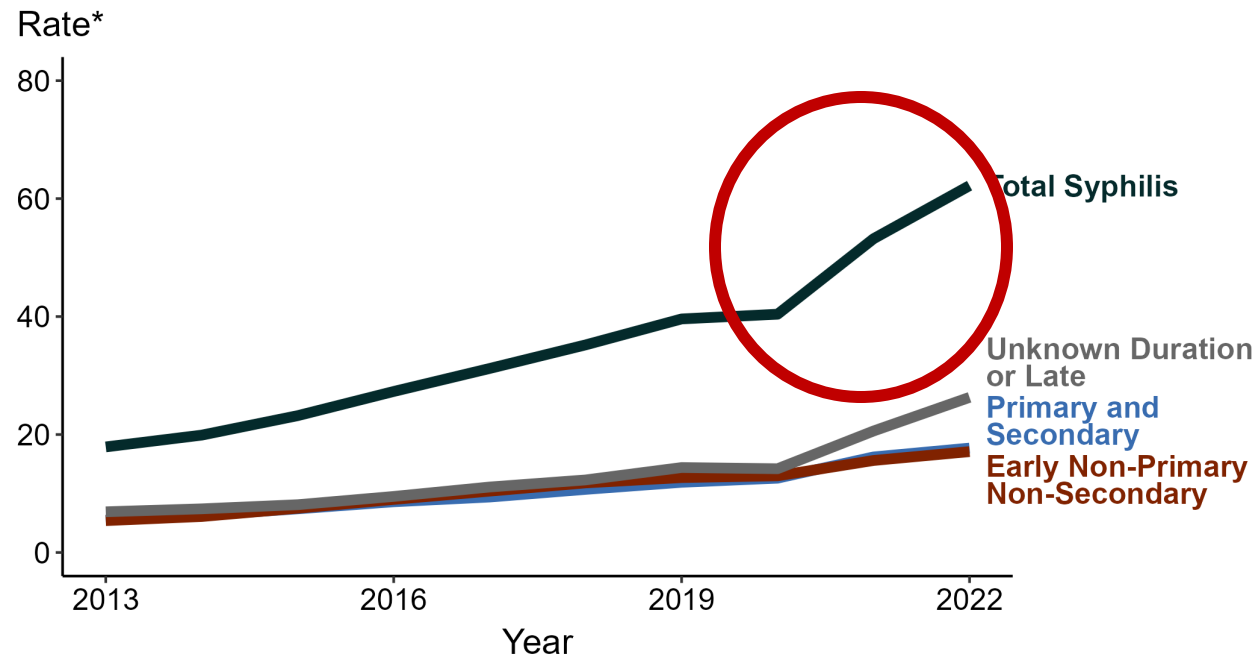
- Screen adolescents and adults who have ever been sexually active and are at “increased risk”

Indications for screening		
Gay, bisexual, other men who have sex with men	Incarceration	Prior STI
PLWH	Trade sex	Unstable housing
Young adults	Substance use (methamphetamine)	High community prevalence of STI

- Optimal timing is not specified
 - Exception: gay, bisexual, and other men who have sex with men (MSM) and people living with HIV (annually or more frequently)

Getting with the times: universal screening

- **All sexually active individuals ≤ 45 years of age should be screened at least once if not screened since 1/1/2021.**



Getting with the times: indications for annual or more frequent testing

Individual-level	Partner-level	Community/clinic-level
Multiple sex partners (>1) in the prior year	Multiple sex partners	High prevalence geographies
New sex partner since last test	Men who have sex with men	School-based health centers
GC, CT, syphilis diagnosis in the prior 2 years	Methamphetamine or fentanyl use by any route	Sexual health clinics
History of HCV infection	Injection drug use	Correctional facilities
Methamphetamine or fentanyl use by any route	Transactional sex	Substance disorder treatment facilities
Injection drug use	Criminal justice involvement	Emergency departments
Transactional sex	Houselessness	
Criminal justice involvement		
Houselessness		
PrEP use		

Recommendations for syphilis screening in pregnancy: [PHSKC](#) and [ACOG](#)

- Screen at first presentation to prenatal care
- Screen in early third trimester (24-28 weeks)
 - Bundle with glucose tolerance testing
 - Can detect seroconversion during pregnancy or re-infection
 - Allows enough time to arrange for treatment if reactive
- Screen at delivery
- Screen in the event of a fetal demise > 20 weeks

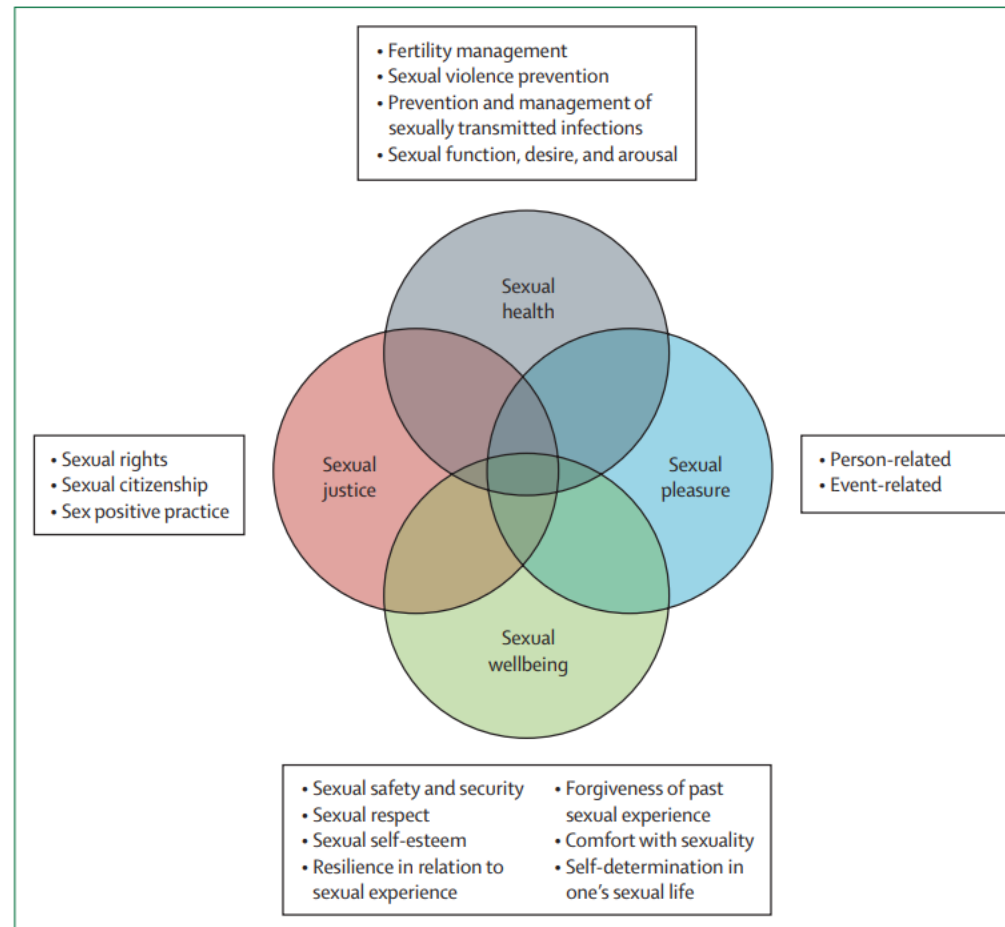
Additional screening recommendations in pregnancy

- **Every visit is a prenatal visit.** Screen pregnant patients with no/limited/unknown prenatal care when they present to:
 - Emergency departments or urgent care clinics
 - Carceral settings
 - Substance use disorder treatment or drug user health programs
 - OB triage
- Screen for infections that may co-occur with syphilis, including HIV, hepatitis B and hepatitis C

HIV/STI prevention is an important (and small) part of sexuality

[Mitchell et al. Lancet Public Health, 2021.](#)

Promote sexual pleasure in law and policy as a fundamental part of sexual wellbeing, grounded in the principles of sexual rights as human rights



“...the physical and/or psychological satisfaction and enjoyment derived from shared or solitary erotic experiences, including thoughts, fantasies, dreams, emotions, and feelings.”

Figure: Four pillars of comprehensive public health focused inquiry and intervention in relation to sexuality

Incorporating HIV/STI prevention into behavioral health practices: talking about sex

- Get comfortable talking about sex and sexual practices
- Avoid stigmatizing language
- Don't be vague or use euphemism
- Counter misinformation
- Listen to what your patients tell you about their experiences without giving your opinion or judgement
- Find a balance between humor and seriousness
- Contextualize and be curious
- Keep learning

Incorporating HIV/STI prevention into behavioral health practices: taking a sex-positive approach



- Aims to improve the quality of [sexual] relationships and promote empowerment and consensual sexual interactions
- Is “an attitude that celebrates sexuality as a part of life that can enhance happiness”
- Is inclusive of and celebrates all bodies, genders, sexualities, and practices
- Affirms freedom of sexual expression, sexual consent, bodily autonomy, integrity and privacy
- Is trauma-informed and facilitates healing from prior [sexual] trauma

In practice, being sex positive might look like

My most pleasurable sexual experience was...

Consider the following:

Who were you with?

e.g. By yourself, your partner, a stranger?

Where were you?

e.g. On a day off, a beach, the kitchen table.

What other things made it so memorable?

e.g. We talked all night!

Was the experience part of something else?

e.g. Honeymoon, holiday fling.

What happened?

e.g. They looked so hot at the bus stop I couldn't stop looking over...

- Asking permission to talk about sex
- Creating a safe environment
- Choosing a good moment to talk about sex and pleasure
- Sharing research on how sexual wellbeing is salubrious
- Asking about ideal experiences
- Leading with pleasure (over risk)

Rules of thumb to discuss with patients

[Dr. Milton Diamond](#)

CONSENT



Freely Given
Reversible
Informed
Enthusiastic
Specific

 Planned Parenthood®

- Be kind to each other. Treat the other person as a person and not only as a body.
- Give your partner pleasure and accept that the other person gives you pleasure.
- Do not assume it is “Yes” but always ask first and accept always when it is “No”.
- Tell the other person what you like and don’t like.
- Try to find a balance between lust, humor, seriousness, sensuality.

Use what you learn to make a plan

- Reflect information back to make sure you have it right
- Listen for information that might be helpful in creating a plan
- Suggest a course of action for information sharing, testing, prevention (HIV, STI, pregnancy), counseling, safety planning

Public health: support for when you have a patient who needs screening or treatment

- Provide consultation on HIV, syphilis
- Confidentially contact partners for treatment and testing
- Arrange for follow-up testing for patients and their partners
- Arrange for treatment at a public health clinic or in the field
- Get records from other jurisdictions
- Provide incentives to patients and partners for follow-up visits, testing, and treatment
- Address special needs, like housing, during treatment (especially for late/unknown duration syphilis in pregnancy)

Public health: support for when you have a patient who needs HIV treatment, PEP, PrEP, doxyPEP

- Linkage and re-linkage to HIV care
- Some may be able to rapid start or re-start ART
- Navigation services for HIV care, PEP, PrEP, doxyPEP
- Referrals to knowledgeable providers
- Incentives for follow-up
- Assistance with social determinants of health

Summary

- We are not meeting the goals to end the HIV epidemic in the United States
- Syphilis continues to increase in the United States, particularly among women and infants
- There are myriad connections between HIV, syphilis, substance use, and other behavioral health conditions
- Talking with patients about sex using a sex positive framework may help elucidate needs for HIV/STI testing, prevention and treatment all while leading with how sex is an affirming human experience
- Public health can support your patients in accessing testing, prevention and treatment

Thank you!