



AT THE FOREFRONT
**UChicago
Medicine**



National Network of
STD Clinical Prevention
Training Centers

NACCHO
National Association of County & City Health Officials

Boo, Syphilis is Really Back!

Reducing the burden of syphilis through emergency department screening

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Disclosures

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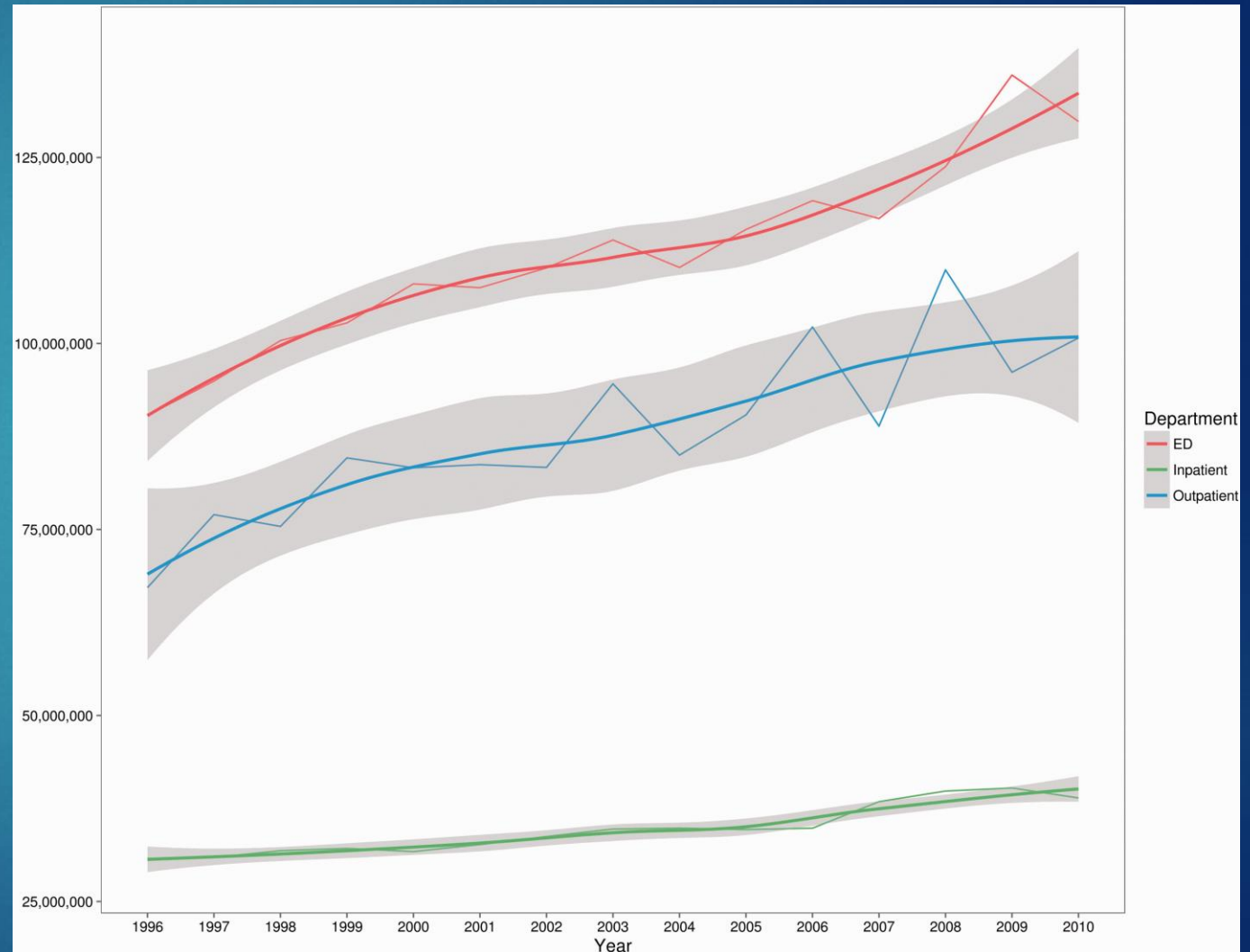
UChicago Medicine EMERGENCY

EMERGENCY

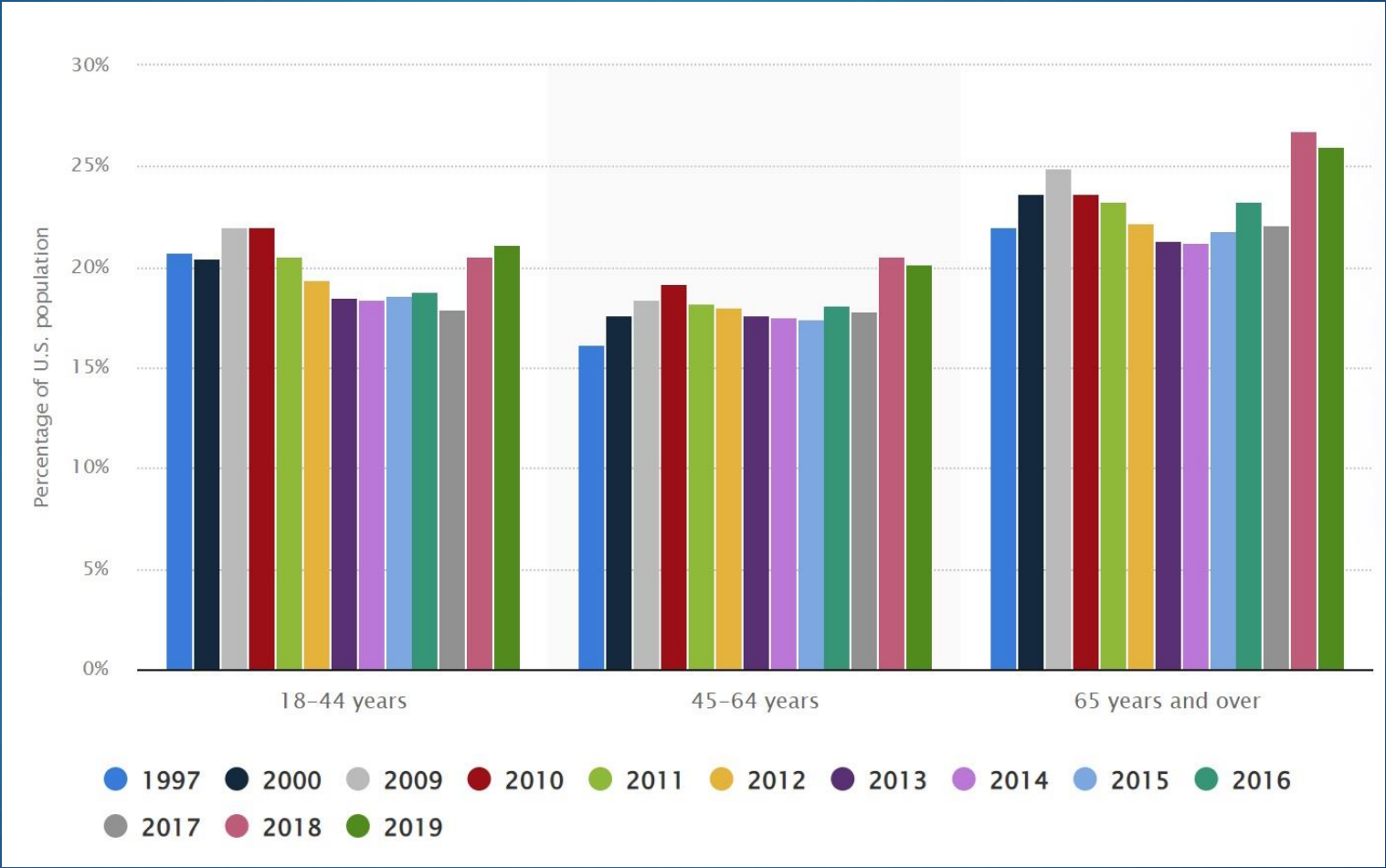
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The number of health care contacts as ED visits, use of outpatient resources, and hospitalizations from 1996-2010.

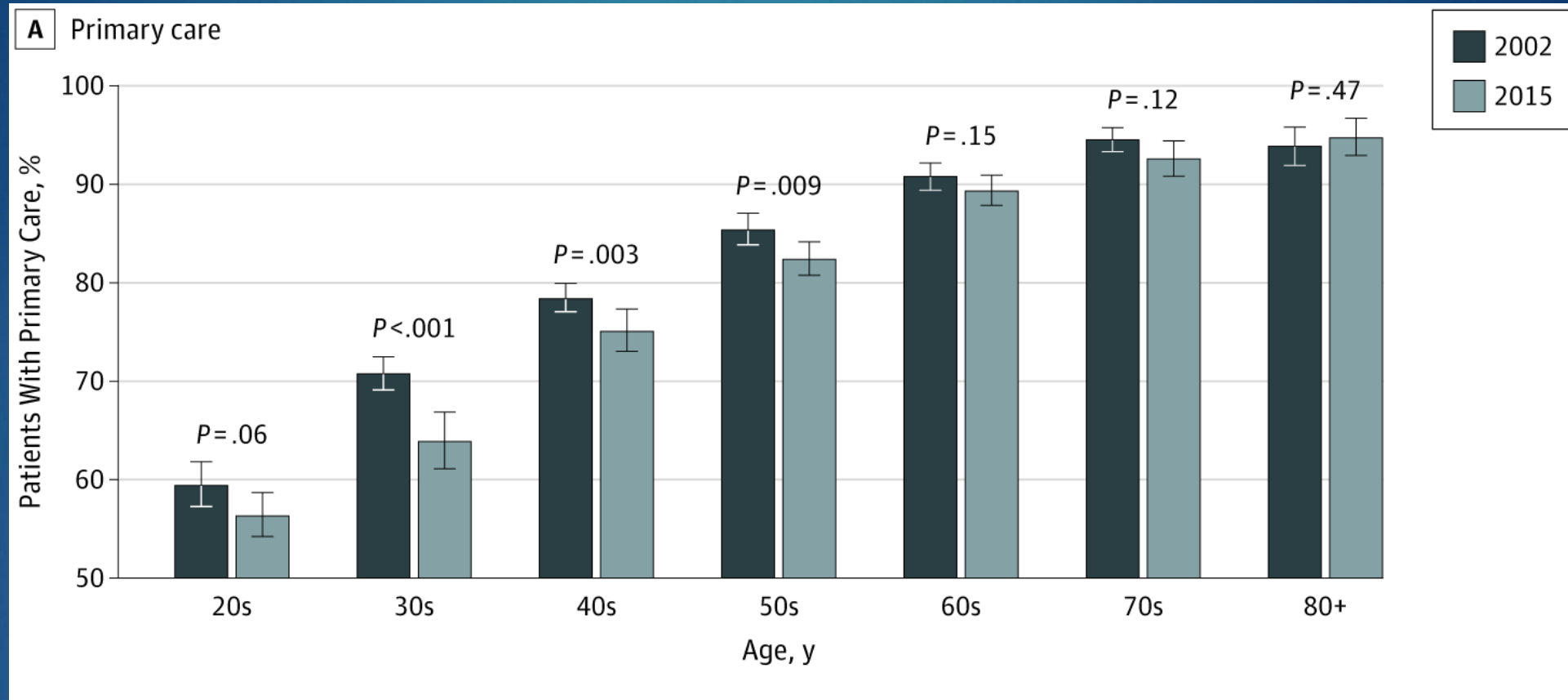
- ▶ As of 2010, 47.7% of medical care contacts are in the ED
- ▶ Medicare and Medicaid beneficiaries, racial and ethnic minorities, and women are disproportionately represented
- ▶ 139.8 million ED visits in the US in 2021



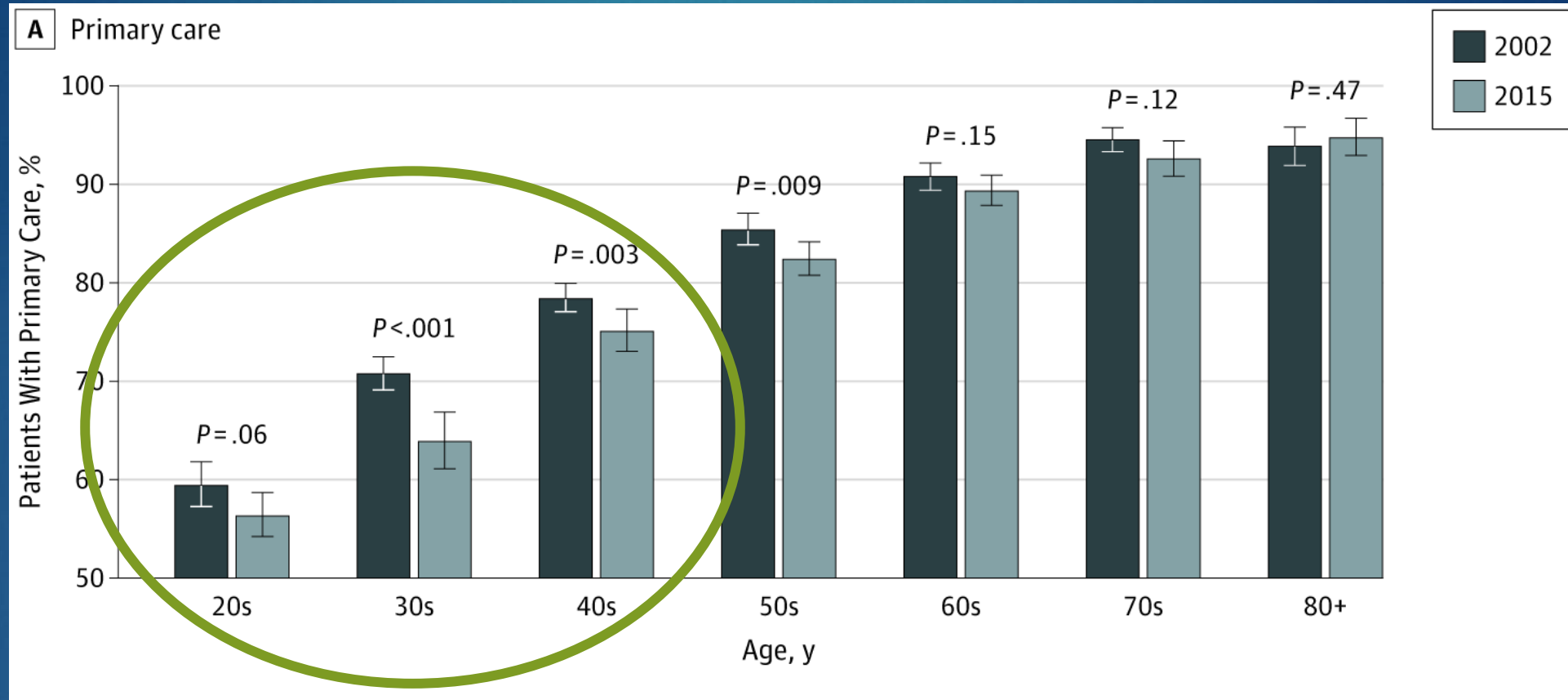
Percentage of U.S. population with an emergency room visit in previous 12 months from 1997 to 2019, by age



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



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STI care in the ED

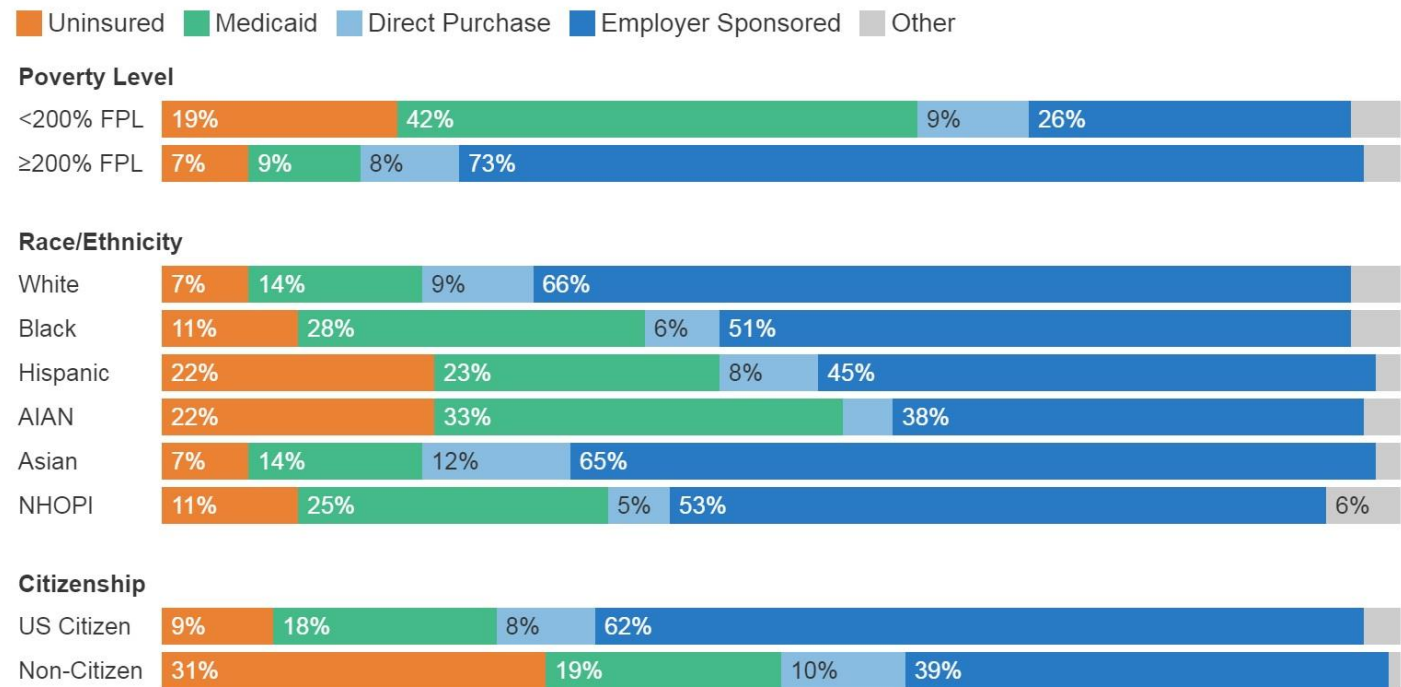
- ▶ 33-month period from November 1, 2018, to July 31, 2021
- ▶ Included 44,042 encounters for 29,880 unique patients
- ▶ 243 STIs diagnosed among pregnant women in the ED

Location	Total Tests (N, %)	Total positives (N, %)
	N = 109,704	N = 5,090
Emergency Department	22,893 (20.87%)	2,570 (50.49%)
Inpatient	1,817 (1.66%)	90 (1.77%)
Inpatient OBGYN	5,999 (5.47%)	308 (6.05%)
Outpatient Primary Care	24,436 (22.27%)	556 (10.92%)
Outpatient OBGYN	40,339 (36.77%)	938 (18.43%)
Outpatient Specialty	5,182 (4.72%)	387 (7.60%)
Other/Unknown	9,038 (8.24%)	241 (4.74%)

Lack of prenatal care

- Nationwide, only 74.7% of pregnant women receive adequate prenatal care¹
- 20-84% of pregnant women have at least one ED visit during pregnancy²

Health Insurance Coverage Among Non-Elderly Women by Selected Characteristics, 2021



NOTE: Among non-elderly women 19-64. Two hundred percent (200%) of the Census Bureau Federal Poverty Level in 2021 was \$28,194 for a nonelderly individual. AIAN refers to American Indian and Alaska Native; NHOPI refers to Native Hawaiian and Other Pacific Islander. "Other" includes those covered under the military or Veterans Administration as well as nonelderly Medicare enrollees.

SOURCE: KFF estimates based on 2021 American Community Survey, 1-Year Estimates • PNG



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)

ED utilization in early pregnancy

- ▶ 401 patients with positive pregnancy test in ED from January to November 2018 who later gave birth at our hospital

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.
- The ED is where HIV and STIs are, so not screening is a missed opportunity.

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.”

Syphilis screening should be the same

- Syphilis is increasing rapidly
- Syphilis can have high morbidity
- Routine screening model exists for a reason
- Screening builds on existing HIV screening infrastructure
- Overlap between ED population and those at risk for syphilis

Screening at the University of Chicago

Implementation of Screening

BestPractice Advisory - [REDACTED]

Critical (1)

⚠ This patient has not had a HIV test within the last 12 months

<input type="button" value="Order"/>	<input type="button" value="Do Not Order"/>	<input type="checkbox"/> HIV Ab Ag with Reflex
<input type="button" value="Order"/>	<input type="button" value="Do Not Order"/>	<input type="checkbox"/> Syphilis Total (IgG/IgM) Diagnosis Ab with RPR reflex
<input type="button" value="Order"/>	<input type="button" value="Do Not Order"/>	<input type="checkbox"/> Patient Verbally Declined HIV Testing

Acknowledge Reason _____

May 2019

Implementation of Screening

HIV Screening Policy



We do opt-out HIV and syphilis testing as part of our regular healthcare, as recommended by the Centers for Disease Control and Prevention (CDC).
You may be tested for HIV and syphilis as a part of your care today.

HIV testing is covered by most insurance plans. To obtain your results or if you believe you have been charged for an HIV test, call our HIV results line:

Ask your nurse for a reminder card with more information if you have not received one.

A simple blood test can tell if you have HIV or syphilis. The test is:

- Voluntary
- Confidential
- Accurate
- Routine



The CDC recommends that **EVERYONE** between 13 and 64 years of age be tested for HIV on a regular basis.

Talk to your doctor or nurse if you have questions or **DO NOT** want an HIV or syphilis test.

	Pre-implementation	Post-implementation
	(n=2,191)	(n=9,330)
	n (%)	n (%)
Age		
18-24	699 (31.9%)	1837 (19.7%)
25-34	708 (32.3%)	2430 (26.1%)
35-44	290 (13.2%)	1678 (18.0%)
45-54	212 (9.7%)	1543 (16.5%)
55+	282 (12.9%)	1842 (19.7%)
Sex at Birth		
Female	1387 (63.3%)	5733 (61.5%)
Male	804 (36.7%)	3597 (38.6%)
Race/Ethnicity		
Black	2014 (92.7%)	8114 (88.1%)
White	68 (3.1%)	545 (5.9%)
Hispanic	58 (2.6%)	383 (4.2%)
Other	32 (1.5%)	166 (1.8%)
Insurance		
Private	381 (17.4%)	1998 (21.4%)
Medicaid/Medicare	1434 (65.5%)	6062 (65.0%)
Self-Pay	376 (17.2%)	1268 (13.6%)

Demographics of patients tested for syphilis for the seven-month periods before and after best practice advisory (BPA) implementation

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

1.2%
prevalence
of untreated
syphilis

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

Source: Stanford K, Almirol E, Schneider J, Hazra A. Rising syphilis rates during the COVID-19 pandemic. Sexually Transmitted Diseases. April 2021.

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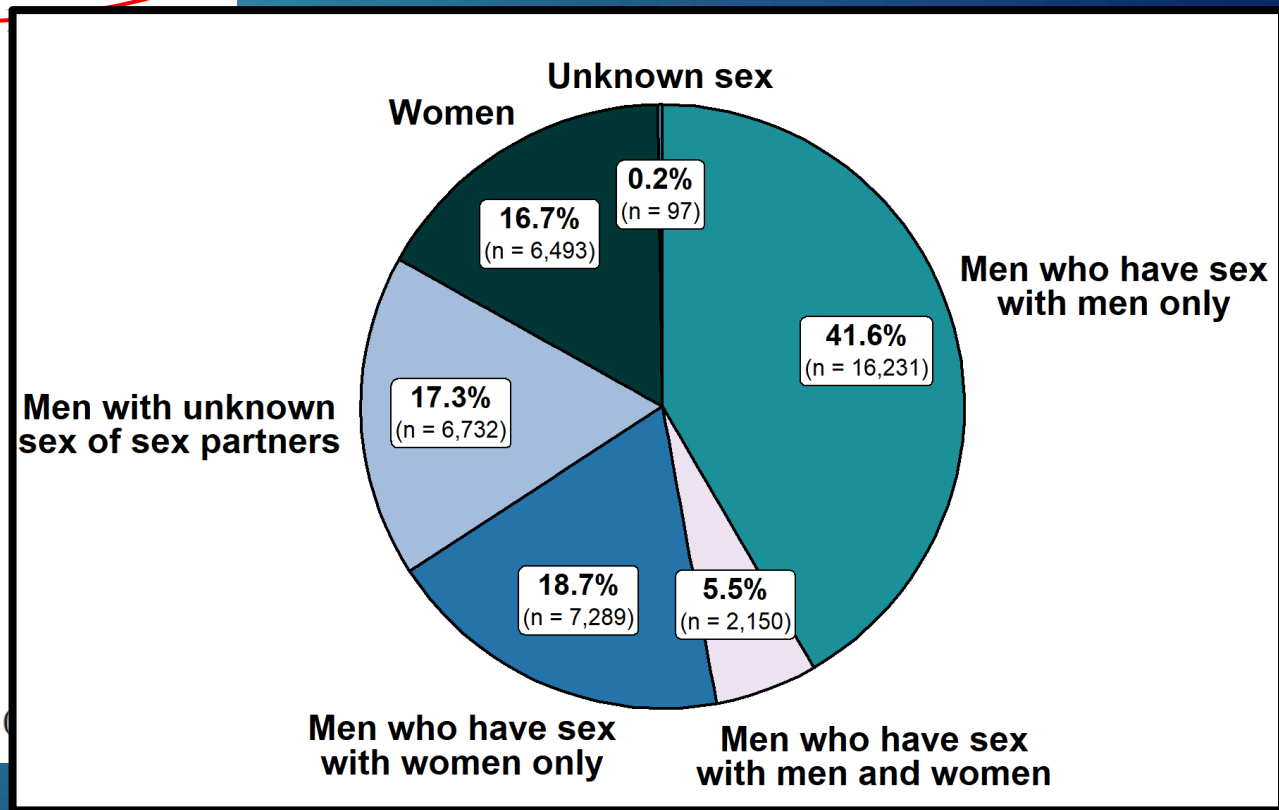
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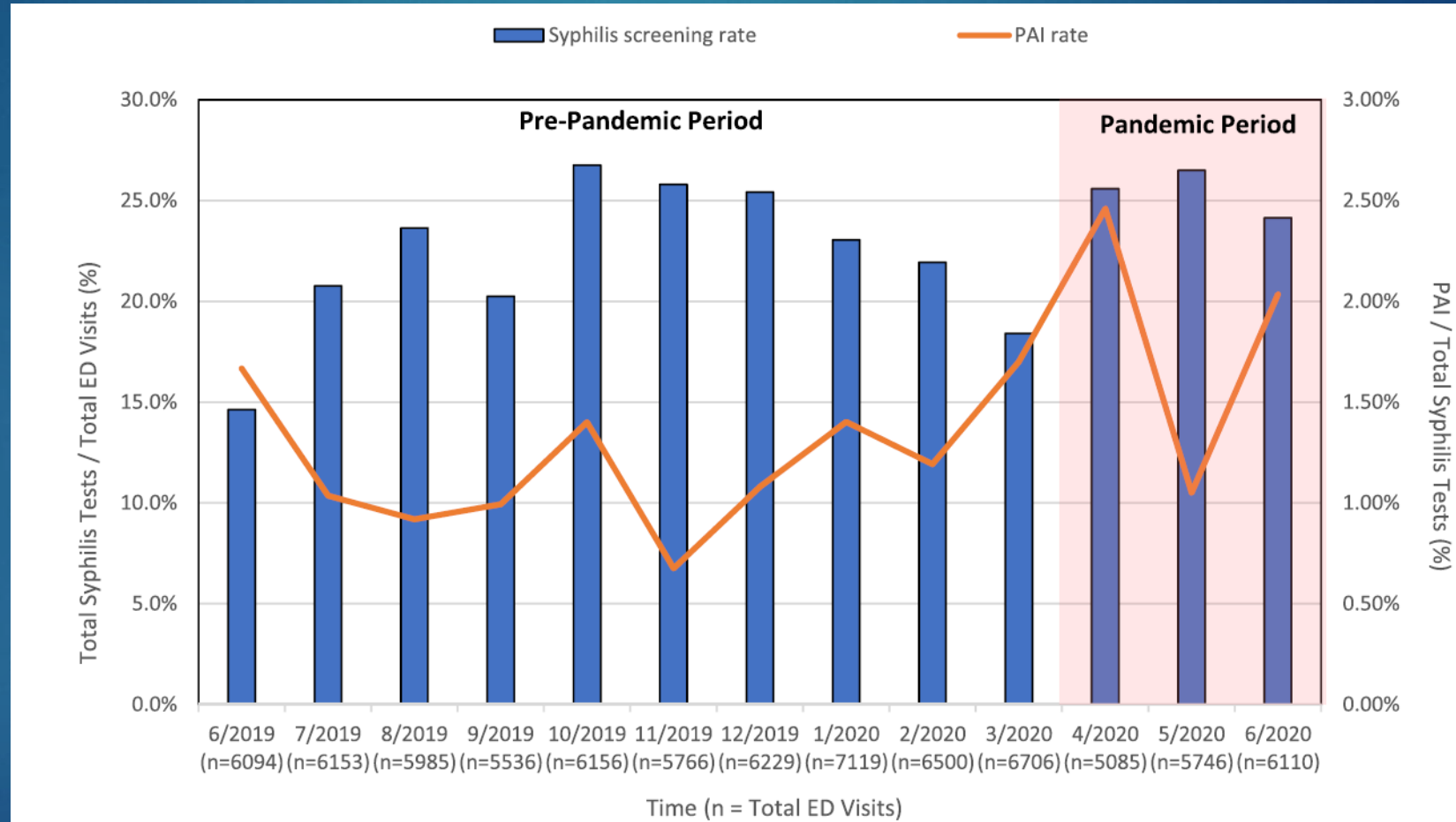
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Race		
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White, non-Hispanic	2 (1.2)	1,000 (7.4)
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Primary and Secondary Syphilis — Distribution of Cases by Sex and Sex of Sex Partners, United States, 2019 (CDC STD Surveillance Report 2019)



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Syphilis screening during COVID-19 pandemic

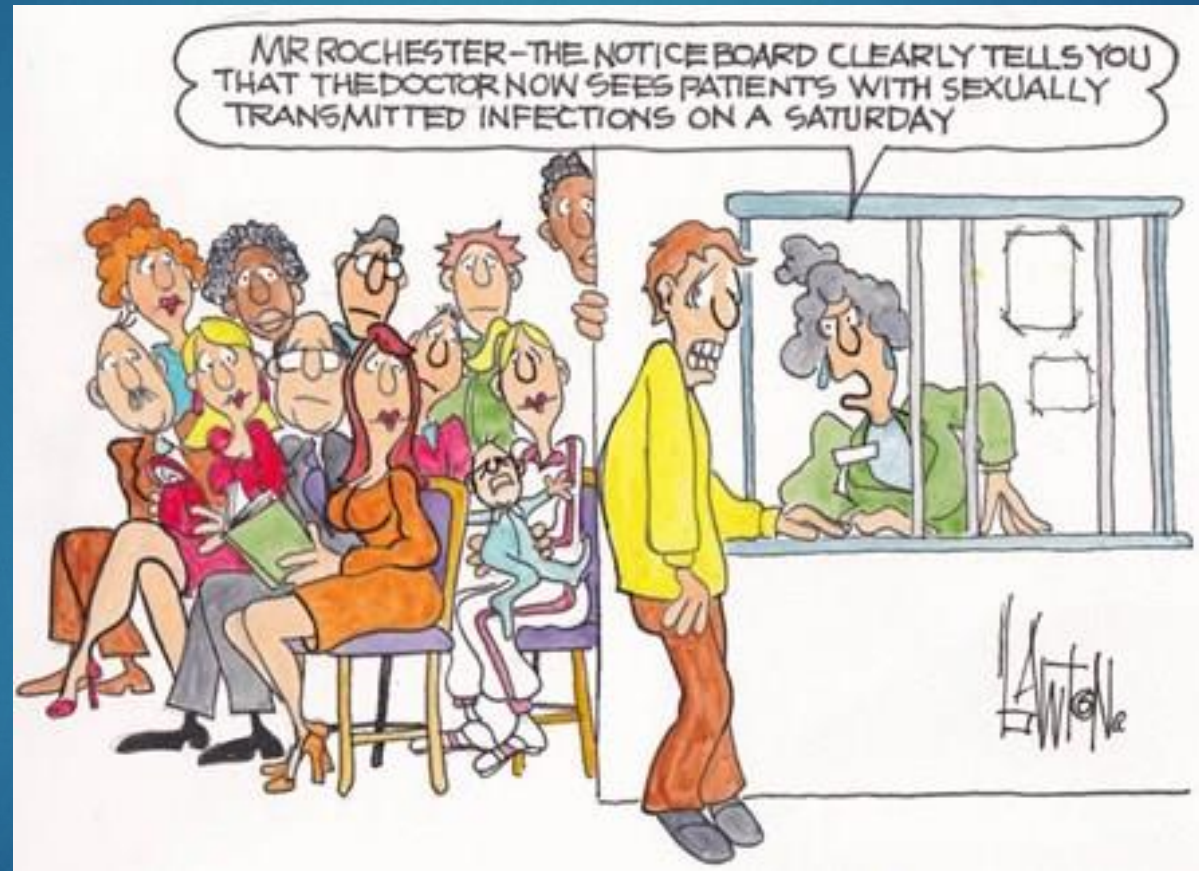


Syphilis screening rate, number of emergency department visits, and rate of presumed active infection over time, from June 2019 through June 2020

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%

HIV prevention



13. [FOR FEMALE RESPONDENTS REPORTING SEX WITH MEN OR BOTH TO QUESTION #12] ... were any of your male partners men who had sex with men?

- Yes
- No

- Don't know
- Prefer not to answer

14. ...have you been diagnosed or treated for a sexually transmitted infection (STI) such as Chlamydia, Gonorrhea, or Syphilis?

- Yes
- No

- Don't know
- Prefer not to answer

15. ...how many "Men" have you had sex with?

- Don't know
- Prefer not to answer

16. ...how many "Women" have you had sex with?

- Don't know
- Prefer not to answer

17. ...what types of sex have you engaged in (check all that apply)?

- Vaginal
- Insertive ("top") anal
- Receptive ("bottom") anal
- Oral

- Don't know
- Prefer not to answer

18. ...how often do you use condoms for vaginal sex?

- Never
- Infrequently/Rarely
- Sometimes
- Always

- Don't know
- Prefer not to answer

Not applicable

19. ...how often do you use condoms for anal sex?

- Never
- Infrequently/Rarely
- Sometimes
- Always

- Don't know
- Prefer not to answer

20. ...were any of your partners HIV-positive?

- Yes
- No

21. ...did any of your partners inject drugs?

- Yes
- No

Denver HIV Risk Score
(DHRS)

Haukoos et al: 1002 patients surveyed, 11.9% PrEP eligible; of these, 68.1% perceived their risk of HIV acquisition to be zero or low; 30% of PrEP eligible qualified due to recent STI

Mahal et al: 1174 referred patients screened negative for HIV, 22 eligible for and interested in PrEP, 11 (0.9%) started PrEP

Sources:

1. Haukoos JS, White DAE, Rowan SE, Lyle C, Gravitz S, Basham K, Godoy A, Kamis K, Hopkins E, Anderson E. HIV Risk and Pre-Exposure Prophylaxis Eligibility Among Emergency Department Patients. AIDS Patient Care STDS. 2021 Jun;35(6):211-219.
2. Mahal J, Deccy S, Seu R. Linking emergency department patients at risk for human immunodeficiency virus to pre-exposure prophylaxis. Am J Emerg Med. 2022 Apr;54:87-90.

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%)

*Of those not on PrEP.

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Summary

- EDs are a key location for syphilis screening.
- ED patients often have limited access to outpatient care.
- Universal screening for syphilis in the ED is feasible and reaches target populations.
- Further research is needed to determine the optimal model to screen for syphilis and other STIs in the ED and to effect changes in policy and reimbursement.



Questions?

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