

# **January 2026 AIDS Clinical Conference**

## **Tuesday, January 20, 2026**

### **The Latest in STI Prevention, Diagnosis, and Treatment**

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# Disclosures

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No conflicts of interest or relationships to disclose

# Disclaimer

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# Today's agenda

- Examine the most recent data on the use of doxycycline to prevent STI
- Consider the impacts of doxy PEP on antimicrobial resistance
- Discuss trends in mpox cases in Washington State and King County
- Explore the latest developments in testing and treatment for *Mycoplasma genitalium*
- Integrate BV partner treatment into your practice

# **Doxycycline for STI prevention**

# Poll: Doxycycline for STI prevention is most effective against which of the following STIs?

- Syphilis
- Chlamydia
- Gonorrhea
- Syphilis and chlamydia
- Syphilis and gonorrhea
- Chlamydia and gonorrhea
- All three equally!

# **Doxycycline as PRE-exposure prophylaxis (doxy PrEP): data from Canada and Japan**



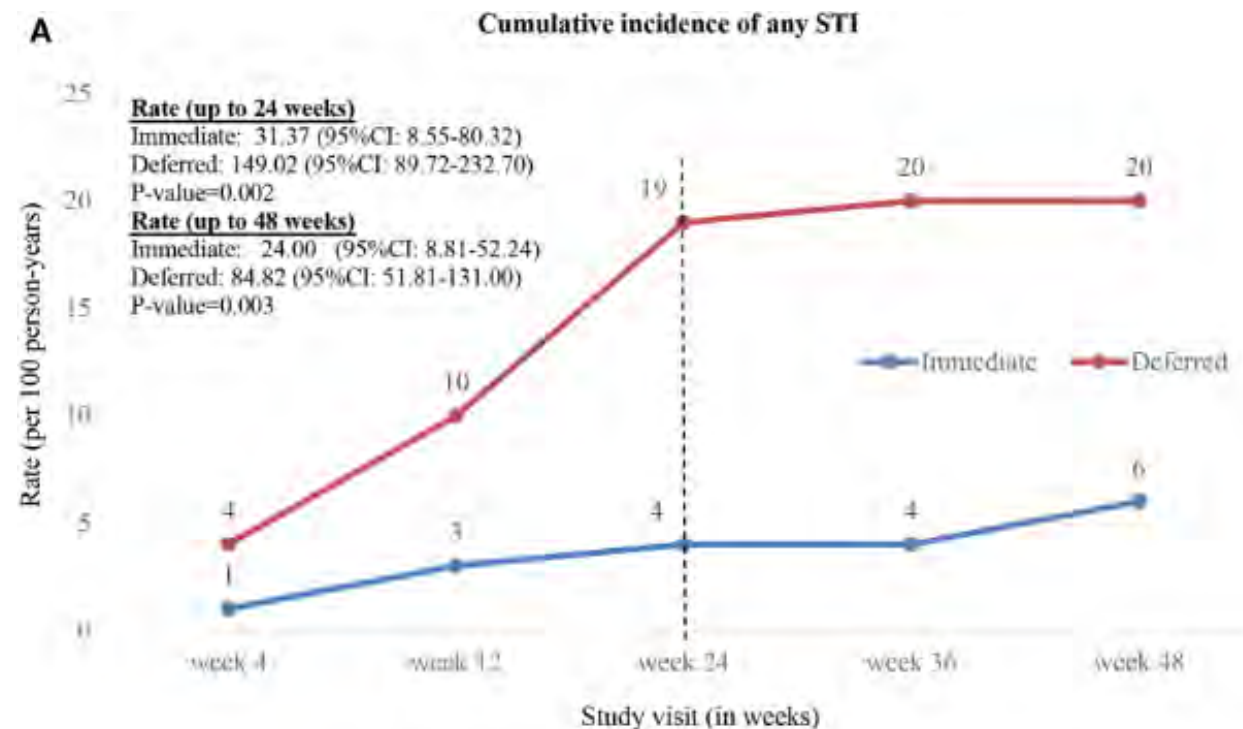
# Daily doxycycline pre-exposure prophylaxis in men living with HIV for STI prevention (DaDHS)

- 52 men living with HIV who have male partners
- Vancouver, BC and Toronto, ON
- Recruitment from: 1/2020-1/2023
- Randomized 1:1 to take doxycycline 100 mg PO daily v placebo
- Median age = 43 (IQR 38-45)
- 21% Latine
- Median years living with HIV = 8 (IQR 1-33)
- 87% with undetectable viral load
- Median sex partners in prior 3 months = 5 (IQR 5-15)
- 41/52 (79%) completed the 48-week protocol
- 70% took  $\geq$  90% of their daily doxy
- One person stopped doxy due to worsening GERD

	Relative decrease in STI incidence (doxy v placebo)
Chlamydia	↓ 92%
Gonorrhea	↓ 68%
Syphilis	↓ 79%

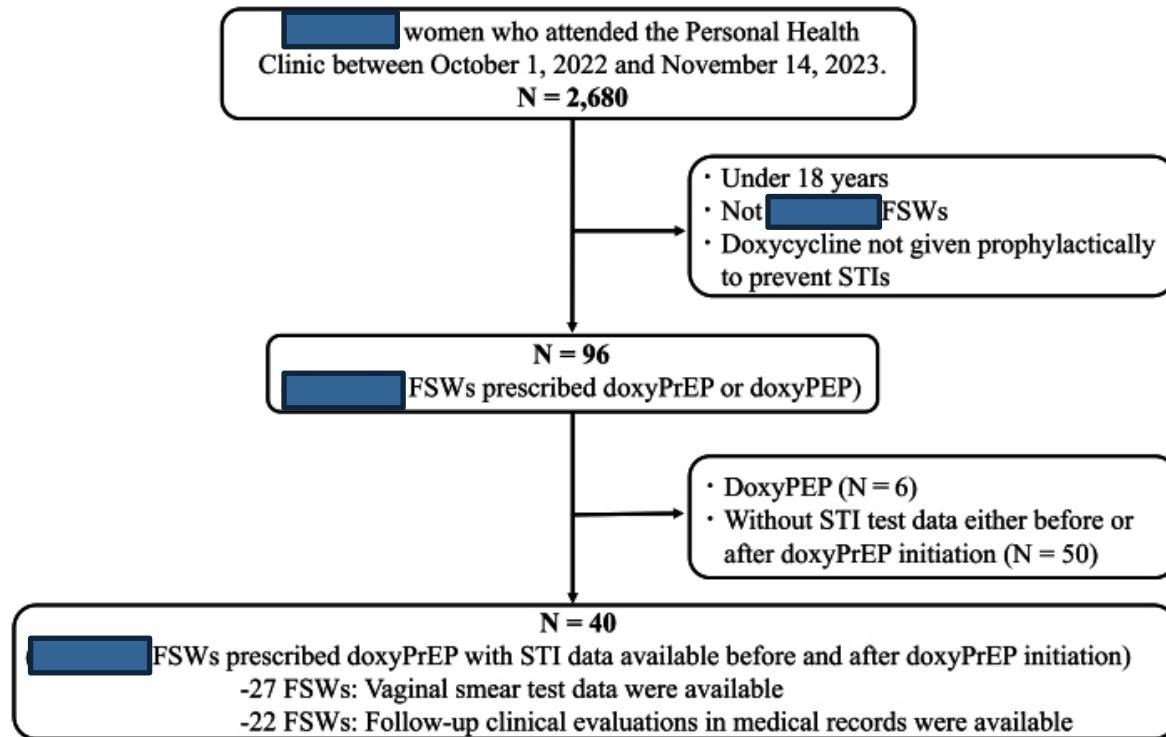
# Dual daily HIV and STI pre-exposure prophylaxis (DuDHS)

- 52 men and women on PrEP
- Vancouver, BC
- Recruitment from: 2/2018-5/2019
- Follow-up = 48 weeks
- Randomized 1:1 to immediate or deferred doxy PrEP
- 45/52 (87%) completed the 48-week protocol
- At week 48, 71% (immediate) and 62% (deferred) took  $\geq 95\%$  of their daily doxy

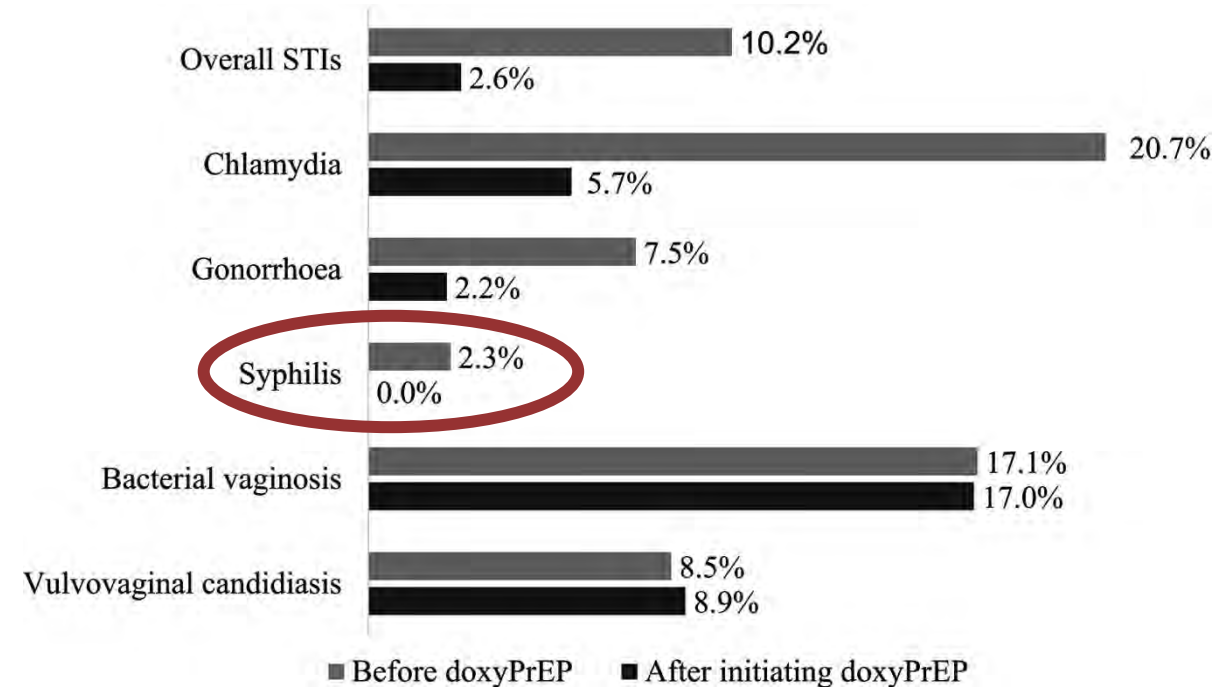


Cumulative STI cases	Immediate	Deferred
Chlamydia	0	10
Gonorrhea	6	9
Syphilis	0	1
HIV	0	0

# Among women who trade sex, doxyPREP may reduce STI incidence



**Daily doxy PREP: 73% took  
100% of doses**



**STI incidence:  
232.2/100 p-y → 79.2/100 p-y  
67% reduction in STI**

# Weekly DOT doxy likely prevents chlamydia among women

Incident chlamydia rate with **weekly doxycycline: 11.2** per 100 person years  
Incident chlamydia rate in **dPEP Kenya SOC group: 29.6** per 100 person years

Analysis	Endpoint	Weekly DoxyDOT (N=60)	SOC dPEP Kenya (N=225)	RR	95% CI	P-value
GEE Censoring Clinical Hold Time	All STIs	6/57 (10.5%)	31/220 (14.1%)	0.73	0.28-1.91	0.52
	<b>Chlamydia</b>	<b>3/57 (5.3%)</b>	<b>29/220 (13.2%)</b>	<b>0.39</b>	<b>0.12-1.25</b>	<b>0.11</b>
	Gonorrhea	4/57 (7.0%)	5/220 (2.3%)	3.03	0.637-14.40	0.16

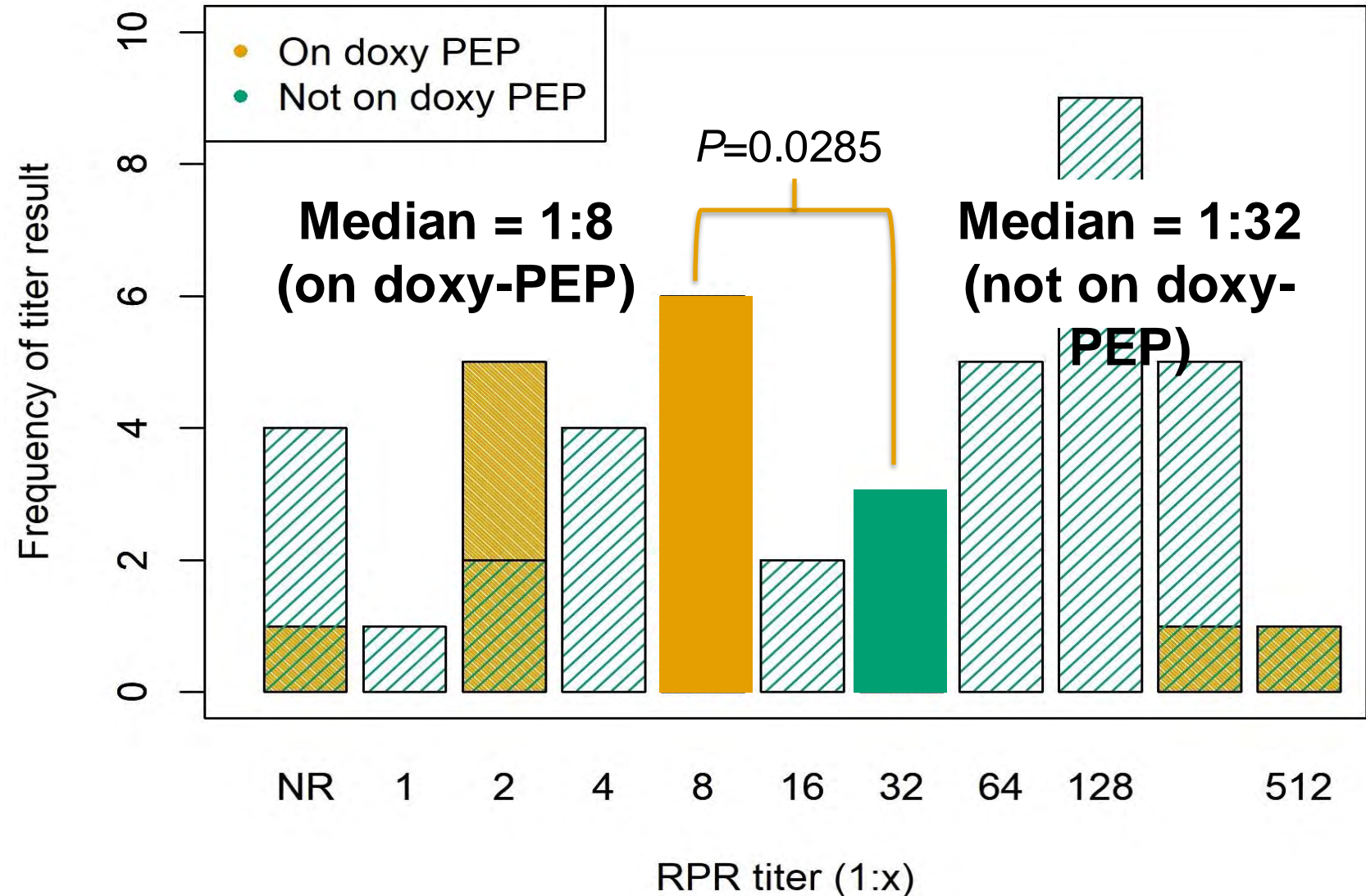
\* Two additional cases of chlamydia and 3 additional gonorrhea cases among people on holds



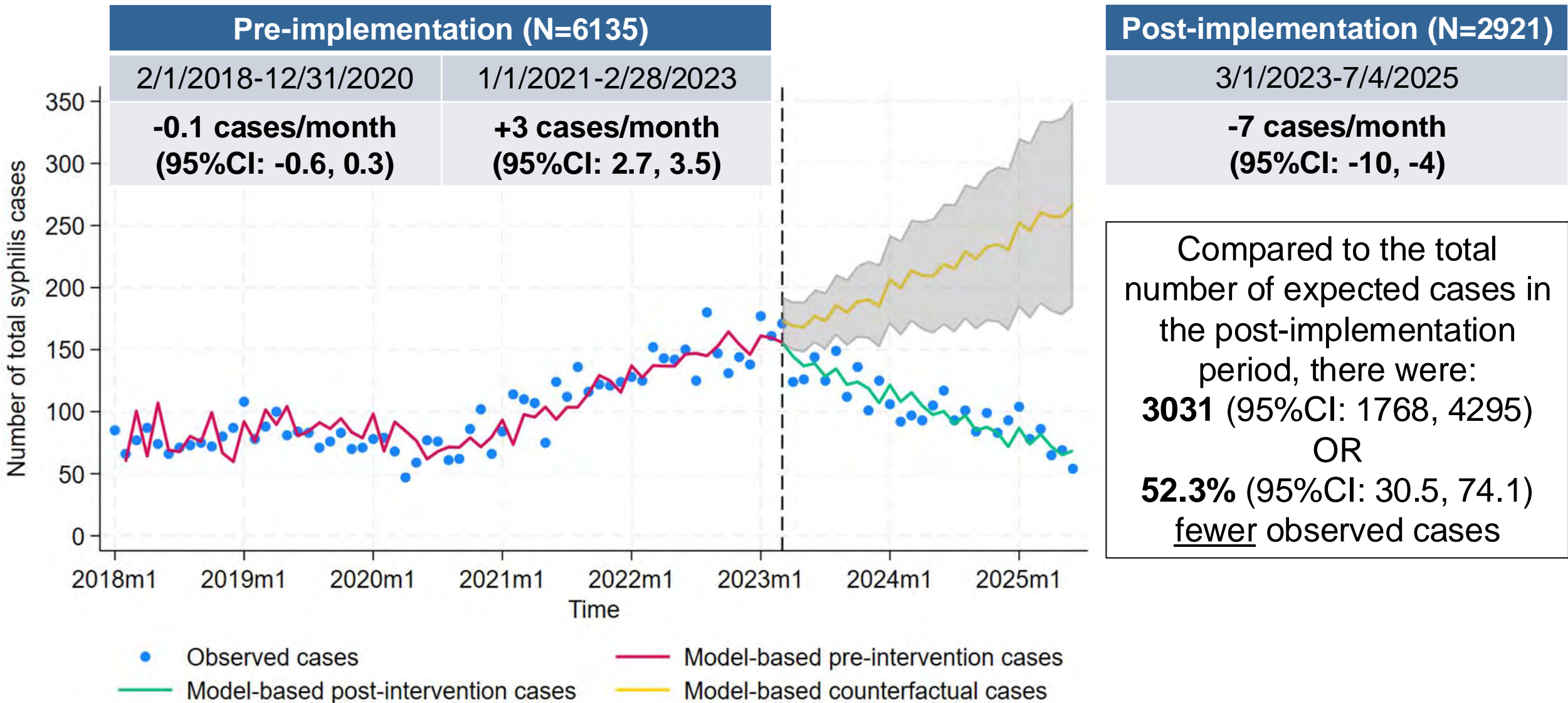
# **New data on doxycycline as POST-exposure prophylaxis (doxy PEP)**

# Early syphilis diagnoses among people on doxy PEP are more likely to be staged as early latent with lower RPR titers

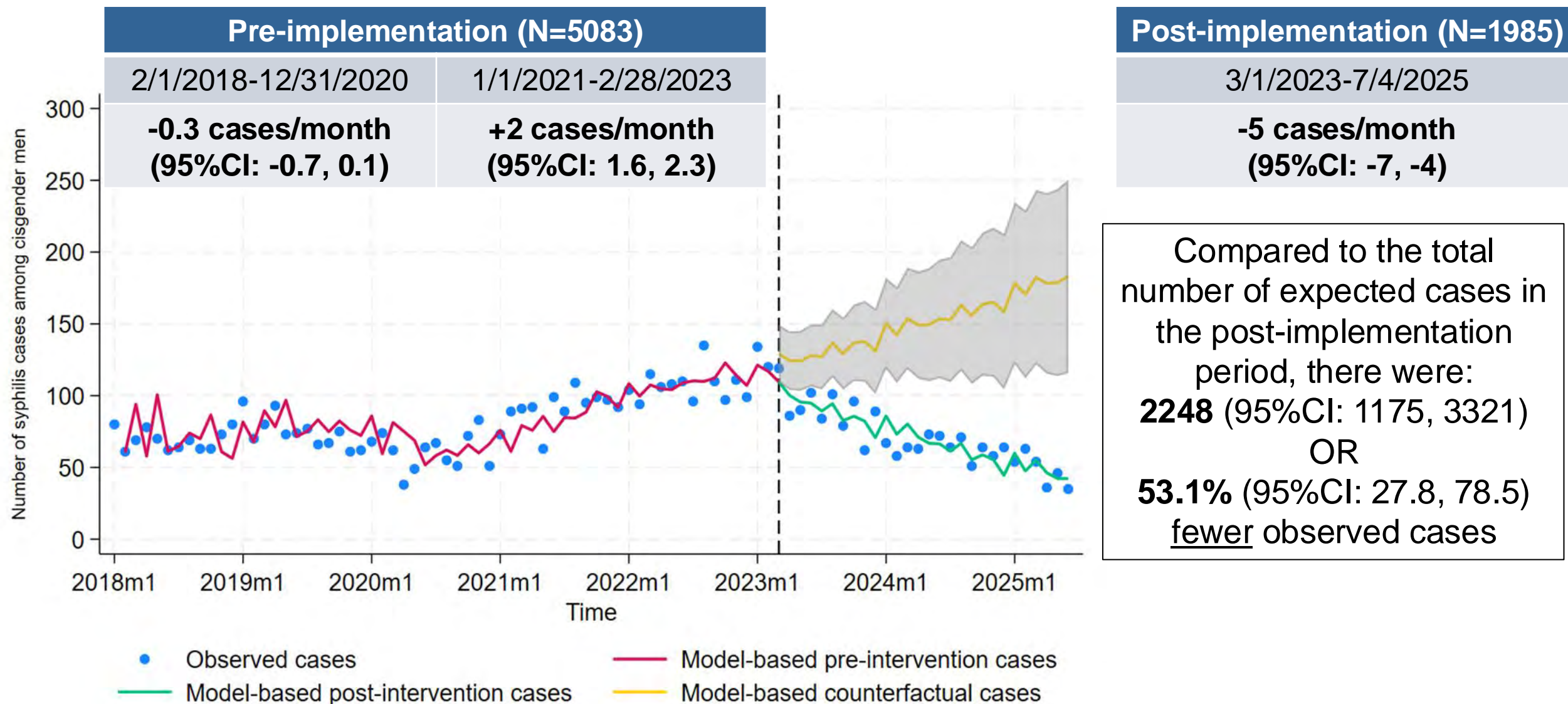
- 59 ES dx in 56 patients
  - 14 (24%) on doxy PEP
  - 42 (71%) not on doxy PEP
- Early latent was the most common stage (56%)
- 88% of ES in people not on doxy PEP was P&S v 12% in people on doxy PEP



# Trends in all stages of syphilis, King County, WA, 2021-2025

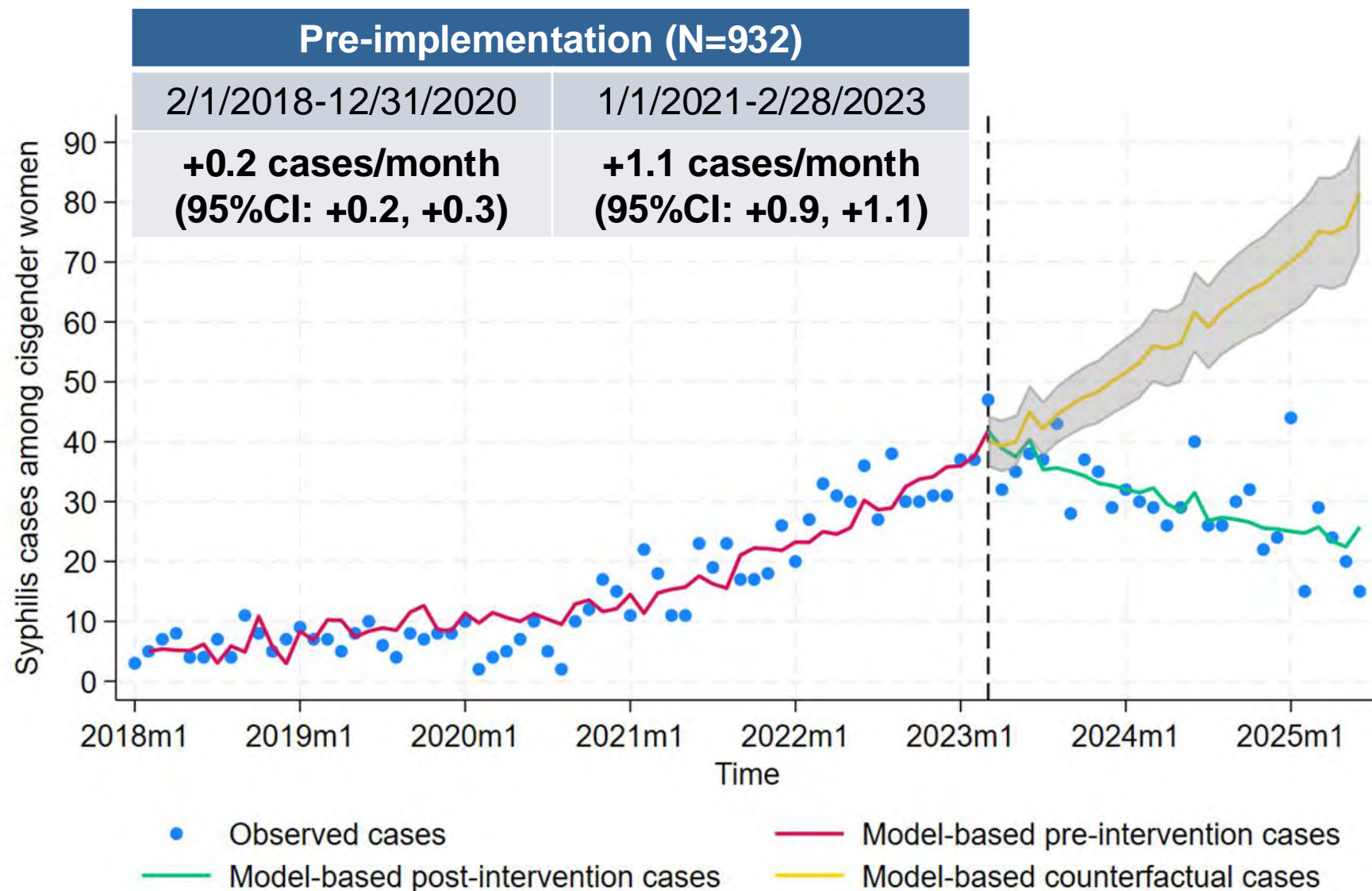


# Trends in syphilis among men, King County, WA, 2021-2025





# Trends in syphilis among women, King County, WA, 2021-2025

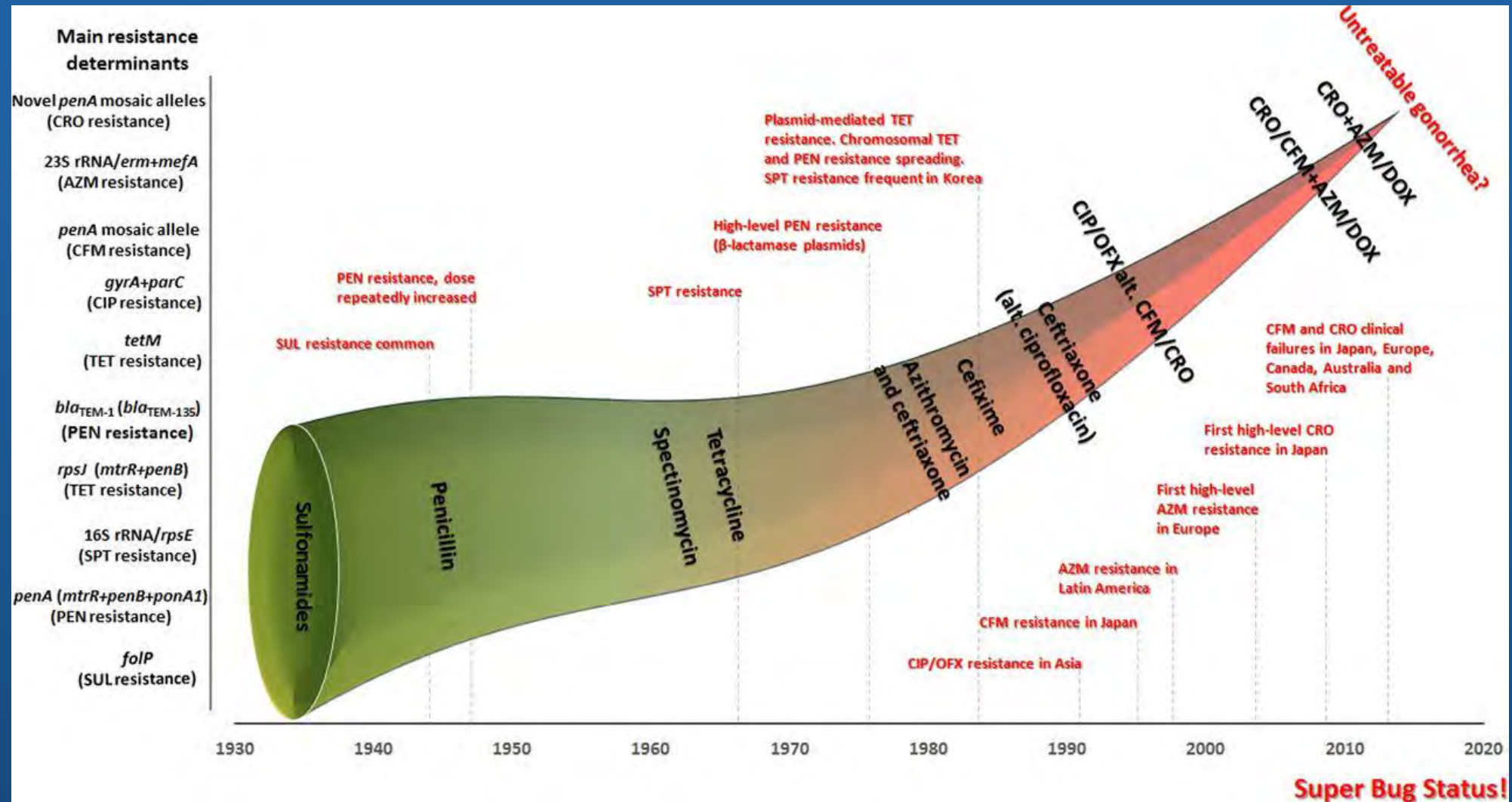


# Takeaways: doxycycline for STI prevention

- In small pilot studies, daily doxycycline PrEP reduces the incidence of all STI
- Similar to doxyPEP, doxyPrEP is most effective for syphilis and chlamydia
- Daily doxy PrEP may be appropriate for people who have frequent sex (e.g., people who trade sex) and who may have another indication for daily doxy
- Weekly doxy likely prevents CT among women
- People who acquire *T pallidum* while on doxy PEP are more likely to be diagnosed with early latent syphilis with lower RPR titers
- At the population-level, doxycycline has significant impacts of syphilis, including among people who we don't think are receiving much doxy PEP

# **DoxyPEP and antimicrobial resistance**

# Gonorrhea as superbug

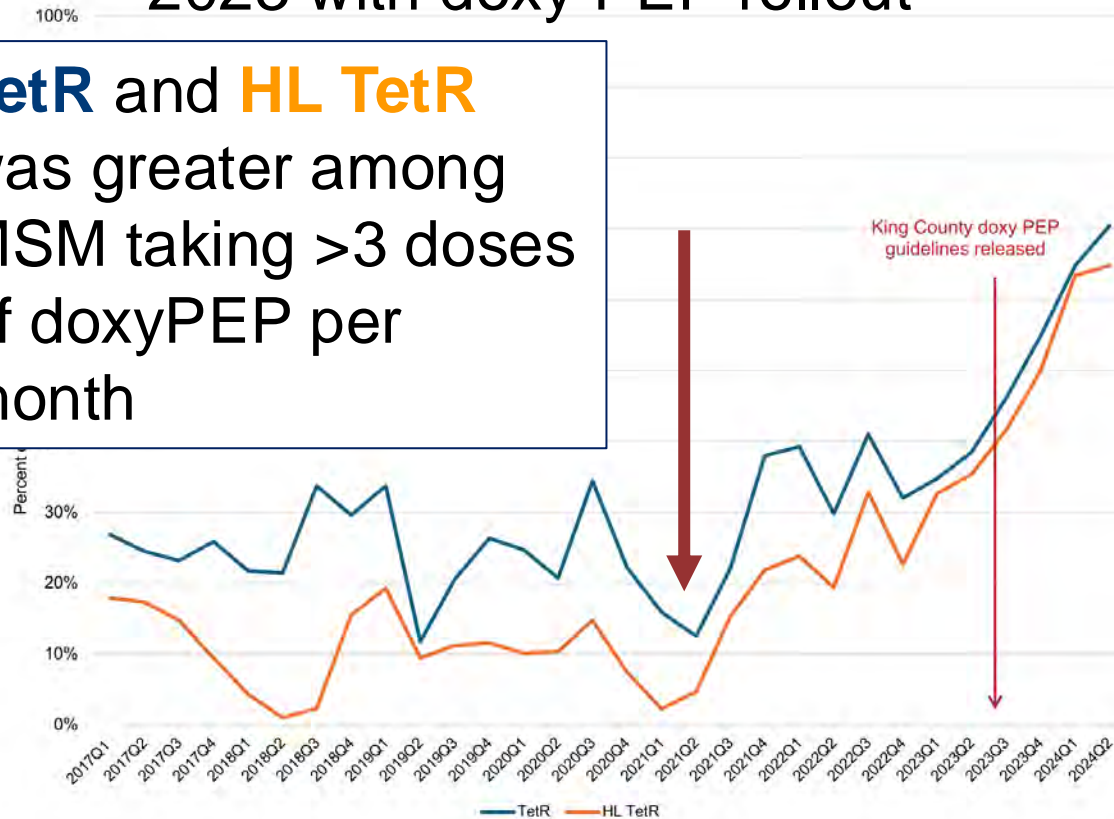




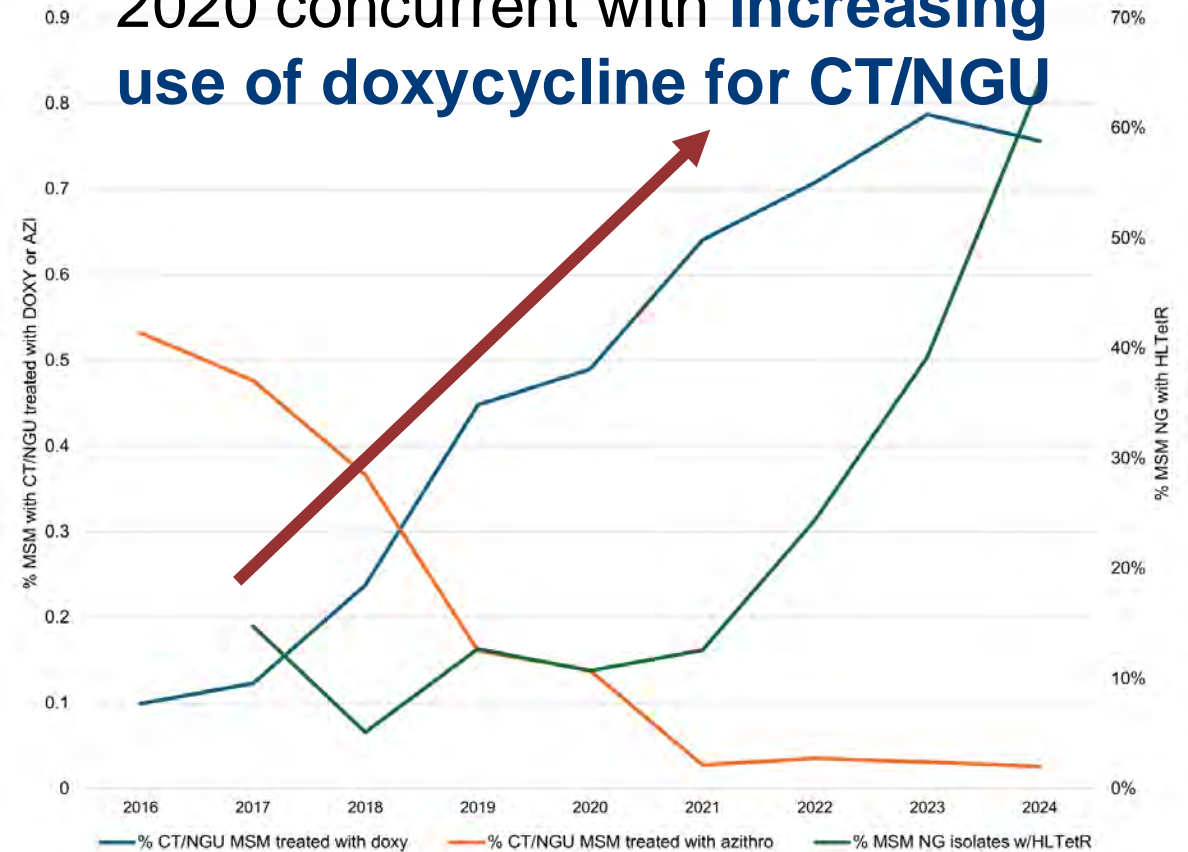
# Tetracycline resistance in gonorrhea has been increasing in King County, WA, 2014-2024

**TetR** increased more rapidly in 2023 with doxy PEP rollout

**TetR** and **HL TetR** was greater among MSM taking >3 doses of doxyPEP per month



**HL TetR** increased starting in 2020 concurrent with **increasing use of doxycycline for CT/NGU**



**TetR** (MIC  $\geq 2\mu\text{g/mL}$ ), **HL TetR** (MIC  $\geq 16\mu\text{g/mL}$ )

# Poll: A patient on doxy PEP presents with a skin and soft tissue infection, would you treat this infection with doxycycline?

- Yes, doxycycline will cover MRSA
- No, that doxyPEP might lead to resistance in skin bacteria

# TetR Staph aureus and GAS are more common among people on doxy PEP

	Doxy PEP in last month (n=227)	No Doxy PEP in last month (n=602)	Difference
Staph aureus	27%	36%	↓
MRSA	1%	1%	↔
TetR Staph aureus	18%	8%	↑
TetR MRSA	1%	1%	↔
Group A strep	9%	4%	↑
TetR group A strep	8%	3%	↑

2 swabs: nasal and pharyngeal, pooled and inoculated onto growth media.

TetR >8 ug/mL; MRSA oxacillin MIC >2 ug/mL

# Takeaways: AMR in gonorrhea and bystander bacteria

- TetR GC is increasing
  - This increase was likely driven by changes in treatment practices for CT/NGU to use doxycycline over azithromycin
  - This increase is now likely sustained by doxyPEP use in the community
- People who use doxyPEP are LESS likely to have SA on nasal/pharyngeal swabs
  - And more likely to have TetR SA
  - But not more likely to have MRSA or TetR MRSA
- People who use doxyPEP are MORE likely to have GAS, including tetR GAS, on nasal/pharyngeal swabs



# DOXY IMPACT



*Multi-city US longitudinal cohort to evaluate real-world effectiveness of doxycycline for STI prophylaxis and antimicrobial resistance*

## Aim 1: How well doxy prophylaxis works

**Subaim 1:**  
GC, CT and syphilis rates every 6 mo & how people use doxy

**Subaim 2:**  
Qual work to understand why some continue vs stop doxy or use it selectively

**Subaim 3:**  
Doxy-PEP to need ratio: Is doxy reaching those who could most benefit?

- Enrolling **2500 people** (500 per city) who are newly initiating or continuing doxycycline for STI prevention and:
  - Had sex with a man in past 3 months
  - Condomless sex with a man in past year
  - Recent GC, CT and syphilis testing in last 6 months
- Paid follow-up through 42 months, even if not using doxy
- Seeking new doxy initiators, gender and racial/ethnic diversity across all sites

## Aim 2: Antimicrobial resistance (AMR)

- Gonorrhea
- Nasopharynx, skin: *Staph. aureus*, *Strep. pneumoniae* growth and resistance
- Skin, nose and rectal microbiome

**Email [shcresearch@uw.edu](mailto:shcresearch@uw.edu)**

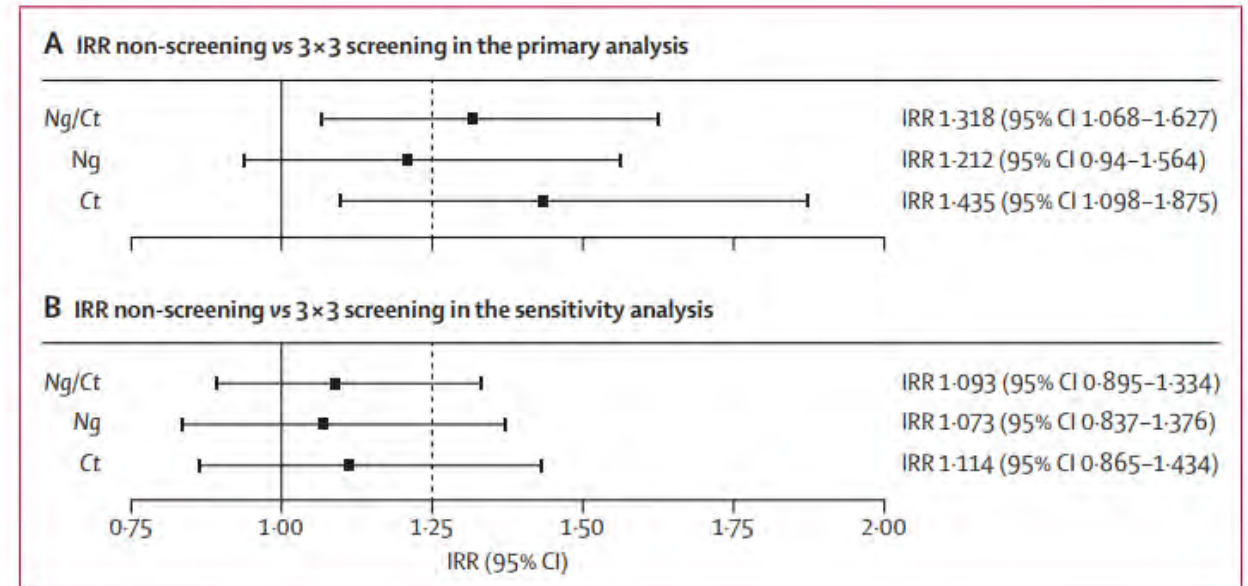
**or Chase Cannon for info or referrals**

Sexual Health Clinic: Cheryl Malinski

Madison Clinic: Carl Capili

# Balancing the benefits of GC/CT screening and risks of antibiotic exposure (the Gonoscreen study)

- 1014 men who have sex with men
- Non-inferiority RCT (IRR = 1.25)
- 5 PrEP Centers in Belgium
- All patients screened 3 sites at baseline
  - Control: 3x3 testing, treating only symptomatic infections
  - Intervention: 3x3 testing, treating all infections
- Primary outcome: incidence of GC and CT
- Secondary outcome: antibiotic use



**CT incidence was lower in the screening group; however, NG incidence was not different.**

- NNS = 11 (1 asymptomatic case of CT)
- NNS = 26 (1 symptomatic case of CT)
- 2.34 more courses of doxy/symptomatic CT infection prevented

**“We conclude that in the absence of symptoms, in high STI prevalence populations frequent STI screening should be limited to HIV and syphilis.”**



OPEN ACCESS

## Where to go to in chlamydia control? From infection control towards infectious disease control

Jan E A M van Bergen <sup>1,2,3</sup> Bernice Maria Hoenderboom <sup>3</sup> Silke David <sup>3</sup>  
Febe Deug, <sup>2</sup> Janneke C M Heijne, <sup>3</sup> Fleur van Aar, <sup>3</sup> Christian J P A Hoebe <sup>4,5</sup>  
Hanna Bos, <sup>2</sup> Nicole H T M Dukers-Muijters <sup>6,7</sup> Hannelore M Götz <sup>3,8</sup>  
Nicola Low <sup>9</sup> Servaas Antonie Morré <sup>10,11</sup> Björn Herrmann <sup>12</sup>  
Marianne A B van der Sande <sup>13,14</sup> Henry J C de Vries <sup>15,16</sup> Helen Ward <sup>17</sup>  
Birgit H B van Benthem <sup>3</sup>

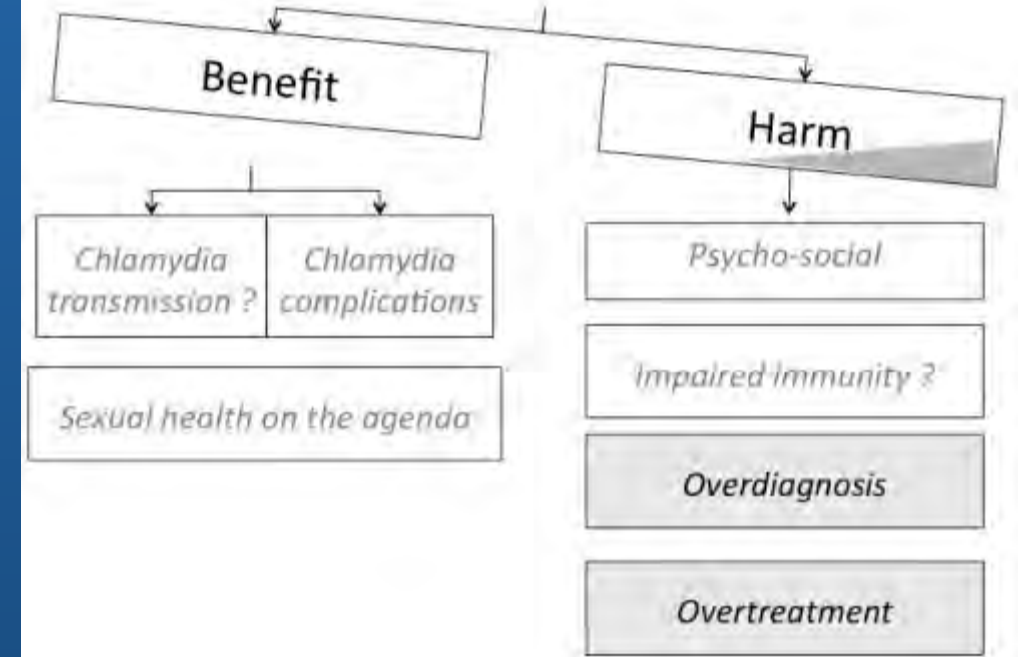
## Sexually Transmitted Infections

### Management of asymptomatic sexually transmitted infections in Europe: towards a differentiated, evidence-based approach

Chris Kenyon,<sup>a,c</sup> Björn Herrmann,<sup>b</sup> Gwenda Hughes,<sup>c</sup> and Henry J. C. de Vries<sup>d,e,f,g</sup>

Review

## CT appraisal



# Updates to PHSKC guidance on asymptomatic screening for gonorrhea and chlamydia

Routine screening for asymptomatic GC and CT is no longer recommended in **people without a uterus who have sex with men**. Instead, PHSKC advises medical providers to use shared decision-making to decide whether and how often to screen for these infections. This recommendation is based on:

- The absence of known sequelae associated with asymptomatic infections

- The fact that these infections are self-limited in the absence of treatment

- The uncertain impact of screening on population-level STI incidence

- The need to avoid unnecessary antimicrobials

- The high cost of gonorrhea and chlamydia screening which is not always covered by insurance

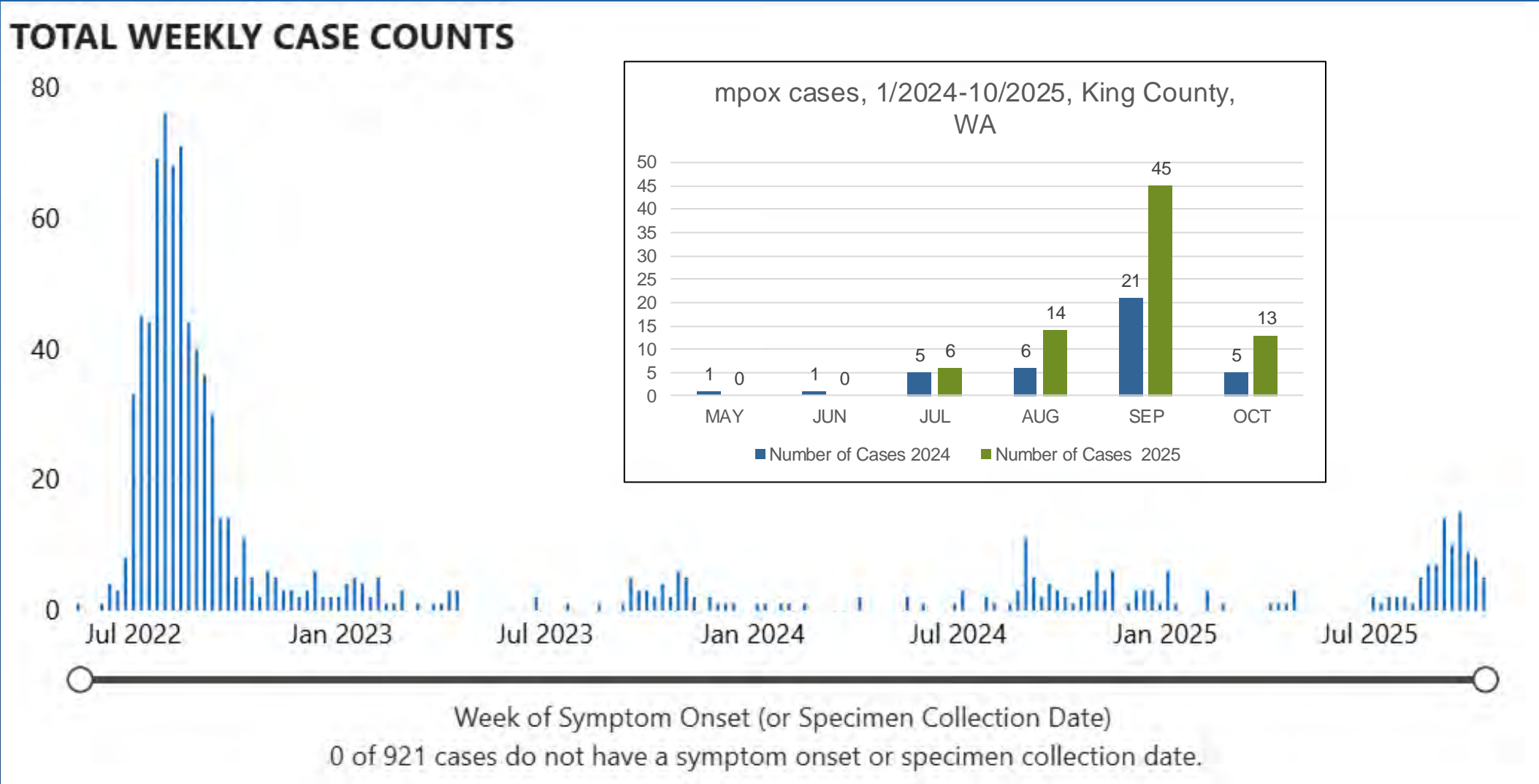
**mpox**



# POLL: Have you seen a case of mpox since the global outbreak in 2022?

- Yes
- No

# mpox is an endemic, seasonal infection in Washington State and nationally



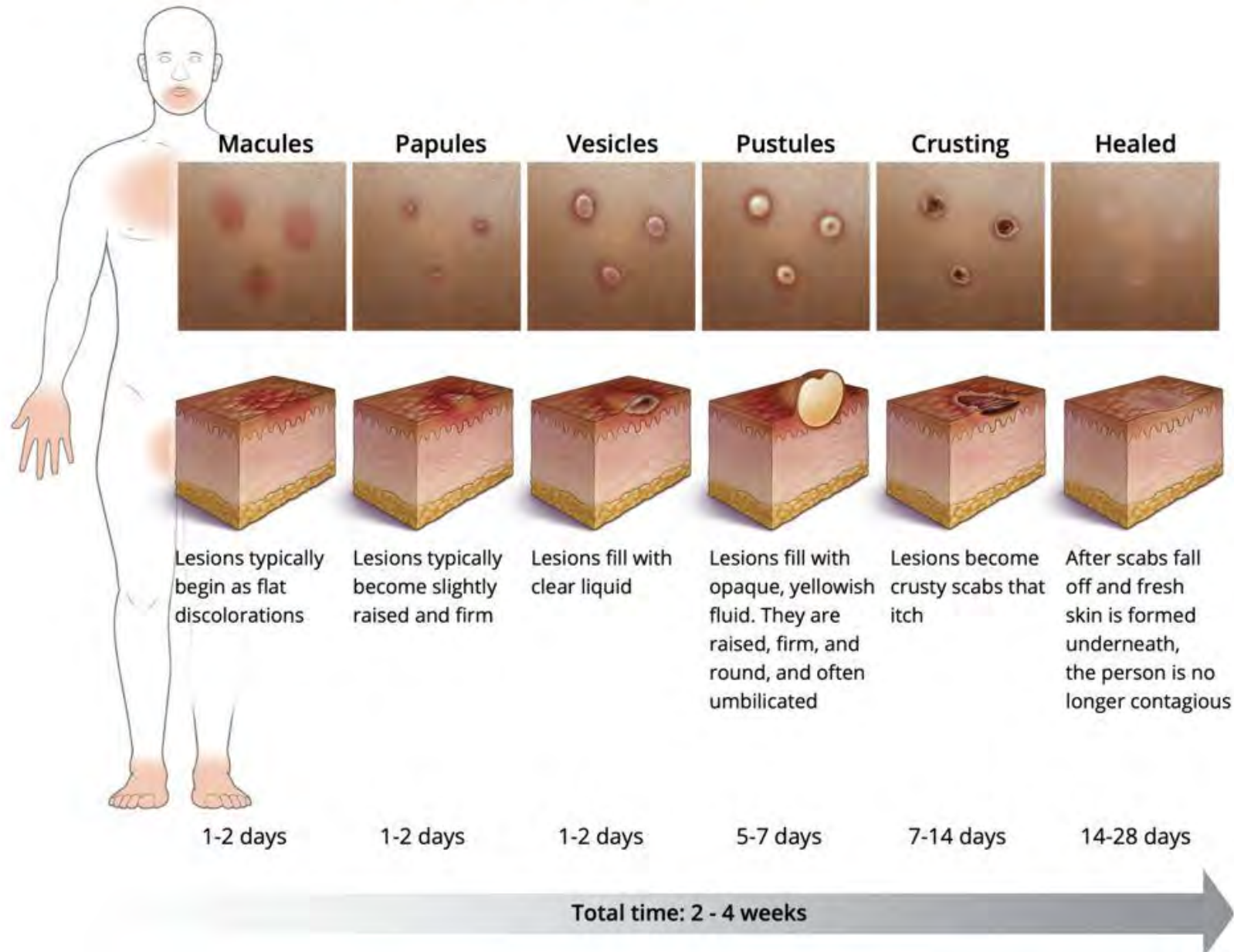
# Clade I mpox is circulating in the United States

## *Three Cases of Mpox Tied to Severe Illness Worry Health Experts*

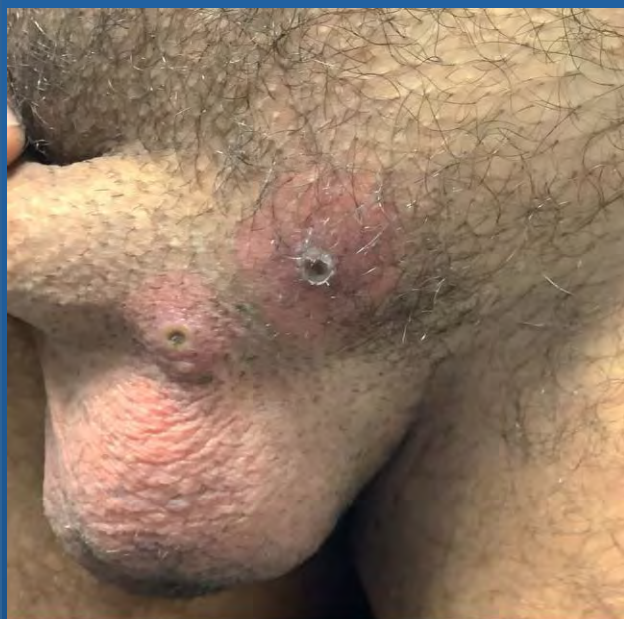
None of the patients, all California residents, had traveled abroad, suggesting the Clade 1 form was transmitted locally.



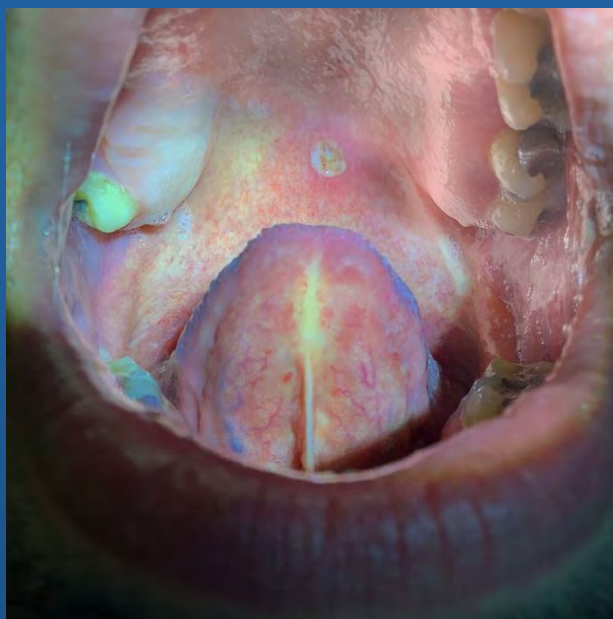
## MPOX LESION PROGRESSION DESCRIPTION AND TIMELINE



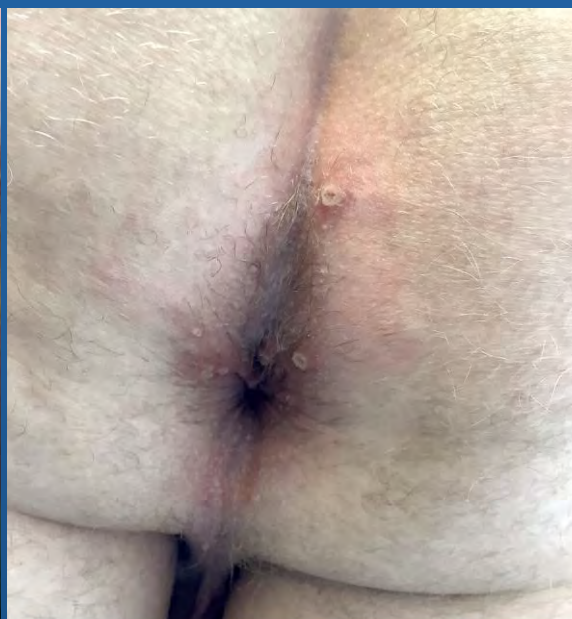
# Exemplary mpox rash



National STD Curriculum  
<https://www.std.cdc.edu/>  
Mpx  
Image Number  
1685



National STD Curriculum  
<https://www.std.cdc.edu/>  
Mpx  
Image Number  
1639



National STD Curriculum  
<https://www.std.cdc.edu/>  
Mpx  
Image Number  
173



National STD Curriculum  
<https://www.std.cdc.edu/>  
Mpx  
Image Number  
1775



# The most effective mpox prevention tool is vaccination

## Two doses 0.5 mL SQ 28 days apart

**Table 2.** Estimated Vaccine Effectiveness against Diagnosed Mpox among Persons Seeking Health Care, August 15 through November 19, 2022.\*

Persons Seeking Health Care	Case Patients	Control Patients	Vaccine Effectiveness (95% CI)	
			Unadjusted	Adjusted†
	<i>number</i>		<i>percent</i>	
Unvaccinated, reference population	2022	6984		
Partially vaccinated, 1 dose	146	1000	52.0 (42.3–60.1)	35.8 (22.1–47.1)
Fully vaccinated, 2 doses	25	335	77.2 (65.0–85.1)	66.0 (47.4–78.1)

\* CI denotes confidence interval.

† Adjustment was for age group (18 to 35, 36 to 49, and ≥50 years), race or ethnic group (non-Hispanic White, non-Hispanic Black, and other non-Hispanic), Social Vulnerability Index quartile (quartile 1 to 4, or unknown), and the presence or absence of an immunocompromising condition.

# Many people can still benefit from vaccination

- As of August 1, 2023, only **42% of eligible Washingtonians received 2 doses of JYNNEOS** and **26% received 1 dose**
- People who were not sexually active during the outbreak may now be sexually active without the protection of the vaccine (greatest among young people)
- People who chose to change behavior over vaccination as a prevention strategy may have resumed their usual sexual activity
- Vaccine messaging has been less robust since the outbreak

# Think mpox

- Report all cases of mpox to PHSKC
- Maintain a high index of suspicion for mpox for any patients with signs and symptoms of mpox even if:
  - Syphilis or HSV are considered more likely (co-infections are common)
  - The patient has been vaccinated (less severe, subtle proctitis, constitutional symptoms may be absent)
- Consider clade I if travel to Central or East Africa, areas of the US with community transmission of clade I, or contact with a case of clade I
- Test for mpox (PCR)
- Continue to vaccinate [eligible](#) individuals
- Provide PEP for people with recent exposure

# **Mycoplasma genitalium**

# Poll: Have you ever tested a patient for *Mycoplasma genitalium*?

- Yes
- No
- *Mycoplasma genitalium* is an STI?

# MyGeniUS: Mgen surveillance study

- In 8 sexual health clinics in the United States in 2020, the prevalence of Mgen was **16.6%** (95%CI:14.9-18.5%)<sup>1</sup>
  - Range: 9.9% [Seattle] – 23.5% [St Louis]
- Meta-analyses:
  - Urethritis (OR = 5.5)<sup>2</sup>
  - Cervicitis (OR = 1.7)<sup>3,4</sup>
  - PID (OR = 2.1)<sup>3,4</sup>
  - Preterm birth (OR = 1.9), SAB (OR = 1.8), infertility (OR = 2.4)<sup>3,4</sup>
  - Proctitis (mixed results: PR = 2.14; OR = 0.8; risk difference +4.3%)<sup>4</sup>

Macrolide resistance mutations  
[23S rRNA] = **59%**  
(range: **51-71%**)<sup>1</sup>

FQ resistance globally [parC] =  
**13%**  
(range: **2.7%-37%**)<sup>5</sup>



# King County Sexual Health Clinic Mgen Testing Protocol

## Testing upon initial presentation

People with a penis with non-gonococcal **urethritis (acute or chronic)**

People with a cervix with non-gonococcal **cervicitis (signs or symptoms, including post-coital bleeding)**

People with signs, symptoms of PID

## Testing upon recurrent, persistent symptoms

People with signs, symptoms of recurrent or persistent proctitis

People with recurrent or persistent NGU or NGC

## Contacts

Contact to a partner with confirmed M gen

# Mgen first line treatment

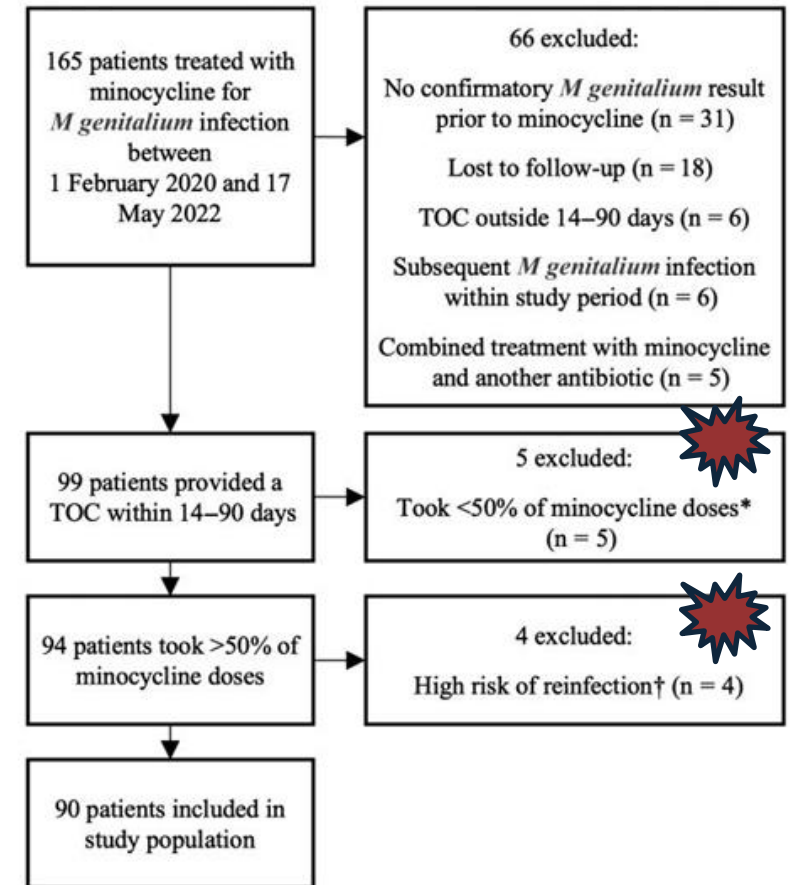
- In the absence of resistance testing:
  - Doxycycline 100 mg PO BID x 7 days FOLLOWED BY
  - Moxifloxacin 400 mg PO QD x **10 days**
- Counseling messages:
  - Abstain from sex for 7 days **following the end of treatment**
  - Treatment failure is not uncommon
  - Refer **regular** partners for treatment to prevent reinfection

# When to suspect a treatment failure

- Patients who test positive for Mgen, complete treatment with doxy/moxi, and then return with signs or symptoms of recurrent or persistent NGU, cervicitis, or proctitis are re-tested.
- Ideally, re-testing occurs **at least 3 weeks after treatment** to avoid false positive results (due to residual Mgen genetic material) and false negatives (due to low organism load from antibiotics)
- In the absence of re-infection (sex with untreated partner) or re-exposure (resumed sex sooner than one week after treatment), suspect treatment failure

# Suspected first-line treatment failure next steps

- Register patient with [Mycoplasma Genitalium Treatment Failure Registry](#)
- **Second line therapy: minocycline 100 mg PO BID x 14 days**
- Cure rate = 68% (95%CI: 58-76%) of macrolide resistant M gen infections (among people who took it and had low risk for reinfection)
- 96% took ALL of the minocycline
- Mild side effects: dizziness (9%), nausea (6%), headache (6%), fatigue (4%), “brain fog” (4%)



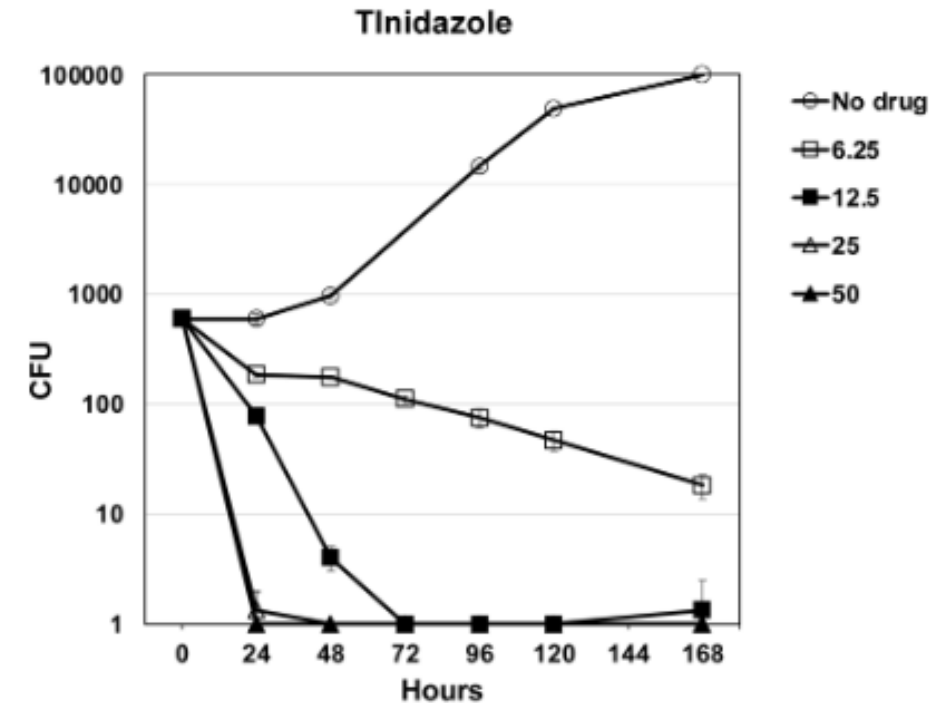
# Therapies for first- and second-line treatment failures

## Therapies for people failing first- and second-line Mgen treatment

Doxycycline 100 mg PO BID x 7 days FOLLOWED BY  
Tinidazole 2 grams PO daily for 10 days

Doxycycline 100 mg PO BID x 7 days FOLLOWED BY  
Minocycline 100 mg PO BID PLUS tinidazole 2 grams PO daily  
for 14 days

Minocycline 100 mg PO BID x 3-6 weeks





# Takeaways: M gen testing and treatment

- M gen is a common STI associated with several sexual and reproductive health outcomes
- M gen is highly resistant to macrolides (eg, azithromycin)
- Screening recommendations vary
- First line therapy (in the absence of resistance testing) should include doxycycline followed by moxifloxacin
- Treatment failures are not uncommon, minocycline is a second-line regimen
- Tinidazole may be promising as an M gen active agent

# Bacterial Vaginosis

# Poll: Do you have patients who have experienced recurrent BV?

- No
- Yes
- Not sure

# Bacterial vaginosis is common and recurs frequently

- BV affects 30% of women worldwide,<sup>1</sup> especially women with HIV (50-60%)<sup>2</sup>
- BV is associated with genital inflammation, HIV acquisition<sup>3</sup>, preterm birth<sup>4</sup>
- Current treatment (metronidazole, topical clindamycin) does not result in sustained cure as 50-70% of women experience a recurrence within 3 months<sup>5, 6</sup>

# Bacterial vaginosis has the epidemiologic profile of an STI

- Incident BV is associated with new partners and has an incubation period of 4 days<sup>7</sup>
- Recurrent BV is associated with a regular sex partner, inconsistent condom use<sup>6</sup>
- Penile microbiota is predictive of a woman's risk of BV<sup>8</sup>
- Male partner treatment trials of oral regimens did not result in reduced risk of recurrence in female partners<sup>9</sup>



# StepUp Trial: Male partner treatment to prevent BV recurrence

- April 2019-November 2023
- 2 sexual health and 3 family planning clinics in 3 Australian states
- Premenopausal women with
  - $\frac{3}{4}$  Amsel criteria
  - Nugent score 4-10
  - Regular male partner x 8+ weeks
  - Receiving standard BV treatment
- Referred regular male partner to the study

- Randomized 1:1 to receive:
  - No partner treatment (n=83)
  - Partner treatment to start within 7 days (n=81)



400 mg PO  
BID x 7 days



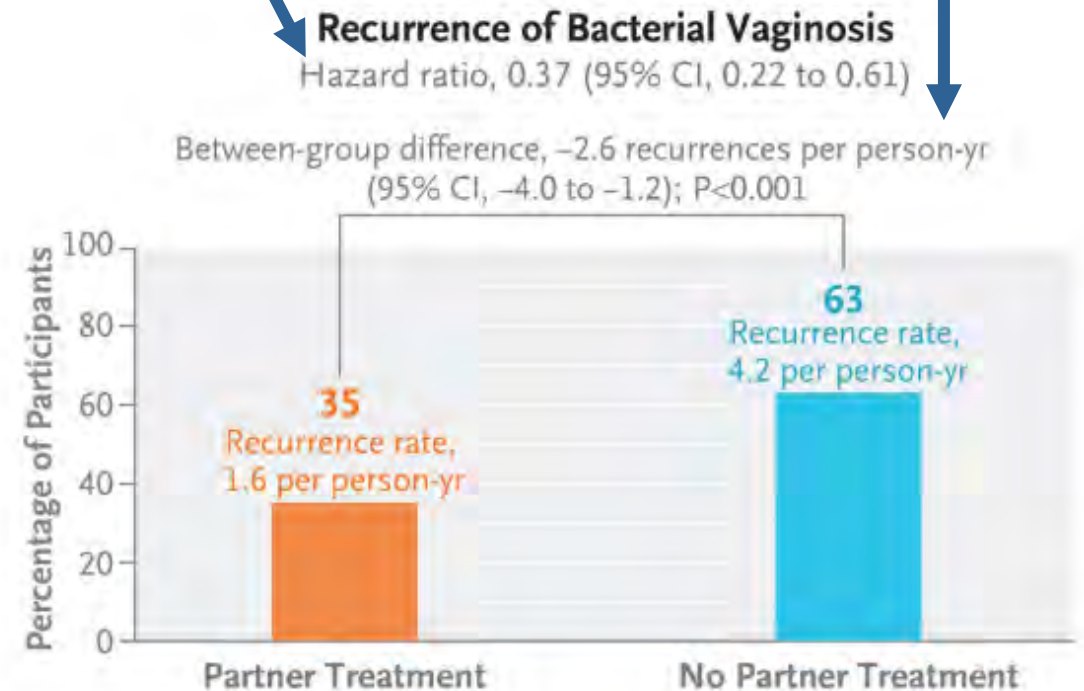
2-cm diameter  
volume BID x  
7 days

# StepUp Trial: Male partner treatment prevents BV recurrence

- Modified intention to treat analysis included 69 couples in the partner treatment arm and 68 couples in the no partner treatment arm
- At 12 weeks:
- **24/69 (35%)** experienced recurrence in the partner treatment arm
- **43/68 (63%)** experienced recurrence in the no partner treatment arm
- Nausea (14%), headache (12%), metallic taste (7%) in treated men

63% reduction in recurrence rate

~3 fewer recurrences per person per year



# Takeaways: practical steps to preventing BV recurrence

- Treat BV in women with metronidazole 500 mg PO BID x 7 days
  - Alternative regimen is clindamycin 2% cream PV BID x 7 days
- For women with a regular partner with a penis, offer to prescribe:
  - Metronidazole 500 mg PO BID x 7 days
  - PLUS clindamycin 2% cream TP BID x 7 days
  - Start within 7 days of the start of treatment in women

**Thank you!**  
**menza@uw.edu**

# Poll: During the mpox outbreak in the summer of 2022, did you find that tpoxx helped patients?

- Yes, for sure, people felt much better
- I didn't really notice much of a difference
- I'm not sure



# ACTG A5418



<b>Design and Sample Size</b>	2:1 Randomized, Blinded, Placebo-controlled (n=530)  Open label for children, persons with pregnancy or severe disease, severe immune suppression or severe skin disease (n≅250)
<b>Study Population</b>	Symptomatic mpox
<b>Design</b>	Superiority; randomized participants allowed open label tecovirimat for disease progression or severe pain at day 5
<b>1<sup>o</sup> Outcome</b>	Time to clinical resolution (all skins lesions scabbed or epithelialized; all visible mucosal lesions healed)
<b>2<sup>o</sup> Outcomes</b>	Daily pain score, HMPXV detection in various compartments, Pt reported outcomes
<b>Duration</b>	57 days (in person or fully remote enrollment)
<b>Agent</b>	Weight based oral Tecovirimat

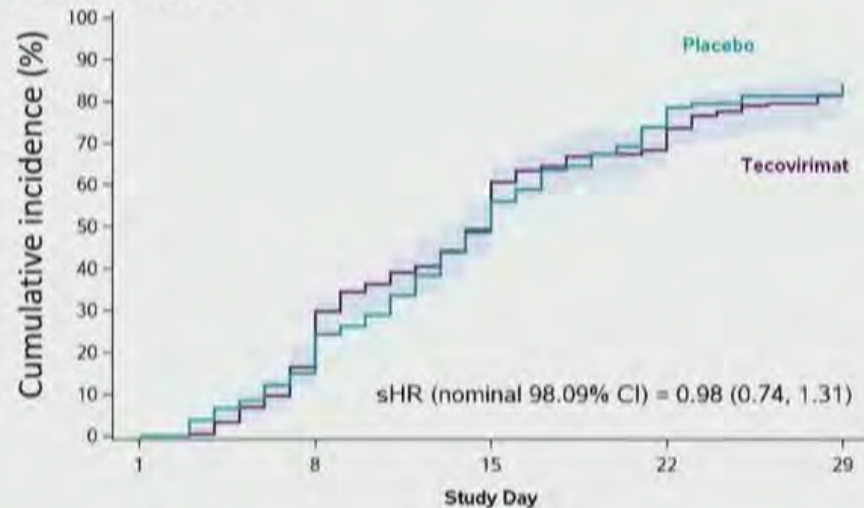
12 March 2025



# STOMP: Tecovirimat did not improve clinical outcomes

Primary endpoint: time to clinical resolution

A Clinical Resolution



Number of Participants At Risk					
Tecovirimat	225	166	89	47	19
Placebo	111	84	46	19	11

B Treatment Change Due to Disease Progression or Severe Pain



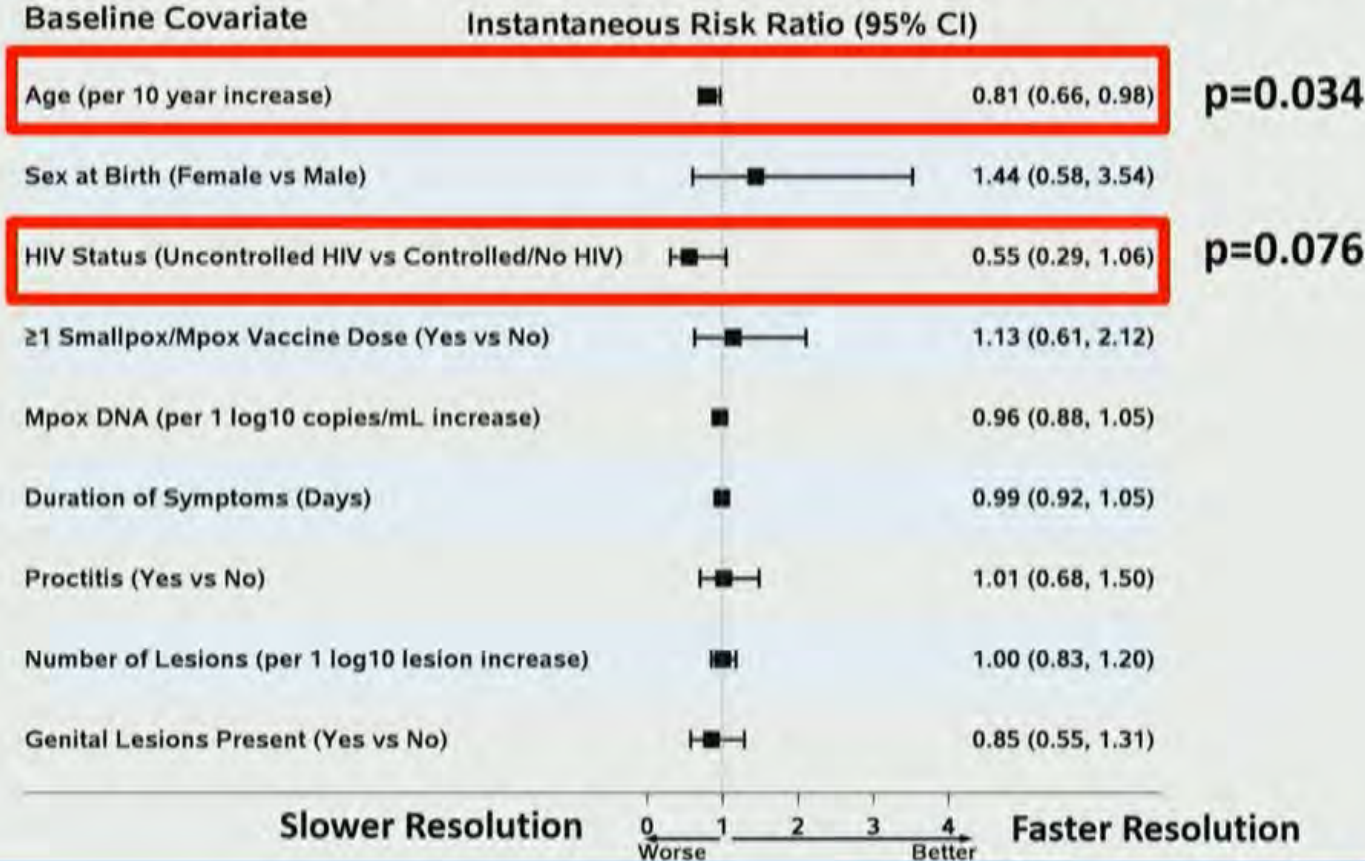
Number of Participants At Risk					
Tecovirimat	225	166	89	47	19
Placebo	111	84	46	19	11

- Cumulative probability of clinical resolution by 28 days: 87% (95% CI: 80-92)
- Arm C: median time to clinical resolution from treatment initiation: 14 days (95% CI: 13-16)



# Clinical resolution slower with older age and uncontrolled HIV

## Host and Disease Factors Associated with Clinical Resolution

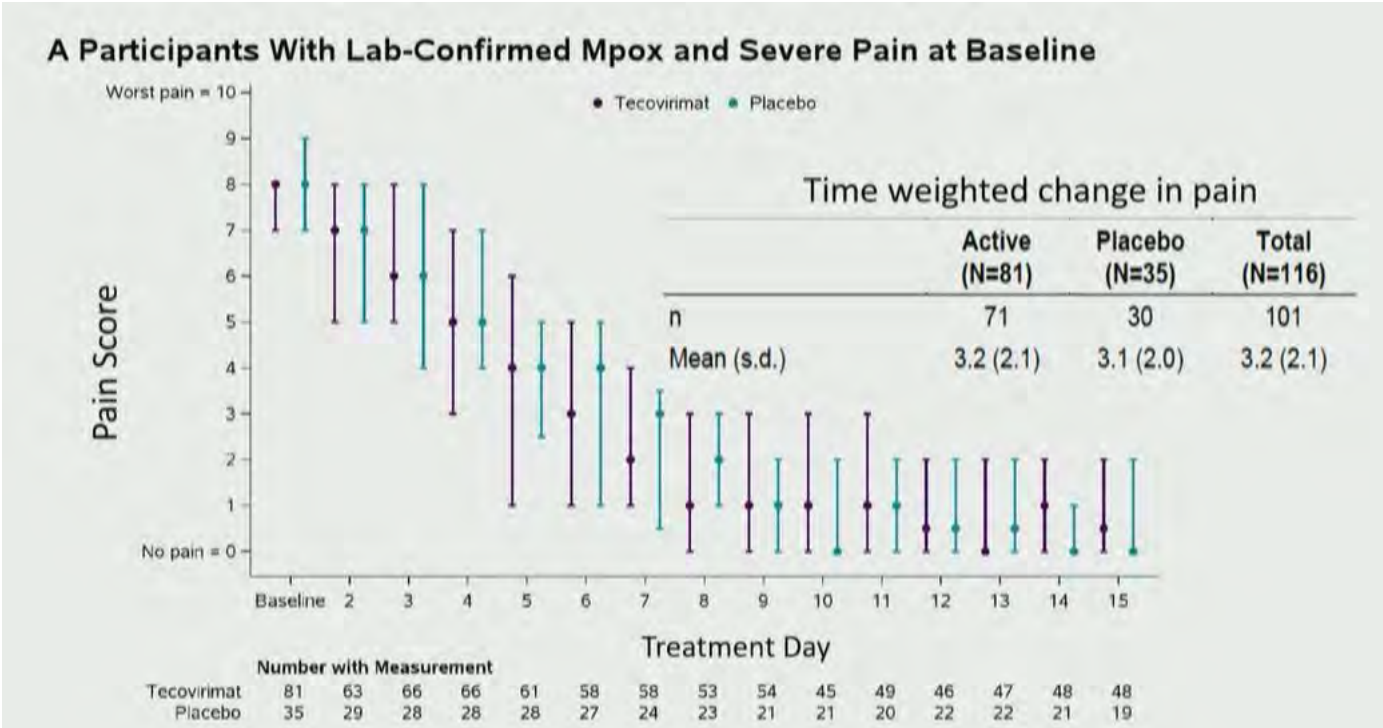
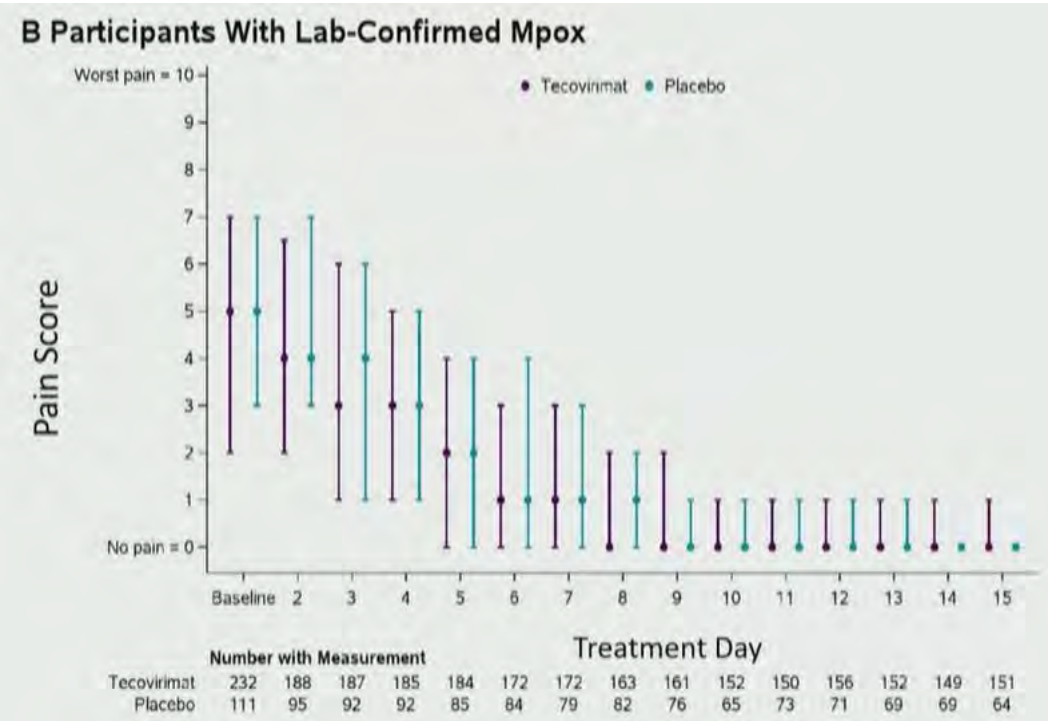


11 March 2025

<https://clinicaltrials.gov/ct2/show/NCT05534984>

# STOMP: Tecovirimat did not impact pain outcomes

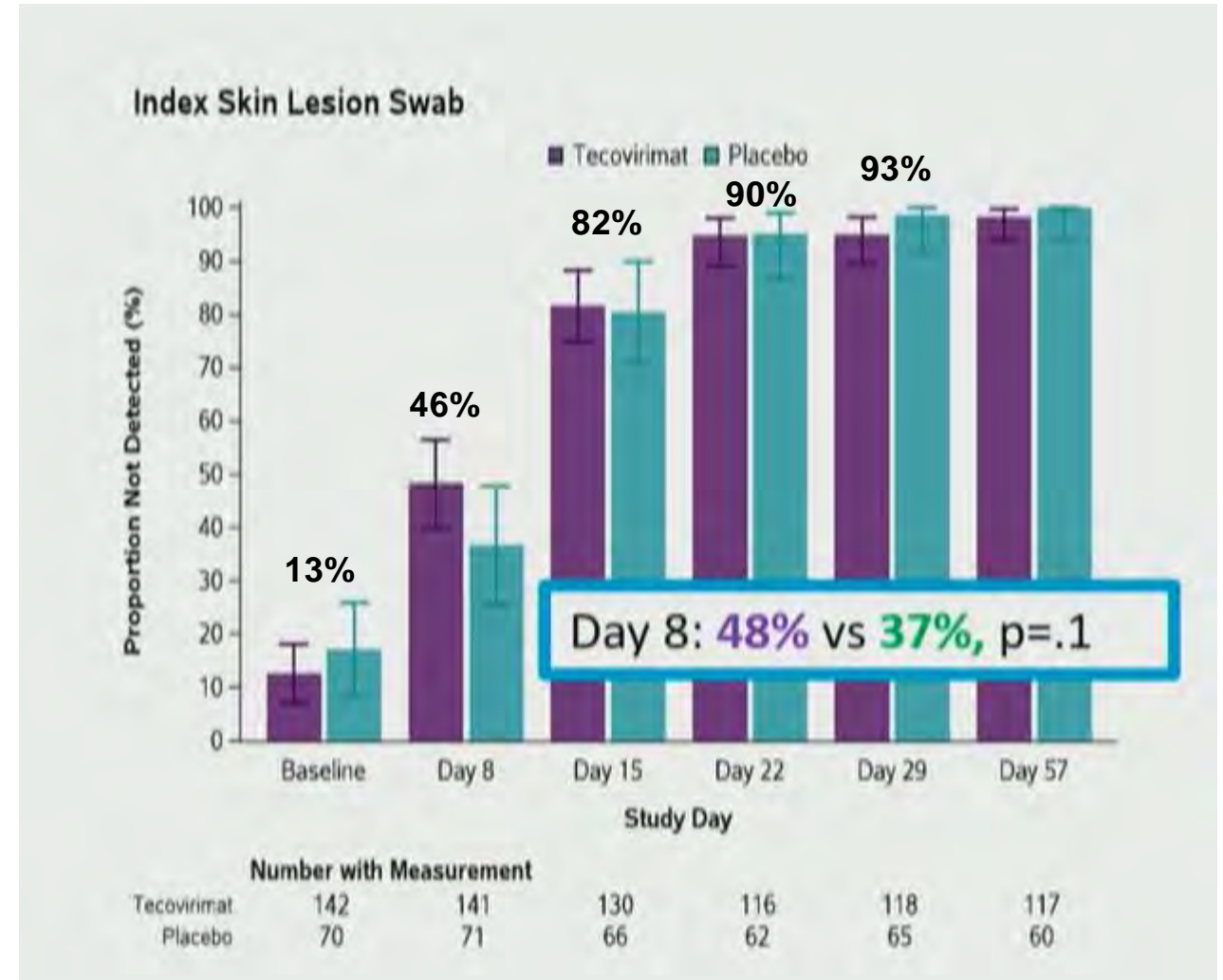
- No difference in pain scores (11-point scale) over time in either group with severe pain at baseline



- Equivalent pain scores for all patients with lab-confirmed mpox

# STOMP: Tecovirimat did not change lesion viral clearance

- Serial samples of index skin lesion and rectal swabs for study duration
- 10-15% had hMPXV-negative lesion at baseline; most negative by day 22
- Only trend toward difference was day 8 skin lesion results
  - 48% in tecovirimat cleared vs 37% in placebo
  - No difference for rectal samples





# Takeaways: tecovirimat for mpox

- Tecovirimat was safe but did not improve clinical outcomes
  - No faster resolution of mpox skin lesions or improved pain control (median 14d)
  - No significant reduction in hMPXV detection (trend toward ↓ at day 8)
- Now 2 negative clinical trials (PALM-007, clade I mpox), three more pending



- Alternative agents and likely combination therapy should be used for mpox (e.g., brincidofovir + tecovirimat + VIG) for immunocompromised people