AT THE FOREFRONT
UChicago Medicine

Bringing the Testing to the Patients: **HIV & Syphilis Screening in the Emergency Department**

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UNIVERSITY OF CHICAGO MEDICINE

Disclosures

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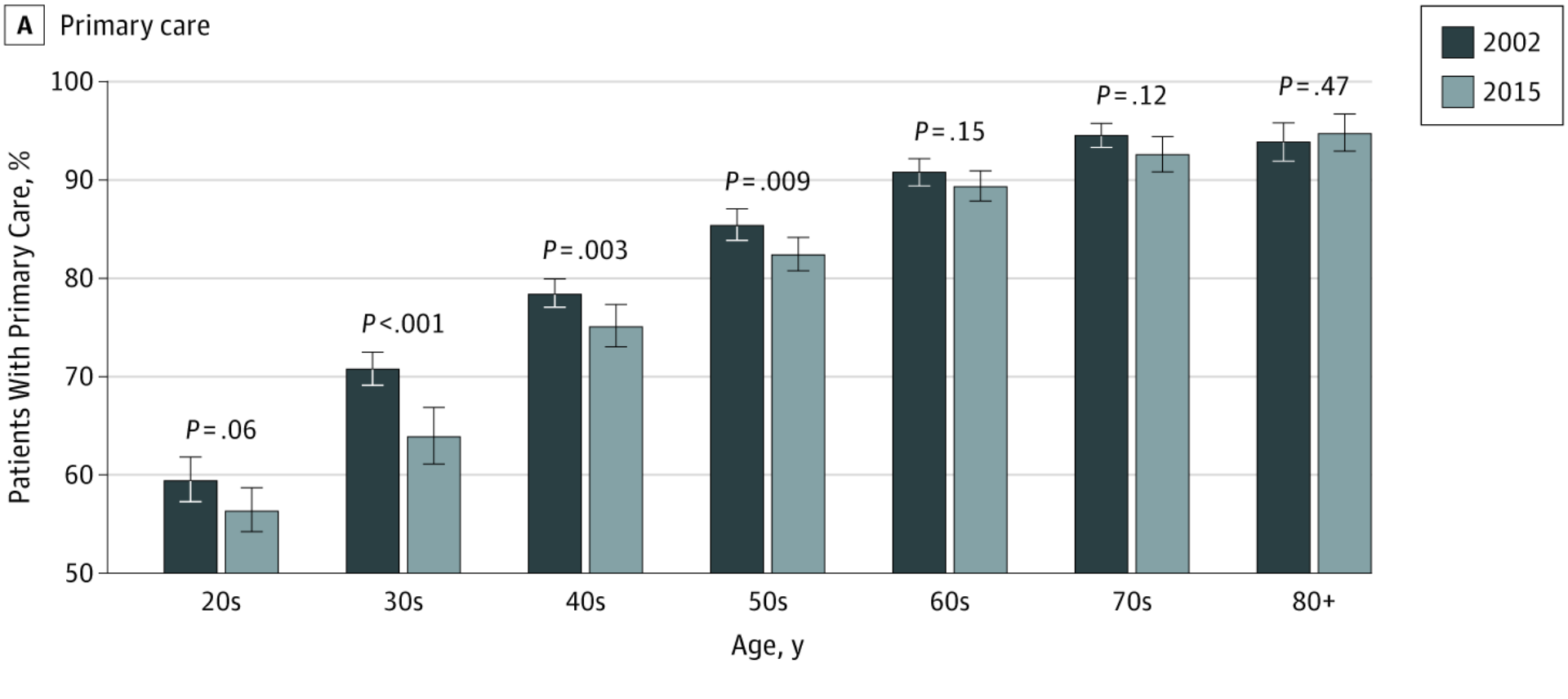
This continuing education activity is managed by The St. Louis STI/HIV Prevention Training Center and accredited by Missouri State Medical Association (MSMA) in cooperation with the Chicago Department of Public Health.

Why am I here?


THIS RIDE ONLY STOPS IN AN EMERGENCY.
CRYING IS NOT AN EMERGENCY

Nationally Representative Sample of Adult Americans With an Identified Source of Primary Care, 2002-2015, Americans with primary care, by age.



JAMA Intern Med. 2020;180(3):463-466. doi:10.1001/jamainternmed.2019.6282

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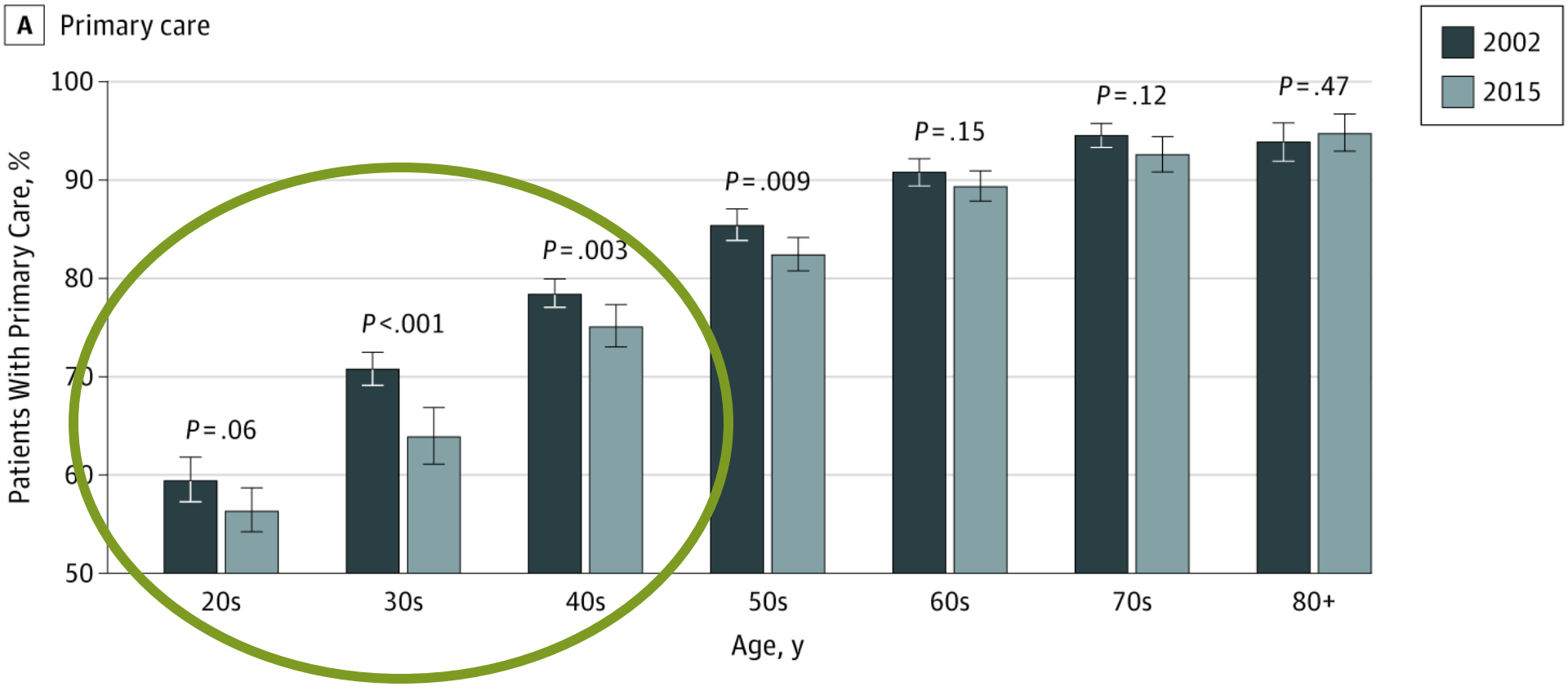

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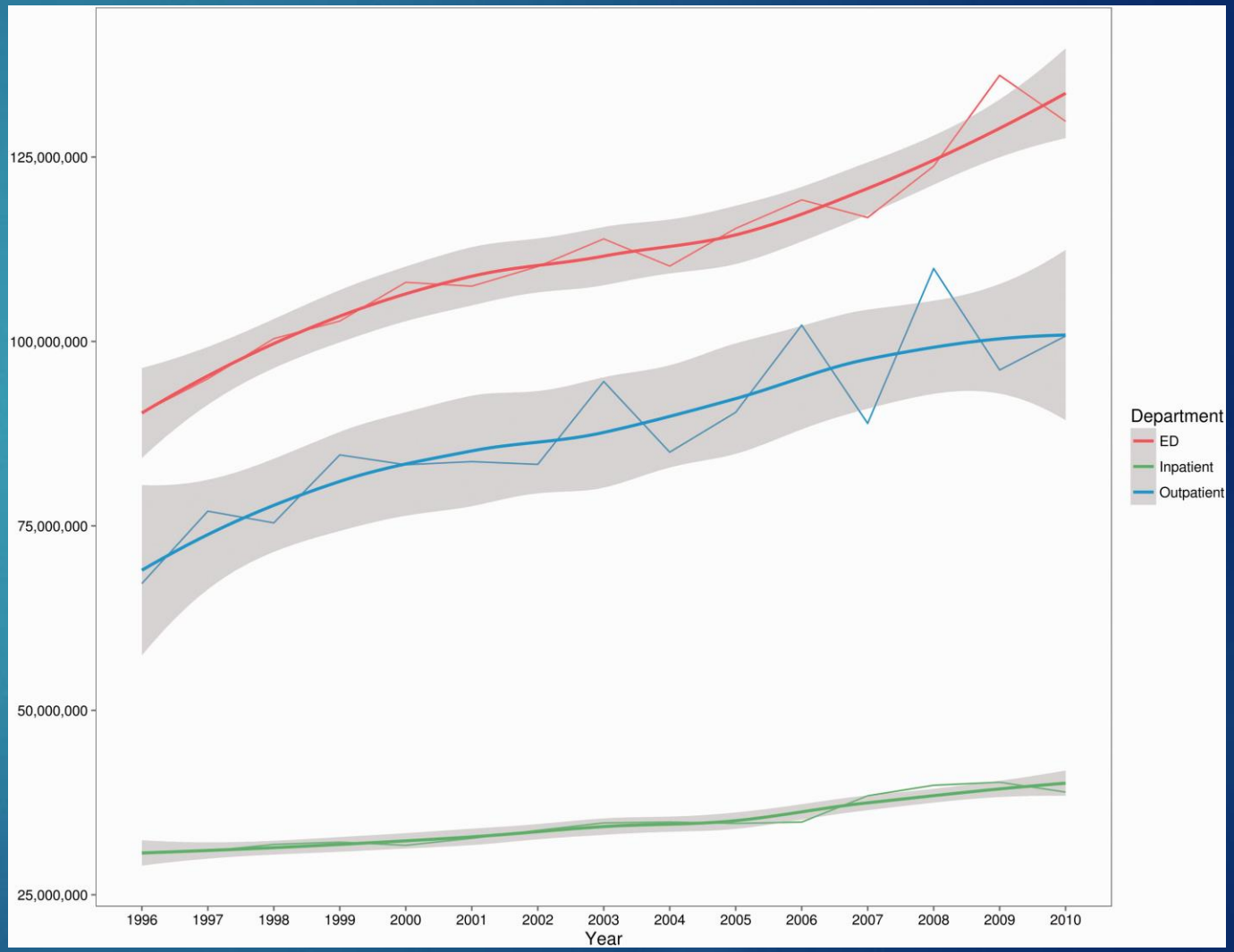
- As of 2010, 47.7% of medical care contacts are in the ED
- Medicare and Medicaid beneficiaries, racial and ethnic minorities, and women are disproportionately represented

The number of health care contacts as ED visits, use of outpatient resources, and hospitalizations from 1996-2010.



Marcozzi D, Carr B, Liferidge A, Baehr N, Browne B. Trends in the Contribution of Emergency Departments to the Provision of Hospital-Associated Health Care in the USA. International Journal of Health Services. 2018;48(2):267-288. doi:10.1177/0020731417734498

Why should the ED be a priority for HIV and STI screening?

- The most vulnerable patients increasingly get their care primarily in the ED.
- Patients are often not screened elsewhere, even if they attend outpatient care.

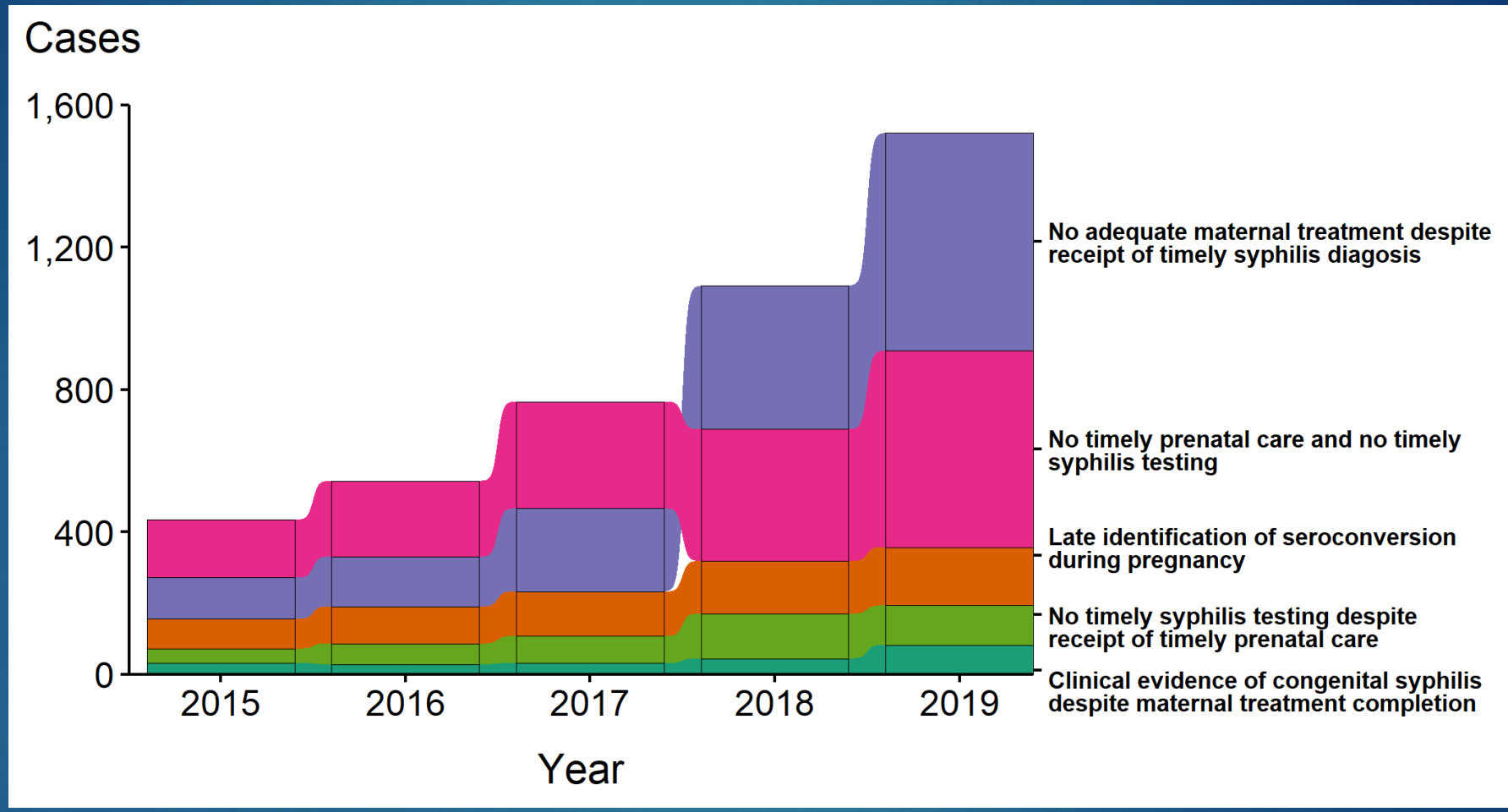
Lots of support for ED HIV screening

- **CDC** recommends any ED with a local prevalence of >0.1% of population with undiagnosed HIV should have opt-out screening.
- The **USPSTF** recommends that clinicians screen for HIV infection in adolescents and adults aged 15 to 65 years.
- The **American College of Physicians** recommends routine screening for HIV infection.
- **ACEP** recommends: "Routine HIV screening of adults, including pregnant women, is encouraged and may be undertaken in the ED when feasible."

Why syphilis screening?

- Syphilis is increasing rapidly
- Syphilis has deadly consequences
- Builds on existing HIV screening infrastructure
- Overlap between ED population and those at risk for syphilis
  - …especially important for pregnant women

Why syphilis screening?



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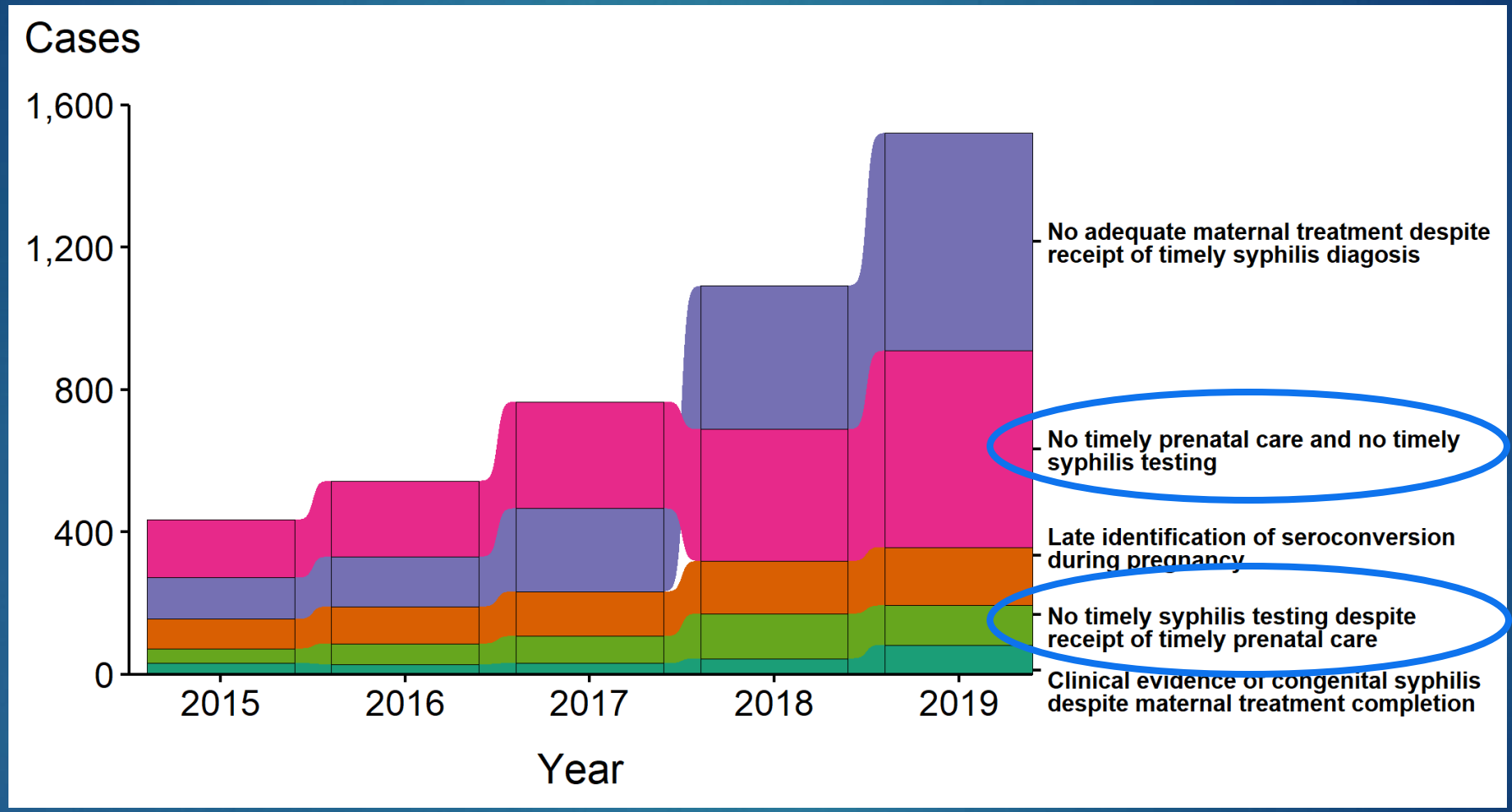
Congenital Syphilis — Missed Prevention Opportunities Among Mothers Delivering Infants with Congenital Syphilis, United States, 2015–2019 (CDC STD Surveillance Report 2019)

Why syphilis screening?



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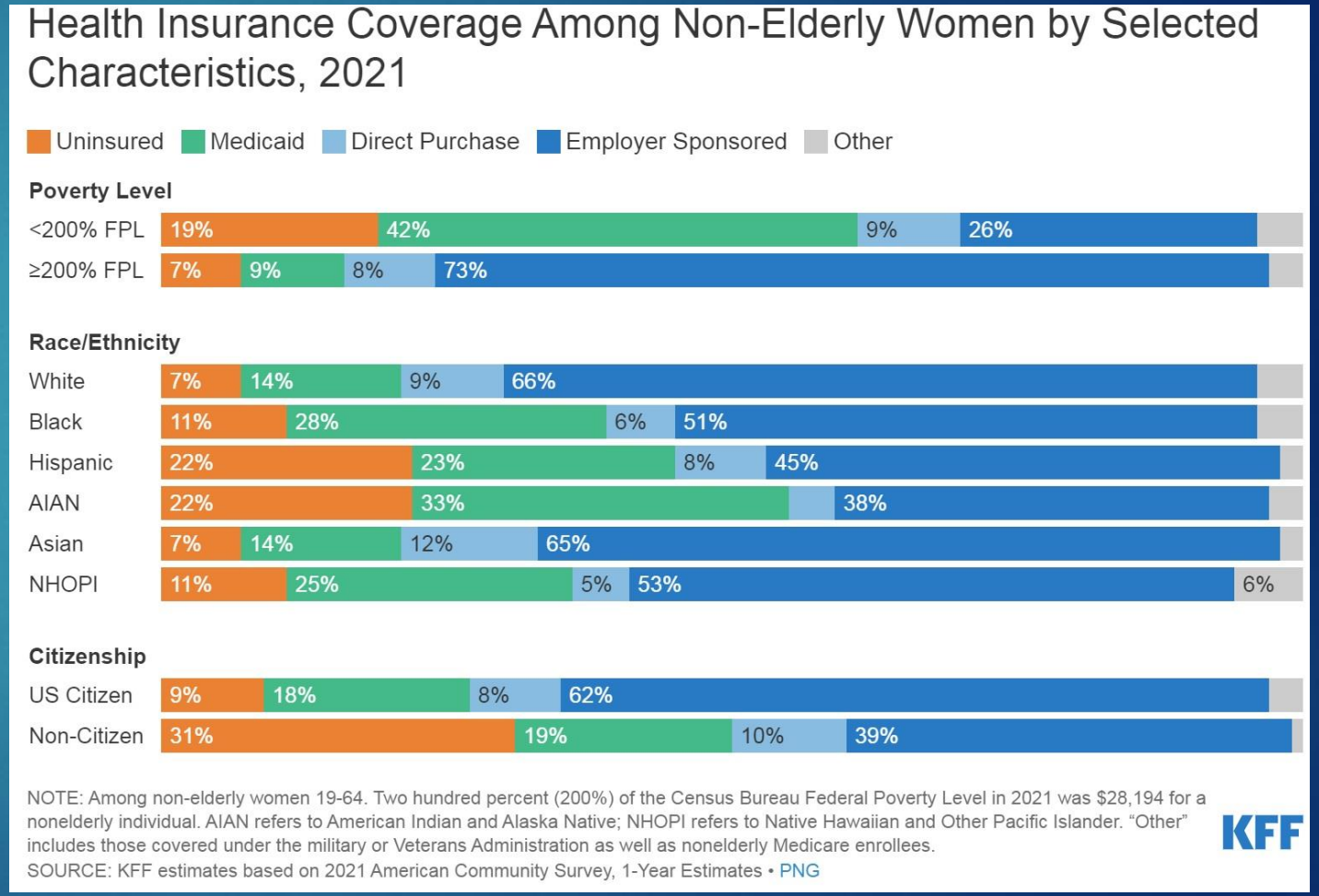
Why syphilis screening?

- Nationwide, only 74.7% of pregnant women receive adequate prenatal care[1]
- 20-84% of pregnant women have at least one ED visit during pregnancy[2]



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1. America's Health Rankings analysis of March of Dimes, Perinatal Data Center, United Health Foundation, AmericasHealthRankings.org.
2. https://www.sciencedirect.com/science/article/pii/S0002937816309085, https://onlinelibrary.wiley.com/doi/full/10.1111/acem.13215
3. https://www.kff.org/womens-health-policy/fact-sheet/womens-health-insurance-coverage (Figure)

Findings from the UChicago screening program

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ED HIV screening at UChicago

- Expanded screening for HIV and syphilis rolled out May 2019
- Universal, opt-out, annual screening for patients ages 16-64
- BPA driven, but requires user to sign orders

- Around 1200-1500 patients screened per month

ED HIV screening at UChicago

- 0.3% prevalence of undiagnosed HIV
- 25% of patients with + HIV tests were out of care
- Around 70% of new and out-of-care patients are successfully linked to care

ED syphilis screening at UChicago

- 1.1% prevalence of untreated syphilis
- Around 80% reported treatment or were treated in our hospital system

Rates of syphilis detected in the ED from June 2019 through March 2020

Patient Characteristics	PAI, n (Col. %)	NPAI + Negatives, n (Col. %)
Total	163 (100.0)	13,555 (100.0)
Sex		
Male	109 (66.9)	5252 (38.8)
Female	54 (33.1)	8303 (61.2)
Race		
Black, non-Hispanic	154 (94.5)	11,713 (86.4)
White, non-Hispanic	2 (1.2)	857 (6.3)
Latino or Hispanic	5 (3.1)	548 (4.0)
Other/unknown	2 (1.2)	437 (3.2)
Age, y		
18–24	18 (11.0)	2531 (18.7)
25–29	34 (20.9)	2073 (15.3)
30–39	39 (23.9)	2776 (20.5)
40–49	28 (17.2)	2292 (16.9)
50–64	39 (23.9)	3584 (26.4)
≥65	5 (3.1)	298 (2.2)
ICD-10 codes		
All STI-related	38 (23.3)	2848 (21.0)
STI related (exc Z11.3)	14 (8.6)	1078 (8.0)
Not STI-related	125 (76.7)	10,707 (79.0)

*PAI=presumed active infection
NPAI=not presumed active infection

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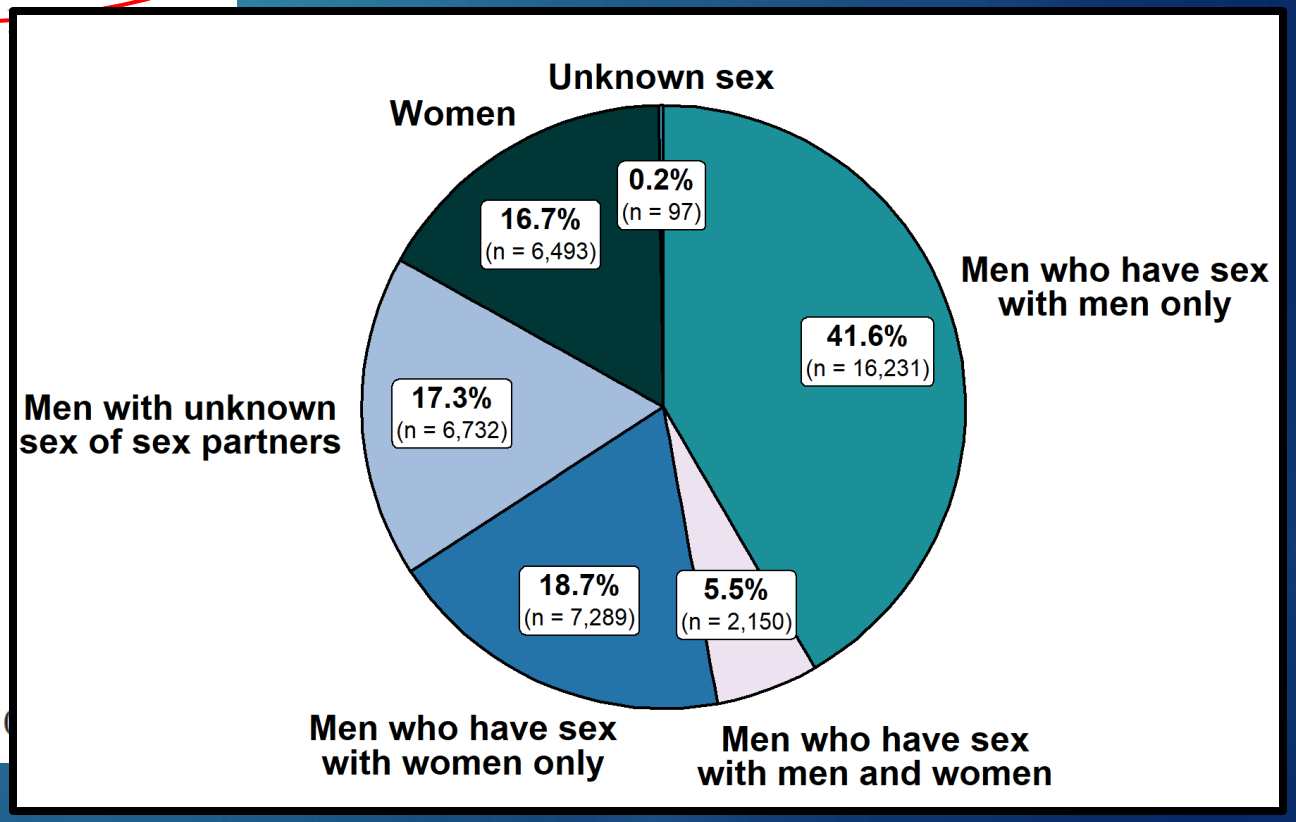
Primary and Secondary Syphilis — Distribution of Cases by Sex and Sex of Sex Partners, United States, 2019 (CDC STD Surveillance Report 2019)



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Syphilis screening for HIV prevention

TABLE 2. PrEP Outcomes, HIV Risk Perception, and PrEP Awareness of All Participants by Syphilis Diagnosis and Self-Reported PrEP Indications

	All Participants (n = 97)	Syphilis Positive (n = 49)	Syphilis Negative, PrEP Eligible (n = 28)	Syphilis Negative, No PrEP Indications (n = 20)
PrEP outcomes				
Started PrEP at time of enrollment	11 (11.4%)	11 (22.5%)	0 (0%)	0 (0.0%)
On PrEP at 6 mo	3 (3.1%)	3 (6.1%)	0 (0%)	0 (0.0%)
Interested in PrEP at 6 mo*	0 (0.0%)	0 (0%)	0 (0%)	N/A
HIV risk perception				
Perceived risk of acquiring HIV				
Zero	50 (51.6%)	20 (40.8%)	14 (50.0%)	16 (80.0%)
Near zero	14 (14.4%)	8 (16.3%)	5 (17.9%)	1 (5.0%)
Small	22 (22.7%)	13 (26.5%)	7 (25.0%)	2 (10.0%)
Moderate-large	11 (11.3%)	8 (16.2%)	2 (7.1%)	1 (5.0%)
Worry about getting HIV				
None of the time	40 (41.2%)	16 (32.6%)	12 (42.9%)	12 (60.0%)
Rarely	19 (19.6%)	9 (18.4%)	8 (28.6%)	2 (10.0%)
Some of the time	23 (23.7%)	13 (26.5%)	6 (21.4%)	4 (20.0%)
Moderate–all of the time	15 (15.5%)	11 (22.5%)	2 (7.1%)	2 (10.0%)
PrEP awareness				
Has heard of PrEP before	35 (36.5%)	27 (56.3%)	3 (10.7%)	5 (25.0%)
Knows someone who takes PrEP	9 (9.4%)	6 (12.5%)	3 (10.7%)	0 (0.0%)
Has been recommended to take PrEP by a medical provider	26 (27.1%)	20 (41.7%)	2 (7.1%)	4 (20.0%)
Has ever taken PrEP	4 (4.2%)	3 (6.3%)	0 (0.0%)	1 (5.0%)

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Zero	50 (51.6%)	2	14 (50.0%)	16 (80.0%)
Near zero	1		7.9%)	1 (5.0%)
Small	2		5.0%)	2 (10.0%)
Moderate-large	1		.1%)	1 (5.0%)
Worry about getting HIV				
None of the time	4		2.9%)	12 (60.0%)
Rarely	1		8.6%)	2 (10.0%)
Some of the time	2		1.4%)	4 (20.0%)
Moderate–all of the time	1		.1%)	2 (10.0%)
PrEP awareness				
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PrEP starts:
4 (36.4%) cisgender Black women
6 (54.5%) cisgender Black MSM
1 (9.1%) cisgender Black MSW

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Zero	50 (51.6%)	20 (40.8%)		14 (50.0%)		16 (80.0%)
Near zero	14 (14.4%)	8 (16.3%)	83.6%	5 (17.9%)	92.9%	1 (5.0%)
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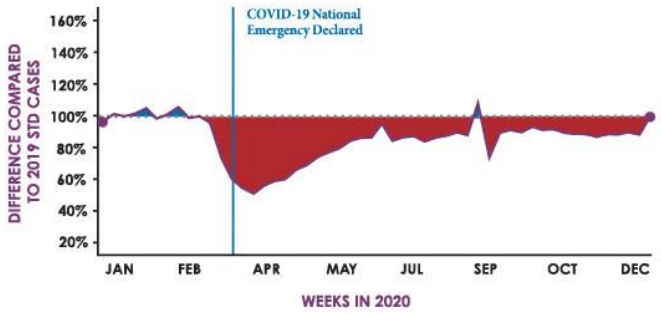
*Of those not on PrEP.

Effects of the COVID-19 pandemic

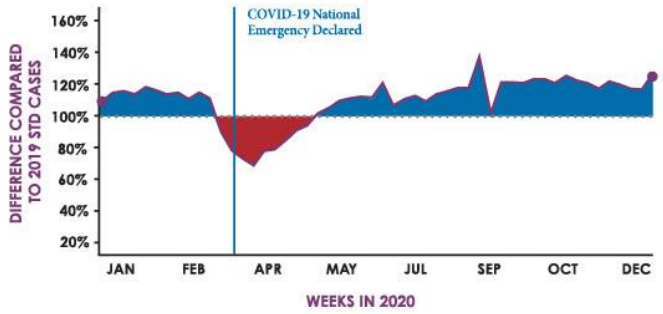
WEEKLY REPORTED U.S. STD CASES: 2020 VS. 2019

Reported cases of STDs drastically decreased during the early months of the COVID-19 pandemic. By the end of 2020, reported cases of GONORRHEA AND SYPHILIS SURPASSED THEIR 2019 LEVELS, indicating continued surges in STDs.

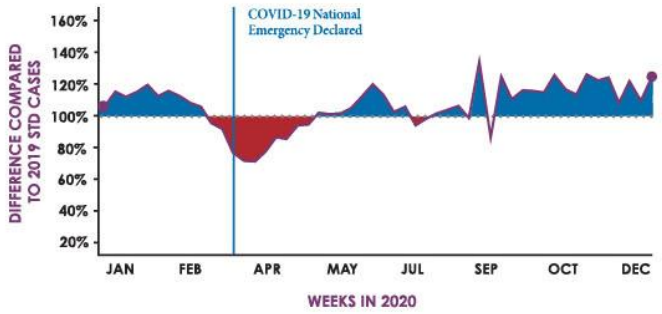
Chlamydia



Gonorrhea



Primary & Secondary Syphilis



NOTE: The COVID-19 pandemic has introduced uncertainty and difficulty in interpreting 2020 case data.
Visit www.cdc.gov/std/statistics/2020/impact.htm for more information

>2019 <2019

For more information, visit
cdc.gov/nchhstp/newsroom

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

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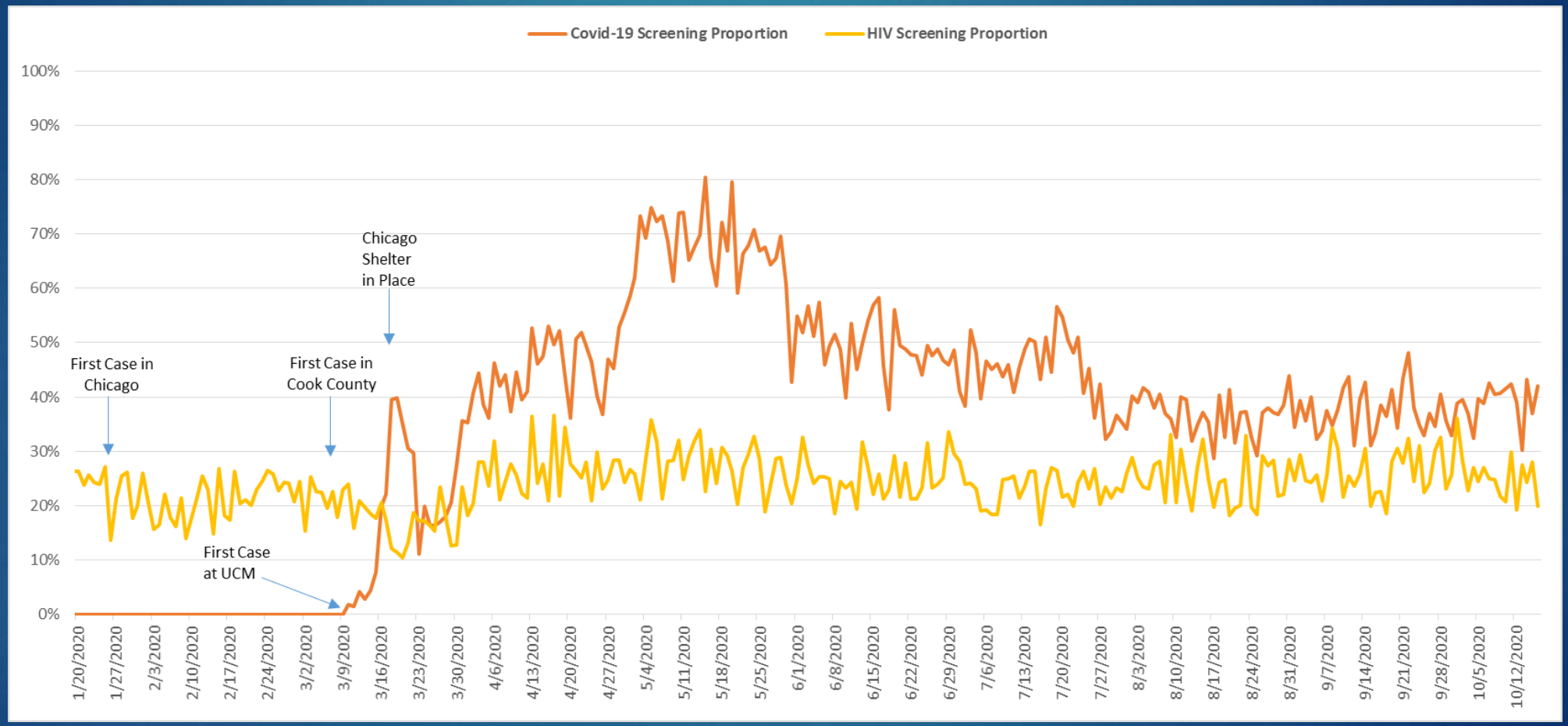
HIV/syphilis screening during the COVID-19 pandemic



HIV screening during COVID-19 pandemic

Table. HIV Screens, New HIV Diagnoses, and Acute HIV Infections Diagnosed in the Emergency Department (ED) at UCM and Other EDs[a]

Year	No.					
	HIV screens in ED at UCM	New HIV diagnoses in ED at UCM	AHI diagnoses in ED at UCM	HIV screens in other x-TLC EDs	New HIV diagnoses at other x-TLC EDs	AHI diagnoses at other x-TLC EDs
2016	2837	18	5	16 008	57	3
2017	3651	22	7	21 175	53	8
2018	5748	39	4	21 133	39	4
2019	11 861	39	9	16 878	48	12
2020	14 215	39	12	14 470	32	4

Abbreviations: AHI, acute HIV infection; UCM, The University of Chicago Medicine; x-TLC, Expanded HIV Testing and Linkage to Care Program.

[a] Dates of comparison are from January 1, 2016, through October 16, 2020.

- **The rate of AHI was significantly higher in 2020 versus the prior 4 years**
- Incidence Rate Ratio 2.4, 95%CI 1.2-4.8, p=0.01.
- AHI patients comprised 26.1 % (12/46) of new HIV diagnoses, the highest proportion ever

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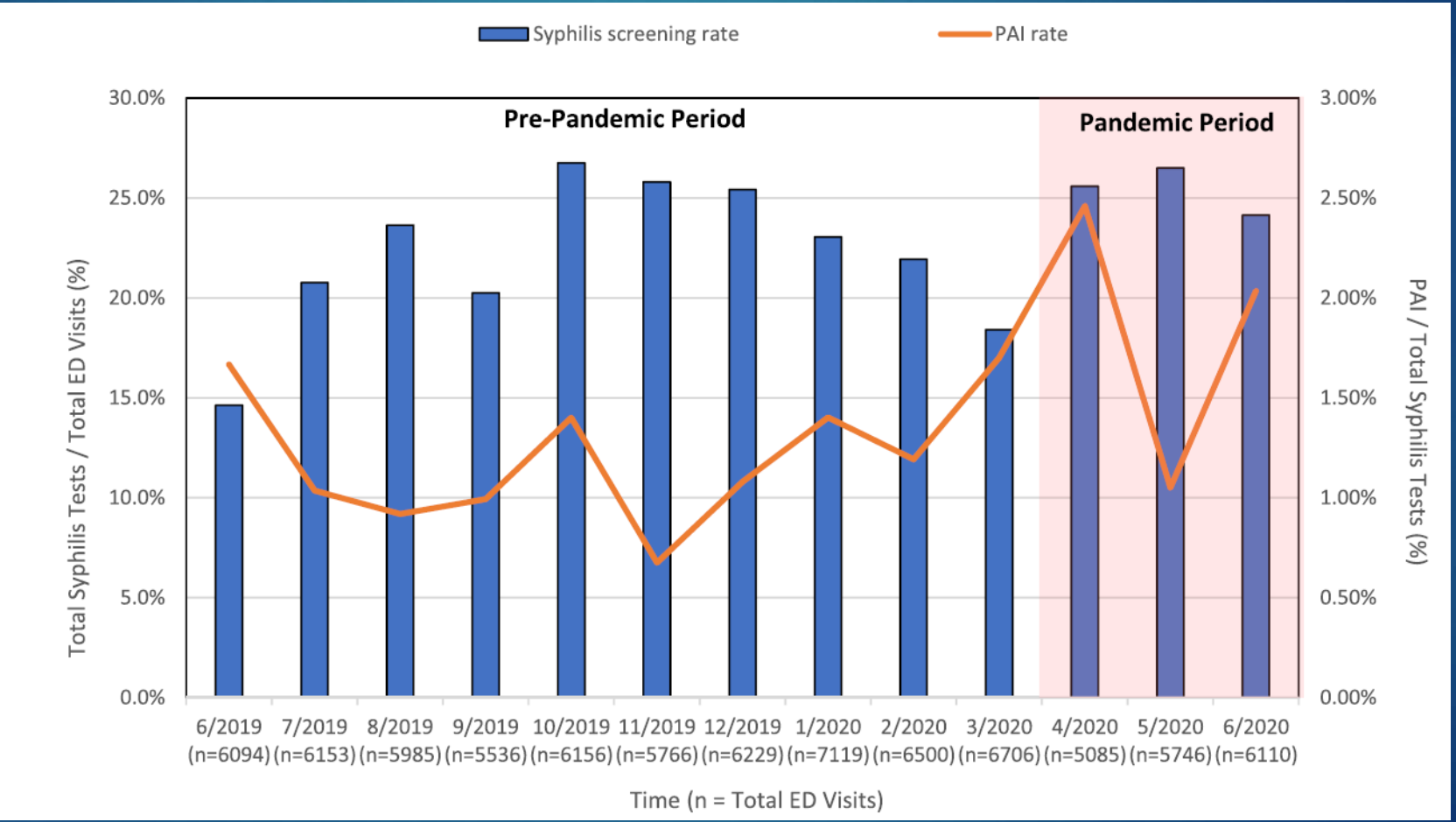
Syphilis screening during COVID-19 pandemic



Syphilis screening rate, number of emergency department visits, and rate of presumed active infection over time, from June 2019 through June 2020

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Syphilis screening during COVID-19 pandemic

- In April through June 2020:
  - Syphilis diagnosis rate increased from 1.1% to 1.8%
  - Rates among all females increased from 0.7% to 1.2%
  - Age distribution of positive syphilis cases changed
    - Ages 18-24 years old increased from 11% of cases to 21.8%
    - **Ages 18-24 among women** increased from 9.3% of cases to 31%

Urogenital STIs/Future Directions

- Retrospective review at our hospital
- 33-month period from November 1, 2018, to July 31, 2021
- Included 44,042 encounters for 29,880 unique patients

Urogenital STIs/Future Directions

- The ED ordered
  - 20.9% of all tests
  - 20.7% of tests for women
- The ED was the source of
  - 50.5% of all positive tests
  - 49.6% of all positive tests among women
  - 243 STIs diagnosed among pregnant women in the ED

Summary

- EDs are a key location for HIV and STI screening.
- ED patients often have low access to outpatient care.
- Universal screening for HIV and syphilis in the ED are feasible and reach target populations.
- Further research is needed to determine the optimal model to screen for syphilis and other STIs in the ED.

Questions?

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