

# **Updated Oregon Screening Recommendations for HIV, STI, and hepatitis**

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# Disclosures

I have no conflicts of interest to declare.

# Objectives

- State the Grade A/B USPSTF and CDC screening recommendations for HIV, STI, hepatitis on which the OR recommendations are largely based
- State key differences in OR HIV, STI, and hepatitis screening recommendations
- Describe the epidemiology on which OR recommendations are based

# How screening works at the population-level to decrease transmission: the basic reproduction number

$$R_0 \propto \left( \frac{\textit{infection}}{\textit{contact}} \right) \left( \frac{\textit{contact}}{\textit{time}} \right) \left( \frac{\textit{time}}{\textit{infection}} \right)$$

$$R_0 = \tau \cdot c \cdot d$$

$\tau$  = transmission probability per contact

$c$  = average contact per unit time

$d$  = duration of infectiousness

# Motivating Case

- 34-year-old cisgender woman presents for a new patient preventive care visit
- No medications, active medical problems, or prior surgeries
- Doesn't recall receiving the hepatitis B vaccine series, but does remember the HPV vaccination series
- Born and raised in Eugene, OR
- Would like to discuss pregnancy prevention options

# Motivating Case, continued.

- In the past 12 months, reports sex with 3 cisgender men and has had vaginal sex, oral and anal sex
- Uses condoms consistently for vaginal sex but not for oral or anal sex
- Does not want to be pregnant in the next year
- While not discussed explicitly with partners, she thinks her partners are all HIV-negative

# What HIV, STI, or hepatitis screening will you offer today?

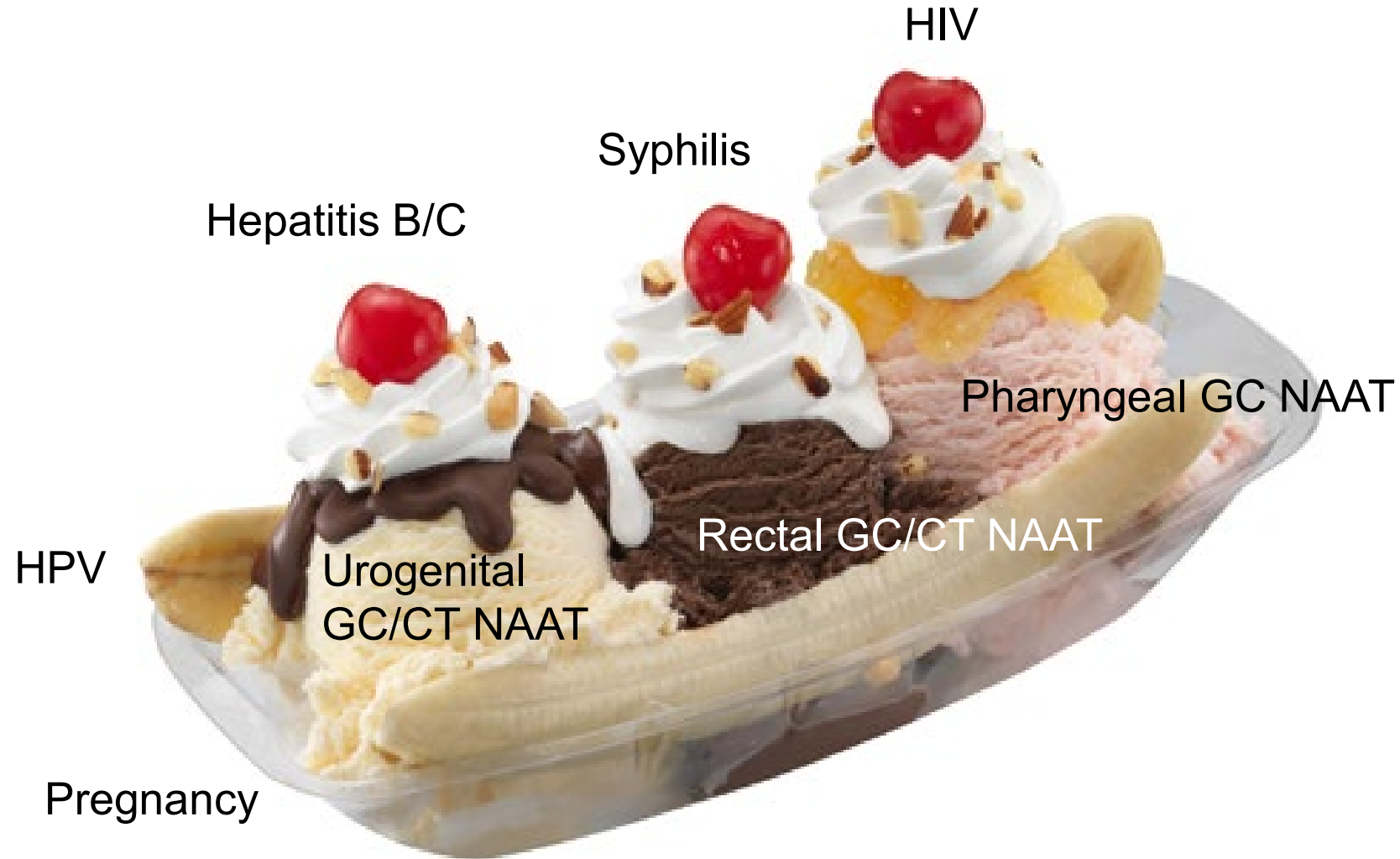
- A) HIV
- B) Syphilis
- C) Gonorrhea/chlamydia (GC/CT)
- D) Hepatitis B and C
- E) Pap test and HPV DNA co-testing
- F) All the above

# You offer

- HIV screening
  - 4<sup>th</sup> generation HIV-1 Ag/HIV-1/2 Ab test
- Gonorrhea and chlamydia
  - Urine or vaginal, pharyngeal, and rectal NAAT (aka 3-site screening)
  - Self-collection
- Syphilis screening
  - Traditional or reverse algorithm
- Pap test plus HPV DNA co-testing
  
- Pregnancy screening
- Counseling: pregnancy prevention options, HIV/STI risk reduction, communication and consent, and HIV pre-exposure prophylaxis (PrEP)



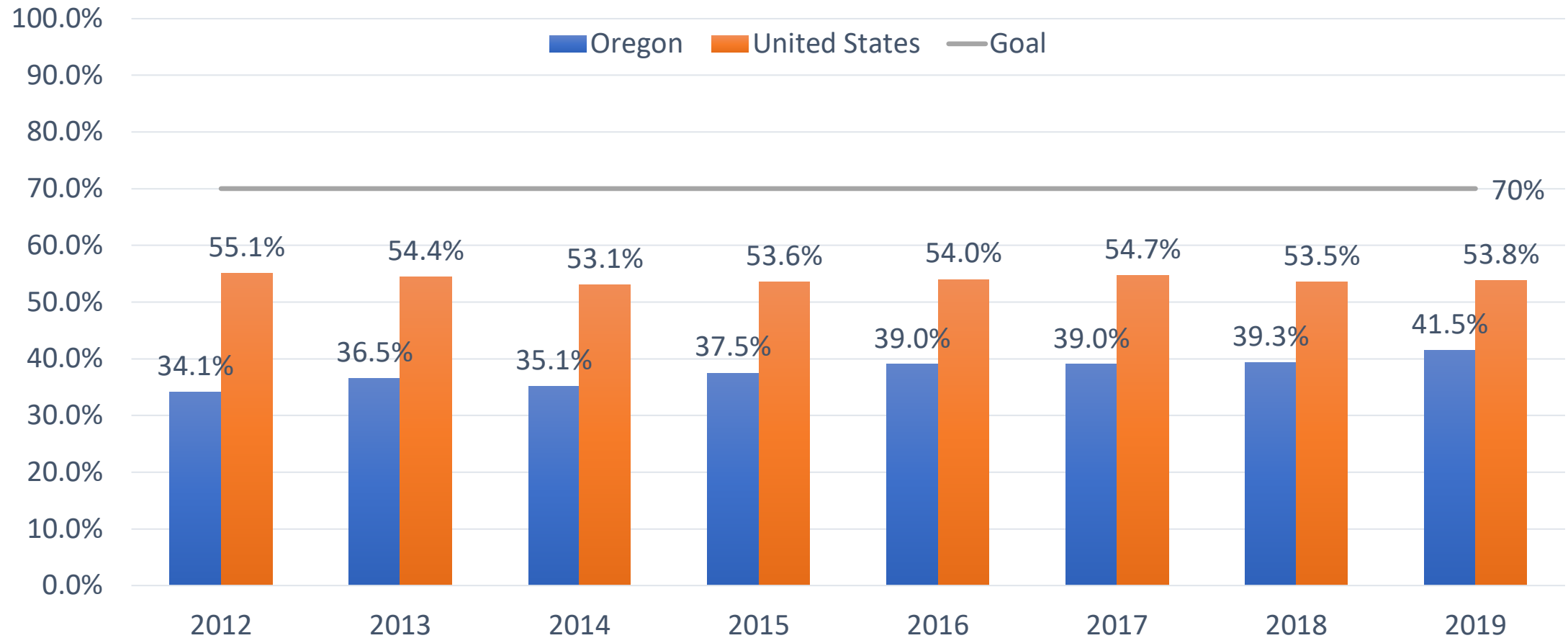
# Integrated HIV/STI/hepatitis screening



**What percentage of the Oregon population has ever been tested for HIV?**

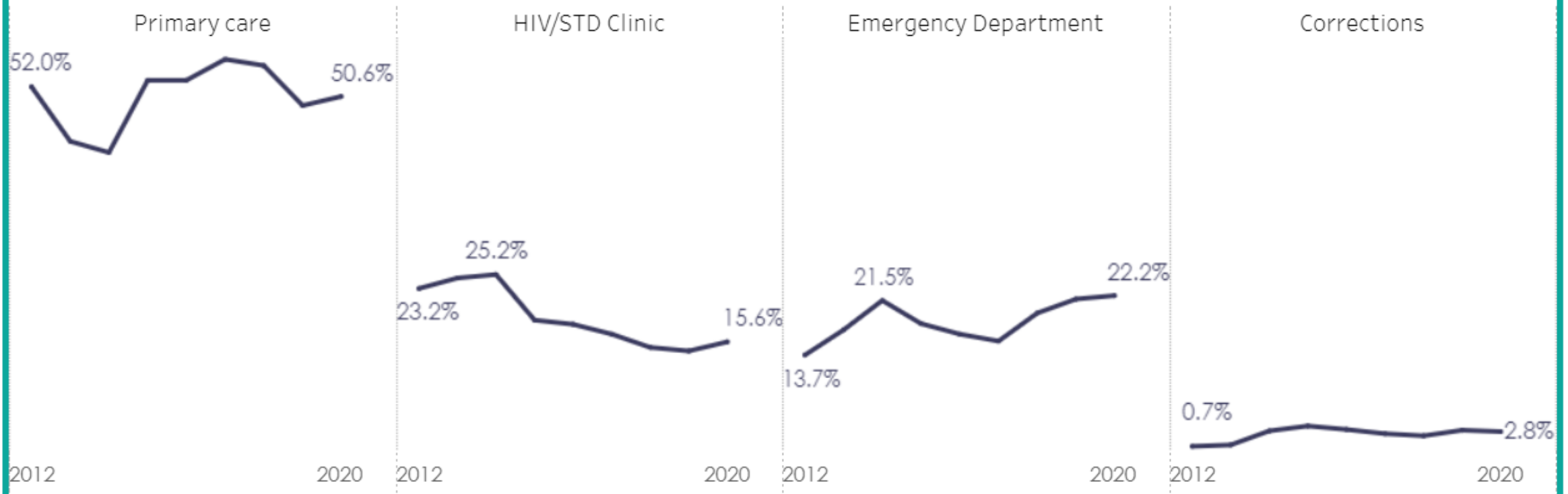
- A) 70%
- B) 60%
- C) 50%
- D) 40%
- E) 30%

# Only 40% of Oregonians have ever been tested for HIV (the goal is 70%)

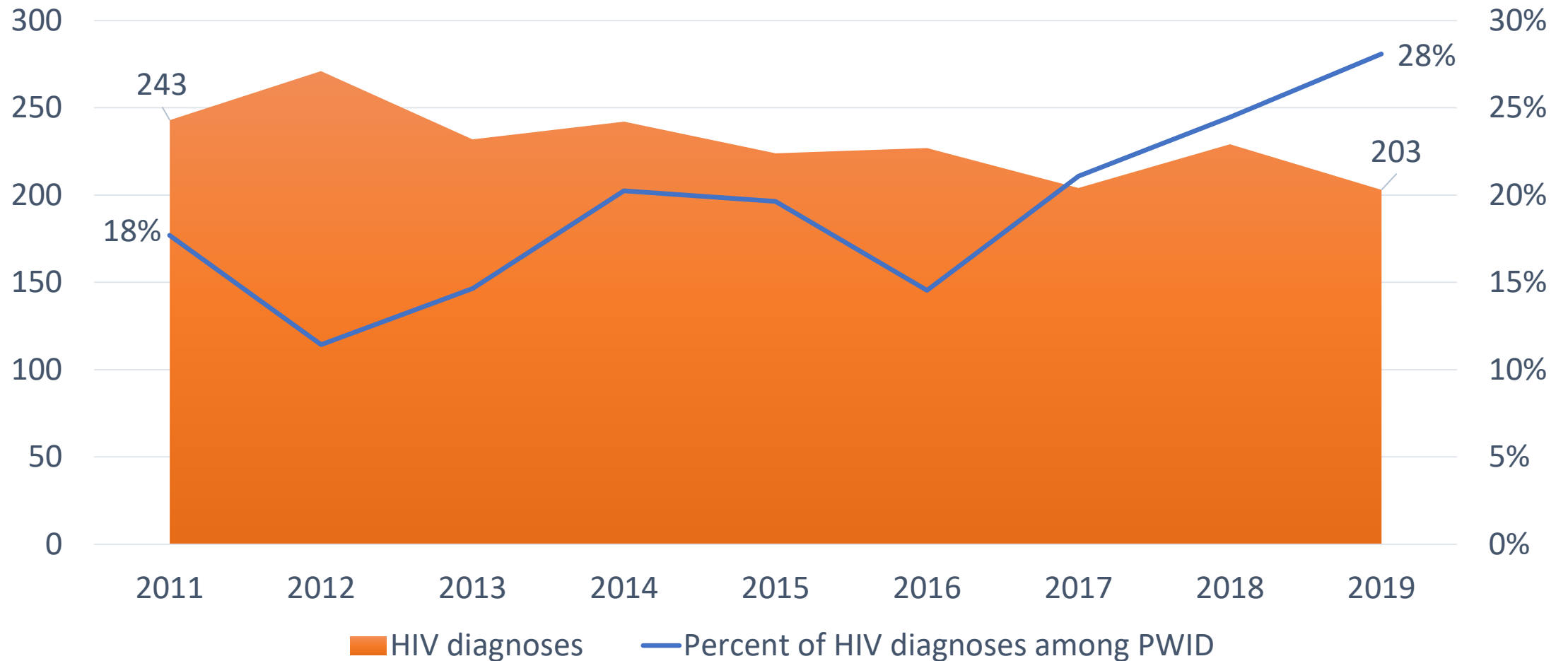


# Most HIV diagnoses in Oregon are made in primary care

**Facility of HIV diagnosis:** Approximately half of HIV diagnoses were made in primary care settings. Over 20% of HIV diagnoses were made in emergency departments in 2020.




# While HIV diagnoses have declined overall, the proportion of diagnoses among PWID has increased



Original Paper | [Published: 10 November 2021](#)

# Use of Injection Drugs and Any Form of Methamphetamine in the Portland, OR Metro Area as a Driver of an HIV Time–Space Cluster: Clackamas, Multnomah, and Washington Counties, 2018–2020

[Jaime Walters](#) , [Lea Busy](#), [Christopher Hamel](#), [Kelsi Junge](#), [Timothy Menza](#), [Jaxon Mitchell](#), [Taylor Pinsent](#), [Kim Toevs](#) & [Jennifer Vines](#)

[AIDS and Behavior](#) **26**, 1717–1726 (2022) | [Cite this article](#)

**932** Accesses | **1** Altmetric | [Metrics](#)

# Basis for HIV screening recommendations

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.	<b>A</b>
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.	<b>A</b>

# HIV screening recommendations

- Opt-out screening at least once for all people 15-65 years of age
- Opt-out screening for all people who **seek evaluation and treatment for STI**
- For sexually active gay, bisexual, and other men who have sex with men (MSM) and transgender people, screen at least annually if they or their sex partners have had more than one sex partner since their last HIV test
- Consider the benefits of more frequent screening (e.g., every 3-6 months) for people with indications for more frequent screening



# Indications for more frequent screening (HIV, syphilis)

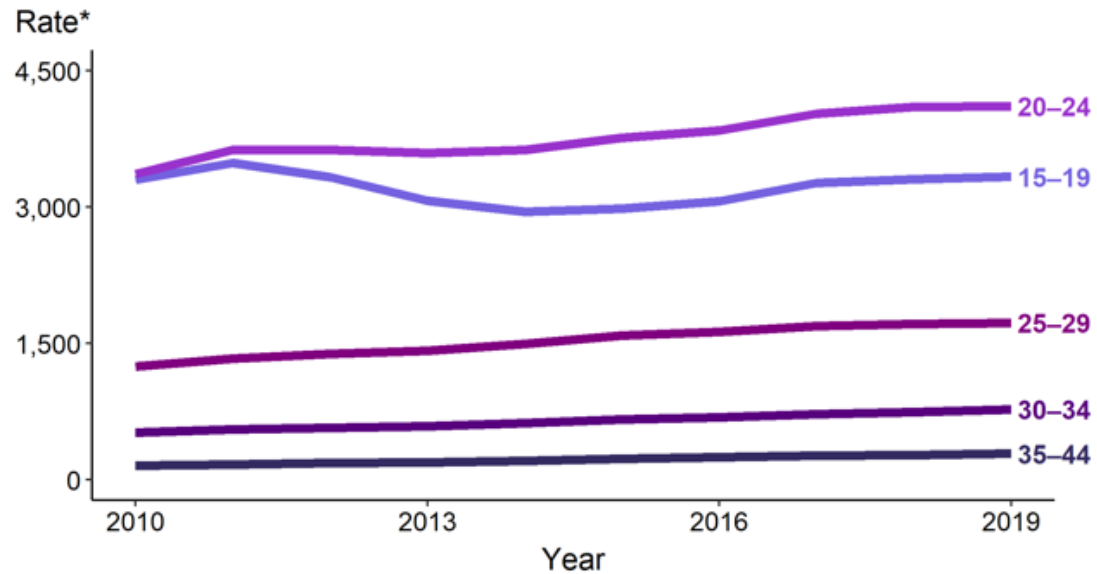
Individual-level	Partner-level	Community/clinic-level
Multiple sex partners (>1) in the prior year	Multiple sex partners	High prevalence geography
New sex partner since last test	MSM/MSMW	School-based health centers
GC, CT, syphilis diagnosis in the prior 2 years	Methamphetamine use	Sexual health clinics
History of HCV infection	Injection drug use	Correctional facilities
Methamphetamine use	Criminal justice involvement	Substance disorder treatment
Injection drug use		
Transactional sex		
Criminal justice involvement		
Houselessness		
Taking PrEP		
Not on PrEP and condomless anal sex with a person who is either living with HIV (and not undetectable) or of unknown HIV status		

# Basis for gonorrhea/chlamydia screening recommendations

Population	Recommendation	Grade
Sexually active women, including pregnant persons	The USPSTF recommends screening for chlamydia in all sexually active women 24 years or younger and in women 25 years or older who are at increased risk for infection.	<b>B</b>
Sexually active women, including pregnant persons	The USPSTF recommends screening for gonorrhea in all sexually active women 24 years or younger and in women 25 years or older who are at increased risk for infection.	<b>B</b>
Sexually active men	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for chlamydia and gonorrhea in men.	<b>I</b>

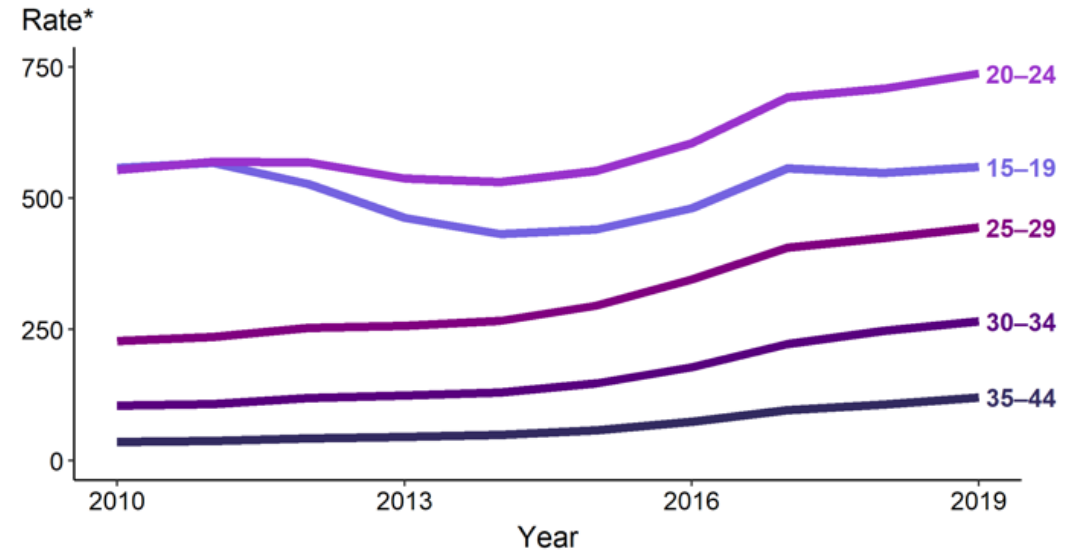
# Data behind the guideline: GC/CT

## Rate of chlamydial infection among U.S. cisgender women by age and year



\* Per 100,000

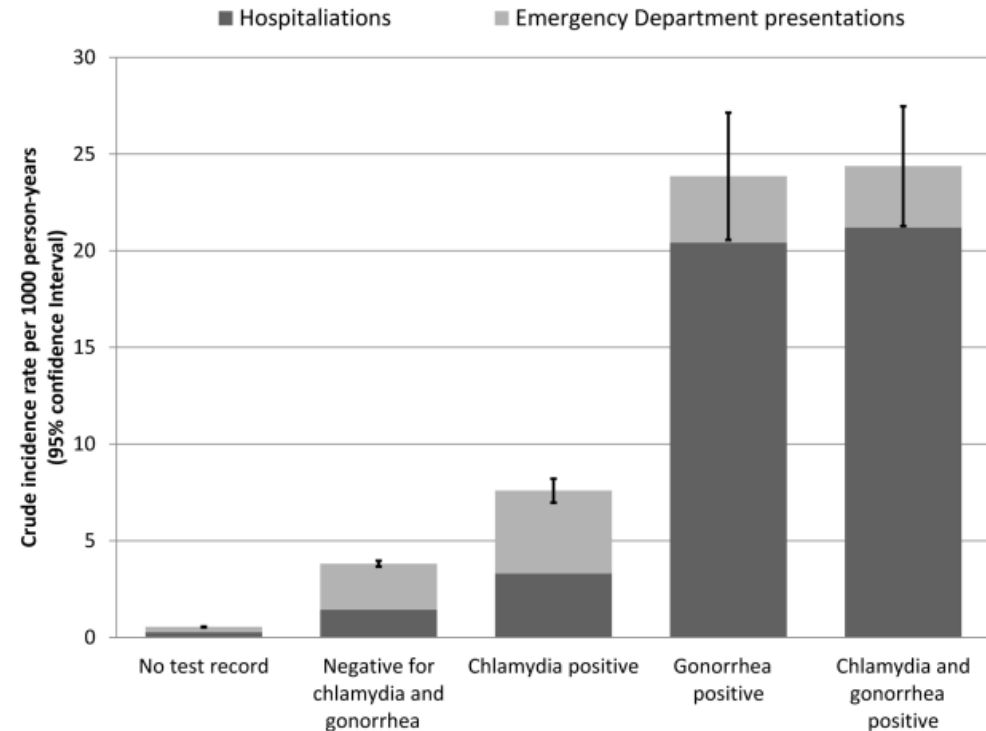
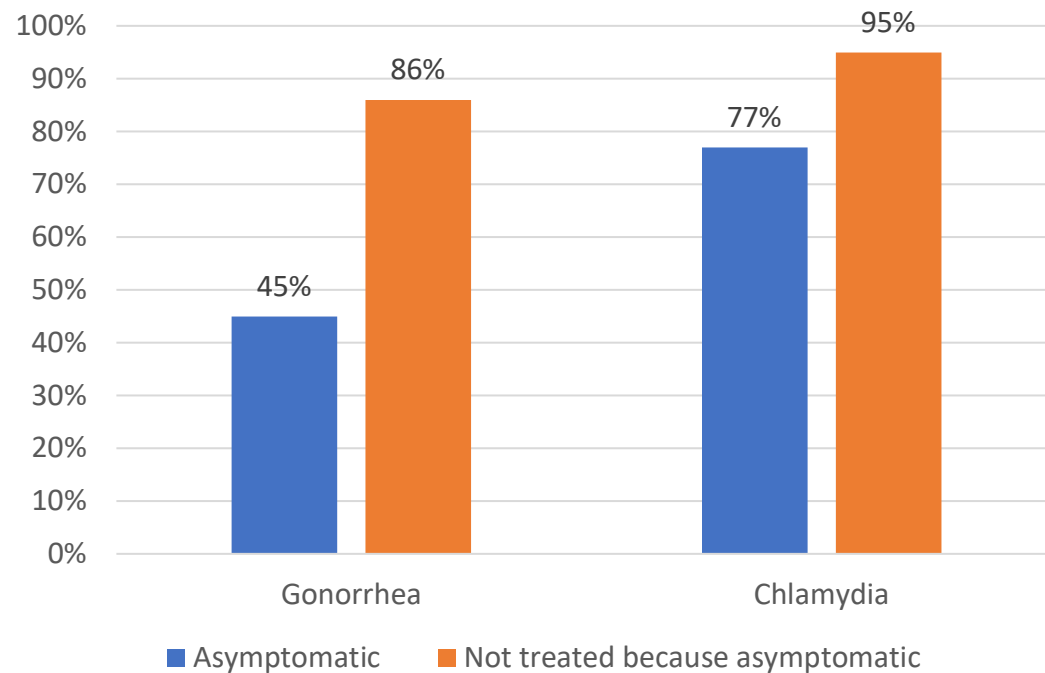
## Rate of gonococcal infection among U.S. cisgender women by age and year



\* Per 100,000

# Routine GC/CT screening is required to diagnose and treat asymptomatic infections and prevent PID and sequelae

Percentage of GC/CT infections that are asymptomatic and not treated due to lack of symptoms



**Figure 2.** Crude incidence rate of pelvic inflammatory disease by chlamydia and gonorrhea testing and positivity.

**>80% of extragenital GC/CT infections are asymptomatic**

# Collection kits for GC/CT NAAT

Unisex swab specimen collection kit  
for rectal, pharyngeal, and  
endocervical samples



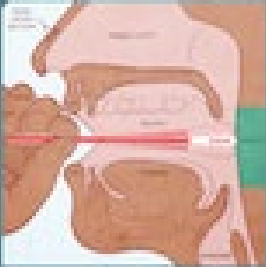
Vaginal swab specimen collection kit




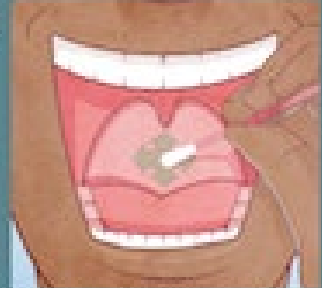
# Self-collection is acceptable, accurate, and trauma-informed

### TEST YOURSELF

The Visual Guide for a Self-collected Throat Swab



- 1 Wash your hands with soap and water.
- 2 Remove the transport tube and collection swab from packaging.
- 3 Label the transport tube with your Patient label.
- 4 Label the transport tube with the Throat label.
- 5 Open the package containing the collection swab.
- 6 Insert the collection swab far enough from the tip.

- 7 Say "ah", and reach the collection swab into your mouth to gently brush your throat.
- 8 Gently roll the swab up on your throat side to side, up and down at least 3 times.

- 9 Remove the cap from the transport tube.
- 10 Place the collection swab into the transport tube, snapping it at the dashed line.
- 11 Push the cap back on the transport tube and twist it closed to prevent leaks.
- 12 Roll the transport tube into the biohazard bag.
- 13 Wash your hands with soap and water.

### TEST YOURSELF

The Visual Guide for a Self-collected Rectal Swab



- 1 Wash your hands with soap and water.
- 2 Remove the transport tube and collection swab from packaging.
- 3 Label the transport tube with your Patient label.
- 4 Label the transport tube with the Rectal label.
- 5 Open the package containing the collection swab.
- 6 Push the swab into the rectum, touching the rectal wall.




- 7 Gently insert the swab into the rectum, touching the rectal wall at least 3 times.
- 8 Gently insert the swab, 1 inch deep, 10 seconds, touching the rectal wall at least 3 times.

- 9 Remove the cap from the transport tube.
- 10 Place the collection swab into the transport tube, snapping it at the dashed line.
- 11 Push the cap back on the transport tube and twist it closed to prevent leaks.
- 12 Roll the transport tube into the biohazard bag.
- 13 Wash your hands with soap and water.

### TEST YOURSELF

The Visual Guide for a Self-collected Vaginal Swab



- 1 Wash your hands with soap and water.
- 2 Remove the transport tube and collection swab from packaging.
- 3 Label the transport tube with your Patient label.
- 4 Label the transport tube with the Vaginal label.
- 5 Open the package containing the collection swab.
- 6 Gently hold the collection swab above the dashed line (closer to the swab tip).




- 7 Get into a comfortable position, either sitting or standing with one foot on a toilet seat or step stool. If you have a tampon inserted, remove it now.
- 8 Gently insert swab about 2 inches (5 cm) into the vagina like inserting a tampon, but not as far, and twist the swab for 10-20 seconds. Make sure the swab touches the sides of the vagina. Remove the swab but do not put the swab down.
- 9 It is okay if there is some discharge or blood on the swab.

- 10 Unscrew the cap from the transport tube.
- 11 Place the collection swab into the transport tube, snapping it at the dashed line. Do not spill the liquid or pierce the roll top of the cap.
- 12 Put the cap back on the transport tube and twist it closed to prevent leaks.
- 13 Put the transport tube into the biohazard bag.
- 14 Wash your hands with soap and water.

# When do you re-screen your patient for gonorrhea/chlamydia?

- A) A one-time screening is enough
- B) With every new sex partner
- C) In 12 months
- D) In 6 months
- E) B or C

# GC/CT screening recommendations

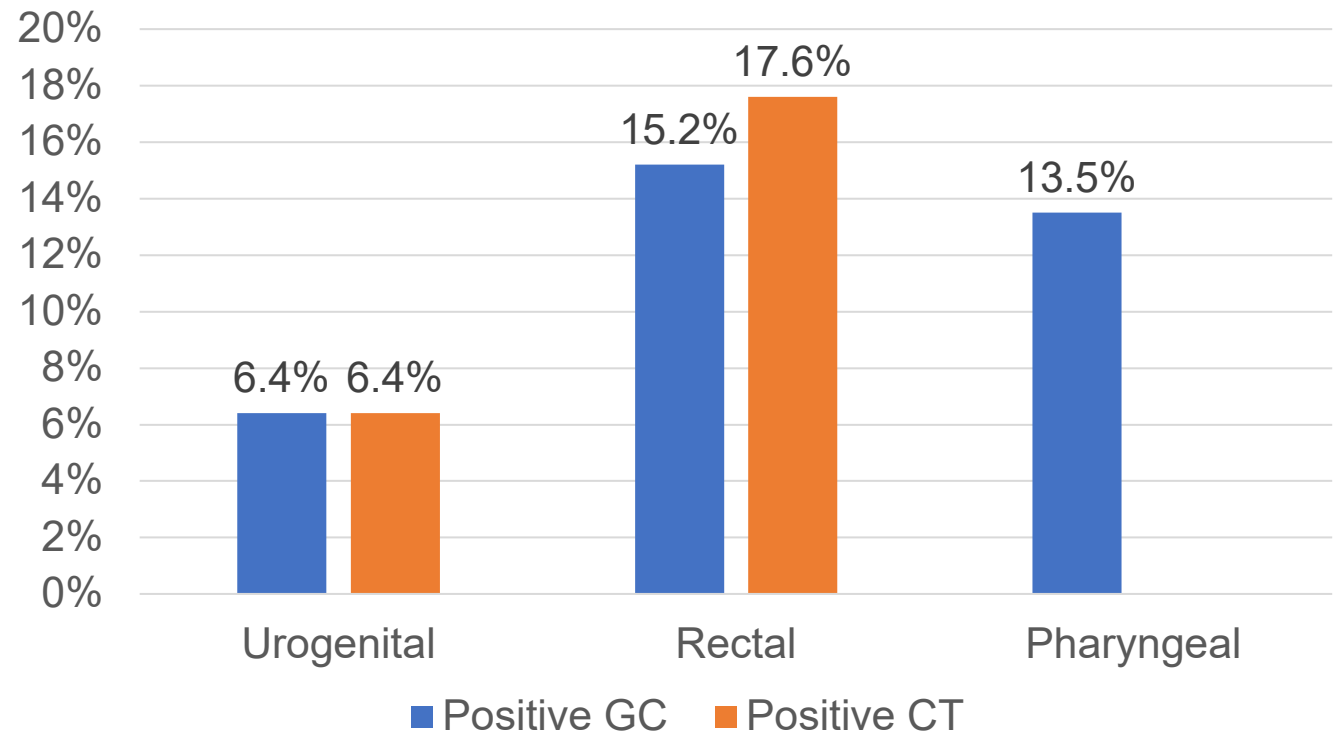
- In cisgender women less than 25 years of age, screen each anatomic site of contact at least yearly (more frequently with more frequent partner change) regardless of reported risk
- In cisgender women 25 years of age or older, screen each anatomic site of contact at least yearly if:
  - New sex partner
  - Two or more sex partners in a year
  - Concurrent sex partners
  - Sex partners with an STI
  - History of GC or CT at any anatomic site
  - Taking PrEP
  - High prevalence settings: corrections, substance use disorder treatment, STI clinics
- OHA recommends using the above indications for yearly testing among cisgender men who have sex with cisgender women (all ages)

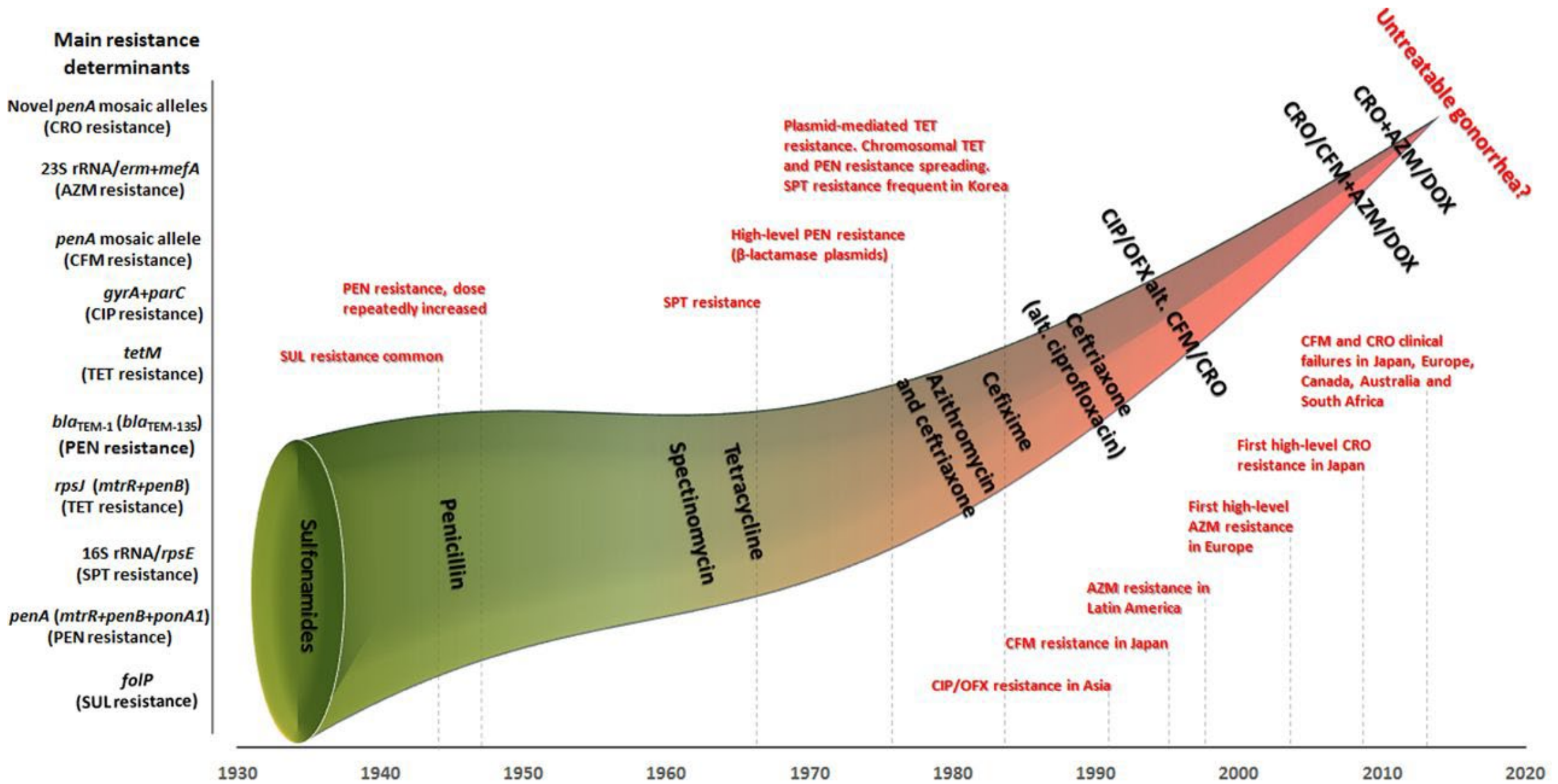


# GC/CT screening recommendations

- For sexually active gay, bisexual, and other men who have sex with men (MSM):
  - Screen at least yearly
  - Screen every 3-6 months
    - PrEP
    - Living with HIV
    - Multiple partners or partners have other partners
  - Screen anatomic sites of contact, regardless of condom use
    - Urogenital, rectal, pharyngeal
    - >70% of rectal and pharyngeal infections are missed with only urogenital screening

GC/CT test positivity among MSM, by anatomic site, Multnomah County, SsUN

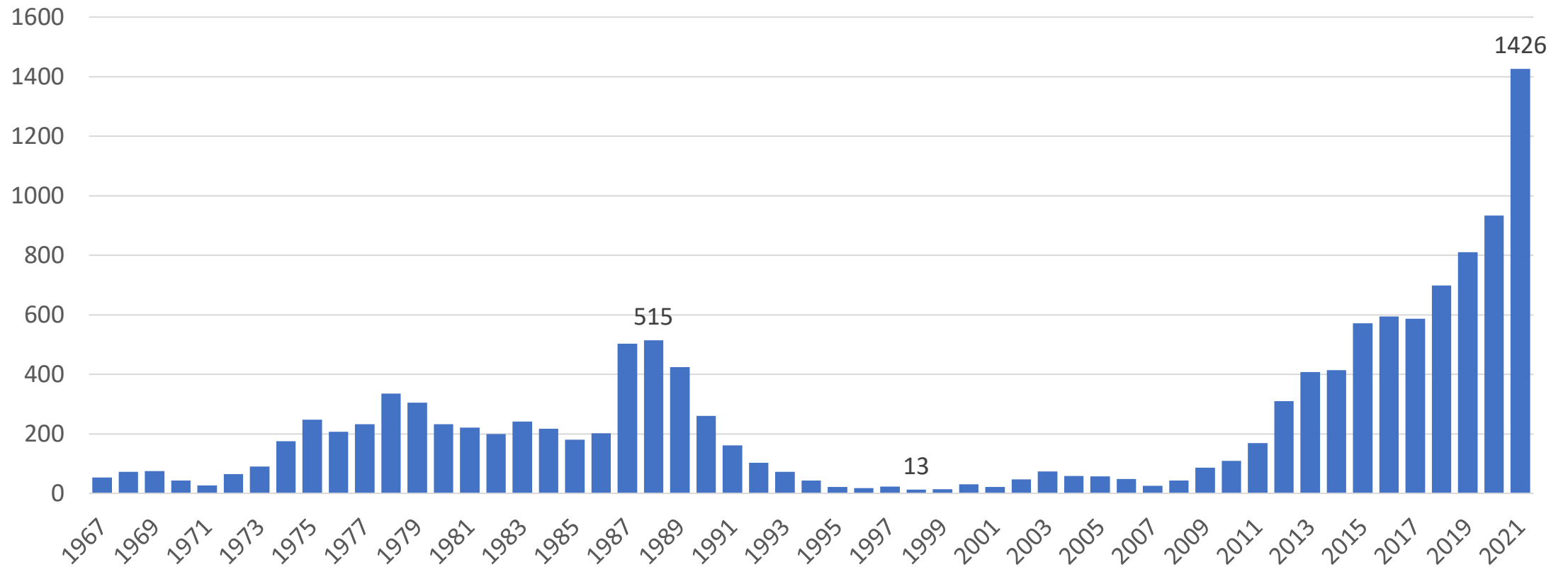




**Super Bug Status!**

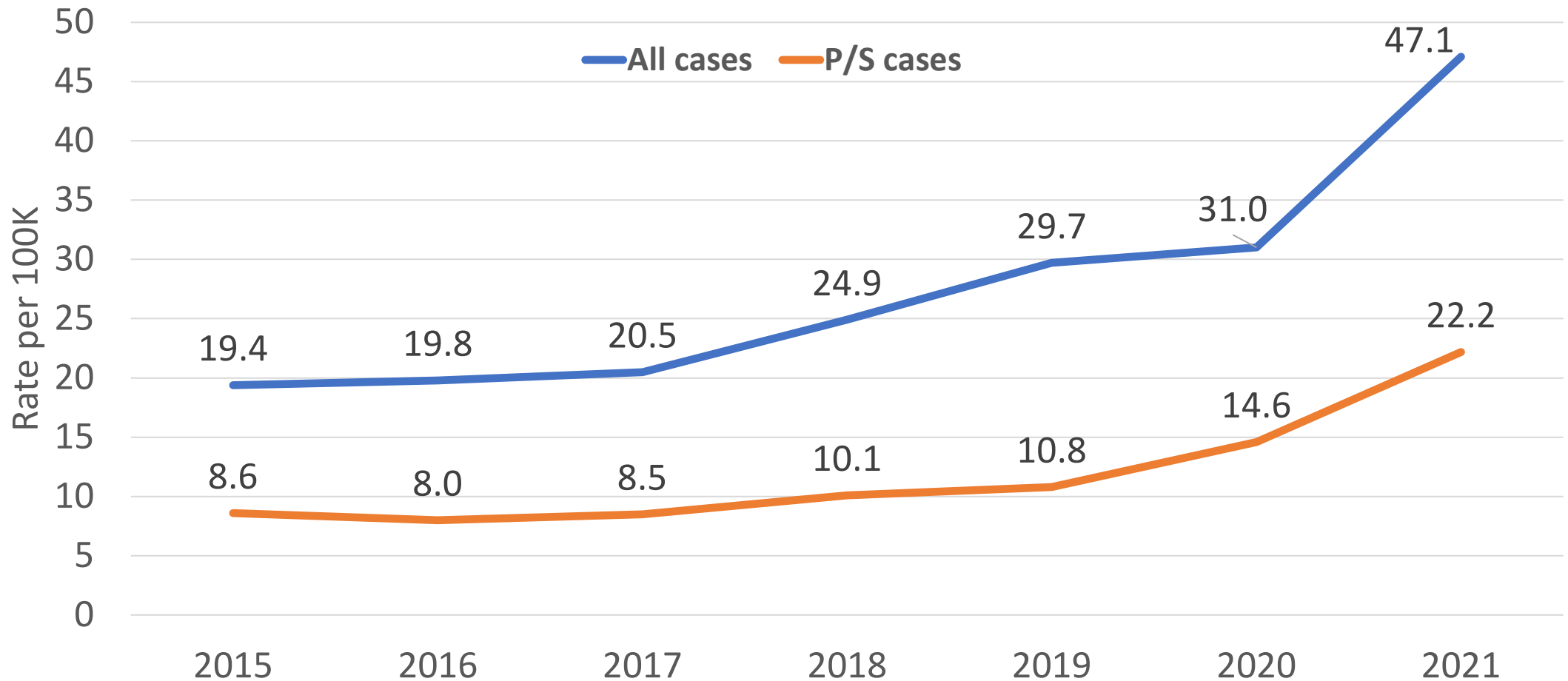
# Syphilis is back

Cases of primary, secondary and non-primary non-secondary (early) syphilis, 1967-2021

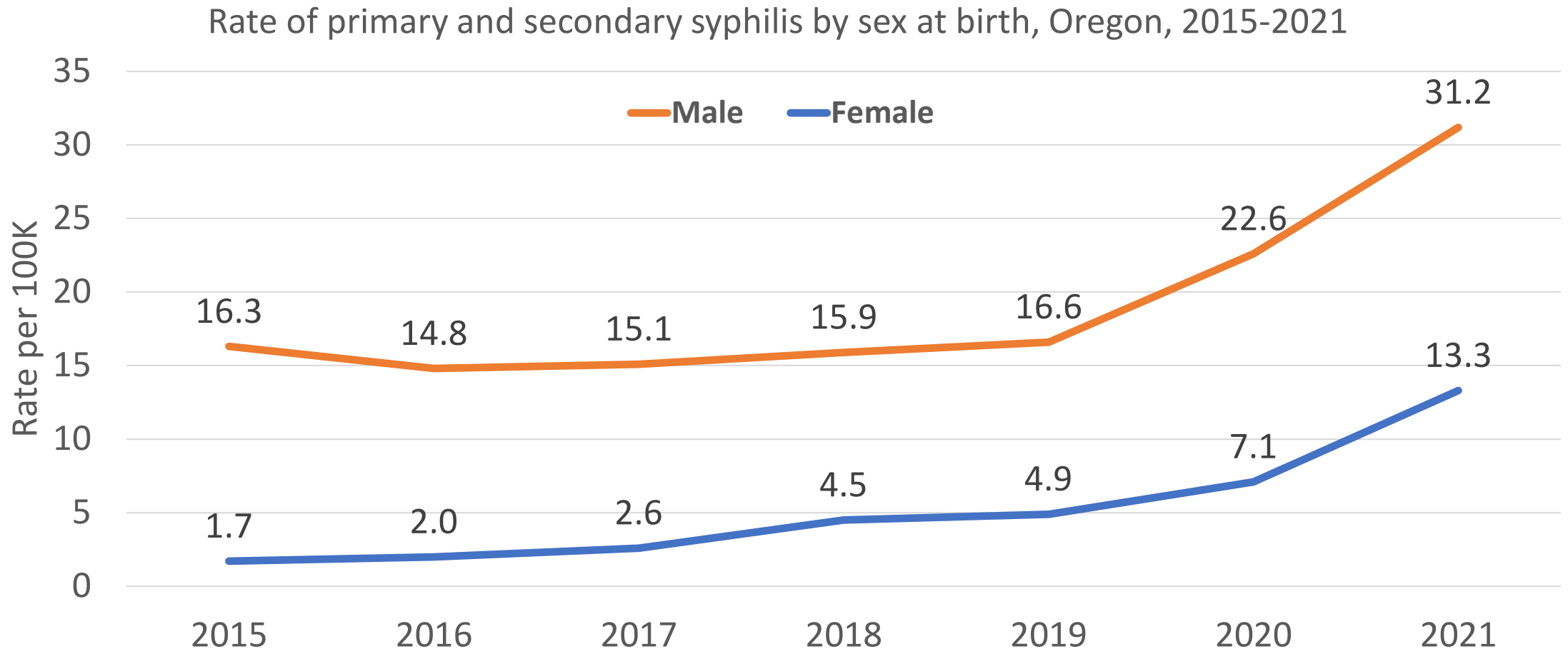


# Syphilis diagnoses are increasing in Oregon

Rate of all and primary and secondary (P/S) syphilis diagnoses, Oregon, 2015-2021

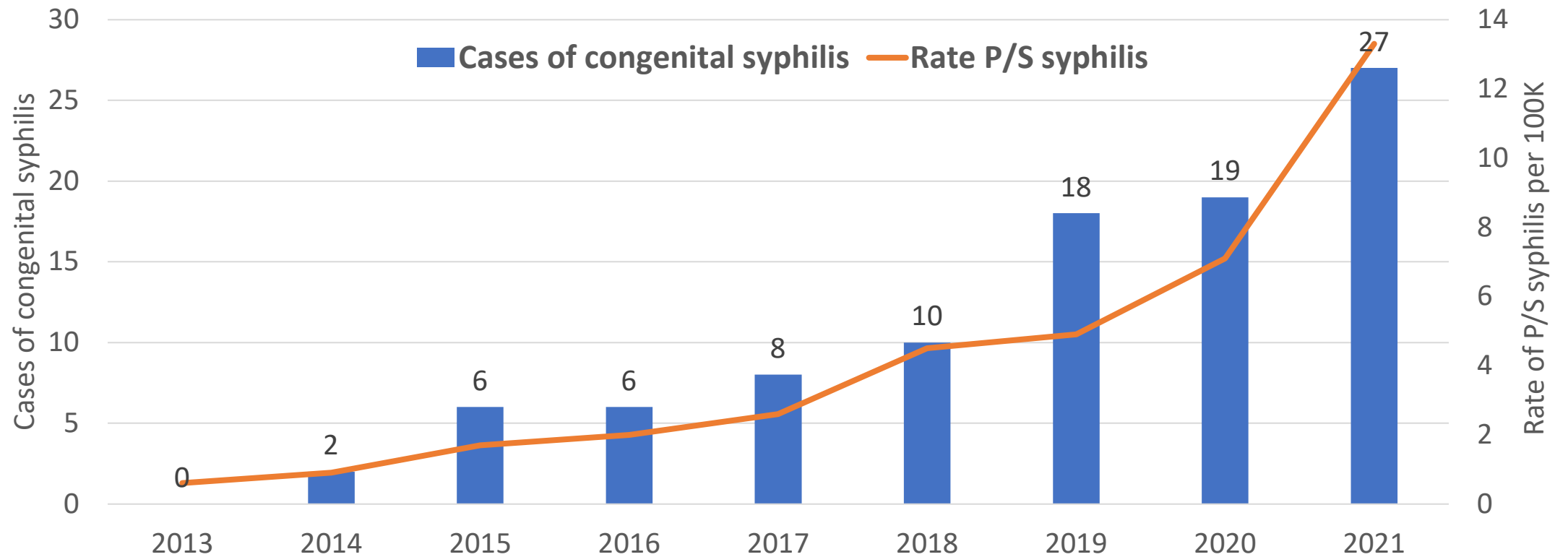


# P/S syphilis diagnoses are increasing among people assigned female at birth



# Concurrently, cases of congenital syphilis are increasing

Cases of congenital syphilis and rate of primary and secondary (P/S) syphilis among people assigned female at birth, Oregon, 2013-2021



# Jumping off point for syphilis screening recommendations

Population	Recommendation	Grade
Asymptomatic, nonpregnant adults and adolescents who are at increased risk for syphilis infection	The USPSTF recommends screening for syphilis infection in persons who are at increased risk for infection.	<b>A</b>

Population	Recommendation	Grade
Pregnant women	The USPSTF recommends early screening for syphilis infection in all pregnant women.	<b>A</b>

## Syphilis Cases among Women Interviewed for Partner Services by Stage and Risk, Oregon, 2021

	N	%	N	%
<b>Total cases (% interviewed)</b>	388	68%	225	52%
	Stage			
	Early		Late	
	N	%	N	%
<b>Total interviewed cases</b>	265	100%	116	100%
<b>Individual-level risk</b>				
<b>Methamphetamine</b>	75	28%	46	40%
<b>PWID</b>	53	20%	26	22%
<b>Houseless or unstably housed</b>	39	15%	24	21%
<b>Transactional sex</b>	16	6%	8	7%
<b>Criminal justice involvement</b>	11	4%	4	3%
<b>Prior STI (prior 2 years) and HIV/HCV (ever)</b>				
<b>Prior chlamydia</b>	39	15%	15	13%
<b>Prior gonorrhea</b>	37	14%	21	18%
<b>Prior syphilis</b>	16	6%	4	3%
<b>Prior HCV case</b>	4	2%	4	4%
<b>Prior HIV case</b>	1	<1%	0	0%
<b>Partner-level risk</b>				
<b>Partner: PWID</b>	75	28%	42	36%
<b>Partner: Houseless</b>	4/81	5%	3/27	11%
<b>Partner: criminal justice involvement</b>	3/81	4%	0	0%
<b>Risk Identified (any of above)</b>	143	54%	65	56%
<b>No Risk Identified</b>	122	46%	51	44%



# Oregon-specific syphilis screening recommendations

- Screen all (nonpregnant) cisgender women under 45 years of age who have sex with cisgender men at least once starting 1/1/2021 (in addition to screening during pregnancy)
- Screen all cisgender men under 45 years of age who have sex with cisgender women at least once starting 1/1/2021
- Screen those with indications for more frequent screening at least yearly

# Oregon-specific recommendations for syphilis screening in pregnancy

- Screen at first presentation to care
- Screen again at 24-28 weeks (early third trimester)
  - We recommend pairing with an oral glucose tolerance test
    - Allows enough time to arrange for treatment
    - Detects seroconversion and re-infection
- Screen at delivery
- Any pregnant person with a fetal demise after 20 weeks
- If no/unknown prenatal care: screen at presentation to ER, corrections, substance use disorder treatment

# Data behind the guideline: syphilis

- Observational study 2002-2012, China
- 2.4 million pregnant women
- Screening increased 89% → 97%
- Incidence of congenital syphilis 109.3/100,000 → 9.4/100,000 live births
- Stillbirth incidence 19% → 3.3%

# Syphilis screening recommendations

- For sexually active MSM, people living with HIV, and transgender people, screen at least yearly and more frequently if indications for more frequent screening

# Hepatitis B and C screening recommendations

Population	Recommendation	Grade
Adolescents and adults at increased risk for infection  <b>UPDATE IN PROGRESS</b>	The USPSTF recommends screening for hepatitis B virus (HBV) infection in adolescents and adults at increased risk for infection.  See the Practice Considerations section for a description of adolescents and adults at increased risk for infection.	<b>B</b>

Population	Recommendation	Grade
Pregnant women	The USPSTF recommends screening for hepatitis B virus (HBV) infection in pregnant women at their first prenatal visit	<b>A</b>

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>B</b>

# Which of the following tests are recommended for hepatitis B screening?

- A) Hepatitis B surface antibody
- B) Hepatitis B surface antigen
- C) Hepatitis B core total antibody
- D) Hepatitis B core antigen
- E) A, B, C
- F) All the above

# Screening Recommendations for Hepatitis B

## ■ Universal hepatitis B screening:

- Hepatitis B screening at least once in a lifetime for adults  $\geq 18$  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  $\geq 18$  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.

## Compared with current practice, universal screening of adults aged 18-79 years would avert

- 7 cases of compensated cirrhosis
- 3 cases of decompensated cirrhosis
- 5 cases of hepatocellular carcinoma
- 2 liver transplants
- 10 HBV related deaths

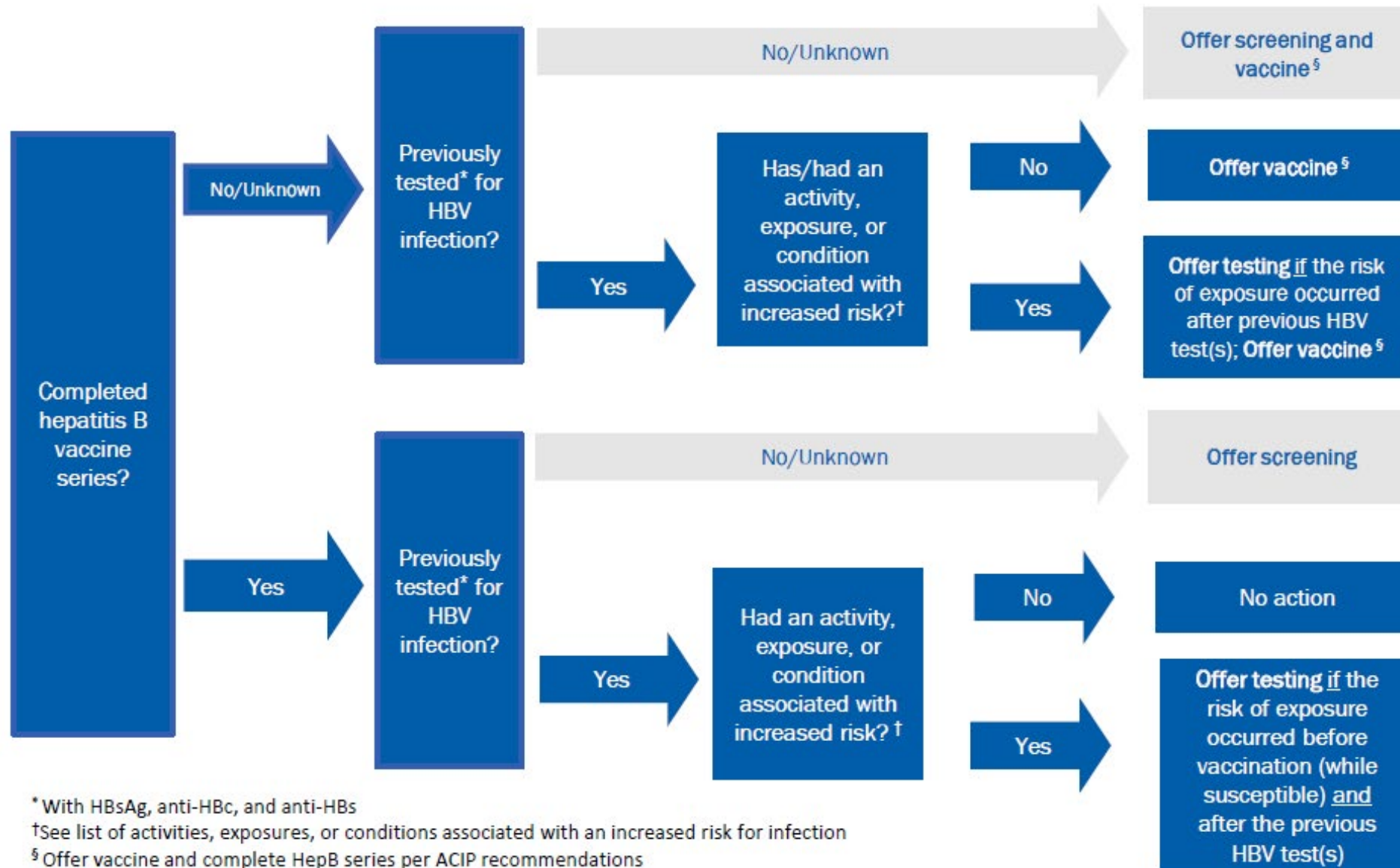
at a savings of \$200,334 per 100,000 adults screened.



# The following persons have an increased risk for HBV infection:

- People currently or formerly incarcerated in a jail, prison, or other detention setting [New recommendation]
- People with a history of sexually transmitted infections or multiple sex partners [New recommendation]
- People with current or past hepatitis C virus infection [New recommendation]
- Anyone who requests hepatitis B testing [New recommendation]
- People born in regions with HBV prevalence  $\geq 2\%$
- U.S.-born people not vaccinated as infants whose parents were born in regions with HBV prevalence  $\geq 8\%$
- People with HIV infection
- People with current or past injection drug use
- Men who have sex with men
- Infants born to HBsAg positive persons
- Household, needle-sharing, or sexual contacts of people with known HBV infection
- Patients receiving predialysis, hemodialysis, peritoneal dialysis, or home dialysis
- People with elevated alanine aminotransferase or aspartate aminotransferase levels of unknown origin

## Adults aged $\geq 18$ years without a known history of HBV infection

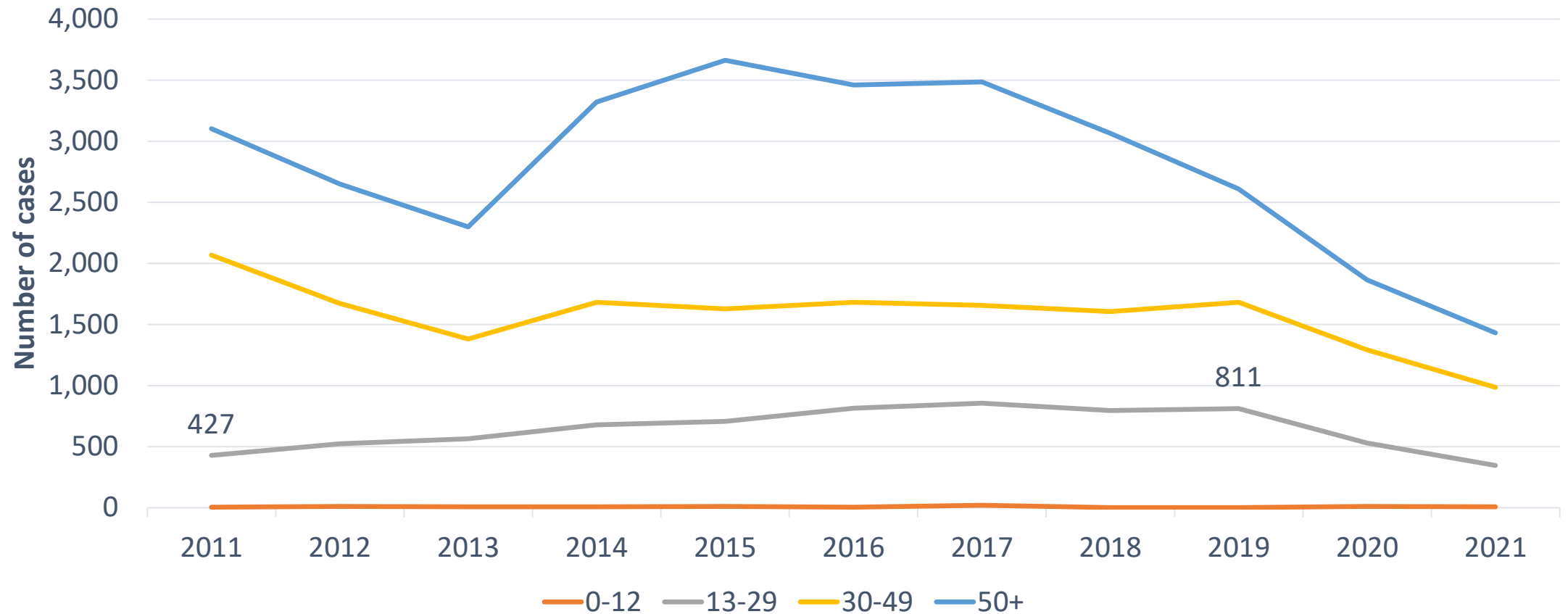


# Interpretation of serologic testing for HBV

Clinical State	HBsAg	Anti-HBs	Total Anti-HBc	Action
<b>Acute infection</b>	Positive	Negative	Positive (IgM positive)	Link to hepatitis B care
<b>Chronic infection</b>	Positive	Negative	Positive (IgM negative)	Link to hepatitis B care
<b>Resolved infection</b>	Negative	Positive	Positive	Counsel
<b>Immune from vaccination</b>	Negative	Positive	Negative	Reassure if history of HepB vaccine series completion
<b>Susceptible, never infected</b>	Negative	Negative	Negative	Offer HepB vaccine if no history of HepB vaccine series completion
<b>Isolated core antibody positive</b>	Negative	Negative	Positive	Consult with specialist

# HCV diagnoses are increasing among adolescents and adults under 30

Hepatitis C cases, by year, 2011–August 2021



**In addition, anyone who asks for HIV/STI/hepatitis screening, should receive it [regardless of disclosed behaviors/risk]**

# Summary

- HIV, HCV, HBV all have **universal** screening recommendations
  - Risk-based screening is difficult to implement in practice
  - Many people do not know they have HIV, HCV, HBV
  - Screening can identify infection prior to the onset of severe disease
  - The health consequences of undiagnosed/untreated HIV, HCV, and HBV can be severe
  - All three infections can be effectively treated, resulting in improved health outcomes and decreased secondary transmission (treatment as prevention)
  - The prevention of these infections is cost-effective

# Summary

- Oregon now has a universal syphilis screening recommendation
  - Syphilis is increasing dramatically, particularly among people assigned female at birth
  - As a result, congenital syphilis cases are rising
  - Most people assigned female at birth with syphilis do not have an identifiable risk factor
  - Syphilis is more prevalent than HIV and HBV (both of which have universal screening recommendations)
- Incorporate extragenital testing into GC/CT screening for all patients based on sites of exposure (and regardless of condom use)

THEY MAY BE HISTORY. BUT SYPHILIS IS NOT.



NAPOLEON

CAPONE

IVAN THE TERRIBLE

HENRY VIII



LINCOLN

TOLSTOY

VAN GOGH

BEETHOVEN

Many historical figures who had syphilis are gone, but syphilis lives on. If you have been exposed to syphilis in the last 3 months, you should be treated for syphilis.

**Test now, test often.**

Thank you!

Tim W. Menza, MD, PhD

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# In March 2020, OHA launched a free, statewide mail order HIV self testing program

## Home-based HIV self-testing

Oregon Health Authority  
Public Health Division  
HIV, STD & TB Section (HST)

This dashboard uses data from the TakeMeHome program which offers at-home HIV testing in Oregon. OHA has partnered with Building Healthy Online Communities (BHOC) to offer this program.

Data current as of May 25, 2022

Select a County

All

Select Order Year

2021



### TakeMeHome Indicators

911

test kits have been distributed

25.1%

report never being tested for HIV before

14.2%

report receiving a previous home HIV test

### Surveillance Match Indicators

37.5%

percent linked to care within 30 days

0.9%

percentage with a newly diagnosed HIV case

17.2%

percentage with a prior STI case

2.2%

percentage with a prior HCV case

### Number of Tests by Month



# In February 2021, we launched a free, statewide home-based STI testing program

## Home-based STI self-collection and testing

Oregon Health Authority  
Public Health Division  
HIV, STD & TB Section (HST)

This dashboard uses data from the TakeMeHome program which offers at-home STD testing in Oregon. OHA has partnered with Building Healthy Online Communities (BHOC) to offer this program.

Select a County: All | Select Order Year: 2021

### TakeMeHome Indicators

256 test kits have been distributed | 96 test kits have been returned | 37.5% test return rate

### Surveillance Match Indicators

1.2% percentage with a previous HIV case | 14.5% percentage with a prior STI case | 2.3% percentage with a prior HCV case

### Positivity Indicators

Chlamydia	8.3%
Gonorrhea	4.2%
Syphilis	2.2%
HIV	0.0%
Hepatitis C	0.0%

Data current as of May 25, 2022

