

# **DOXY-PEP IN AOTEAROA NEW ZEALAND**

**JEANNIE OLIPHANT  
AUCKLAND SEXUAL HEALTH REGIONAL SERVICE  
RODRIGO OLIN  
BURNETT FOUNDATION AOTEAROA**

# **ACKNOWLEDGEMENT OF THE COUNTRY**

# DISCLOSURE OF INTEREST

WE HAVE NOTHING TO DISCLOSE

# Doxy-PEP international evidence

Three RCT among cisgender GBMSM and transgender women who have sex with men at risk of bacterial STIs.

In those randomised to take a single dose of 200mg doxycycline within 72 hours of condomless sex:

## **Syphilis**

Relative risk reduction of 70-80%

## **Chlamydia**

Relative risk reduction of 70-90%

## **Gonorrhoea**

Variable efficacy from 0-50%

Likely due to geographical differences in tetracycline resistant gonorrhoea

Moline et al 2018  
Luetkemeyer et al 2023  
Molina et al 2023

Doxy-PEP is a novel intervention that has the potential to make a significant impact on the syphilis epidemic in Aotearoa.

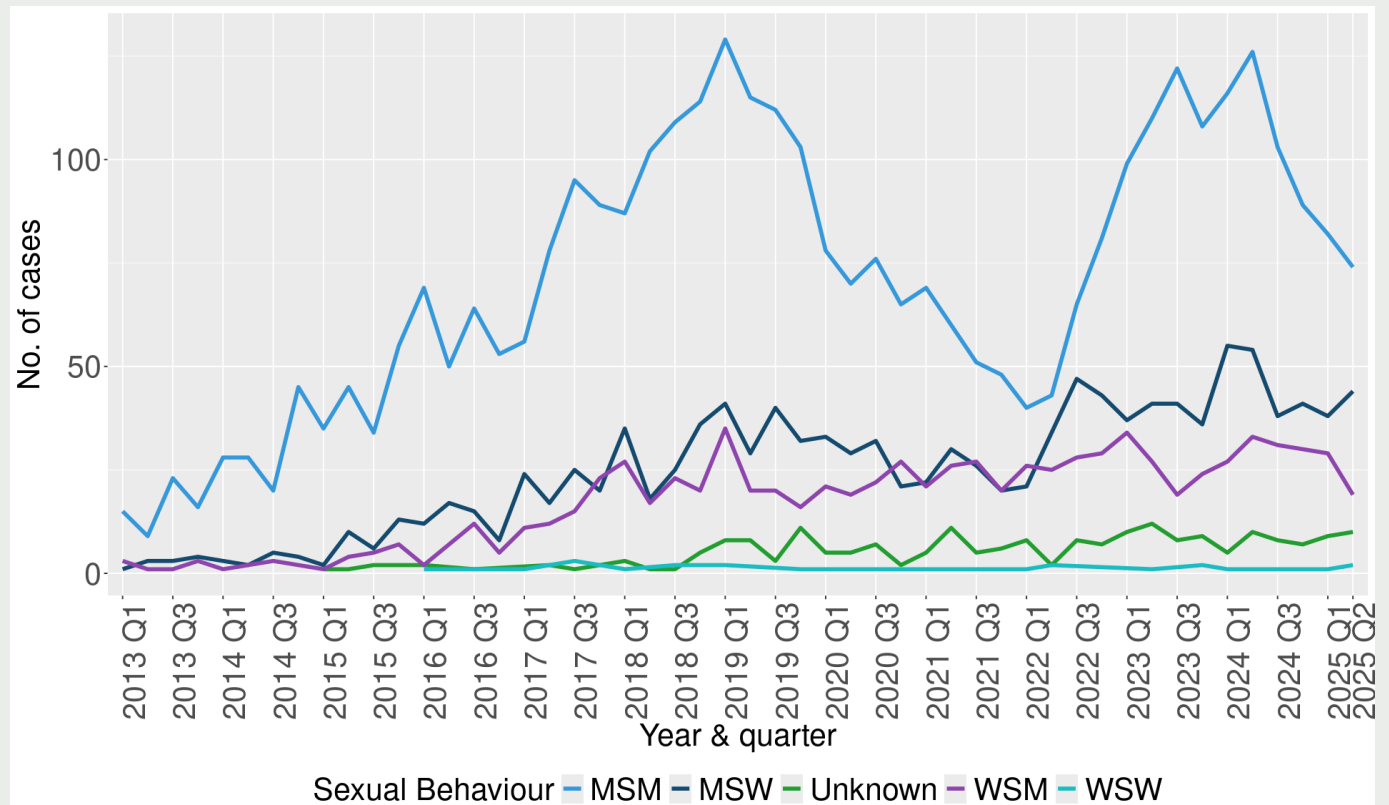
# Syphilis epidemic in Aotearoa

Highest numbers of syphilis cases in Aotearoa were recorded in 2024 = 777

MSM – rates of syphilis 86 x MSW

Māori – rates of syphilis 2.1 x European/other

Pacific Peoples – rates of syphilis 2.5 x European/other



Source: Infectious syphilis surveillance extracted from REDCap 2025-08-04  
Reported based on Date of first test or first presentation

# Aotearoa Consensus Statement

Doxy-PEP meeting 16<sup>th</sup> February 2024

Moderated by Julia Scott and Massimo Giola

Presentations by:

- Dr Vincent Cornelisse (Sexual Health Physician) presented on doxy-PEP evidence, international guidelines
- Dr Ranmini Kularatne (Clinical Microbiologist) presented on AMR and doxy-PEP

23 attendees

- Sexual Health x 13
- ID x 1
- ESR x 2
- Public Health x 1
- Microbiology x 1
- NGOs x 3
- ASHM x 1
- HIV Research Group x 1

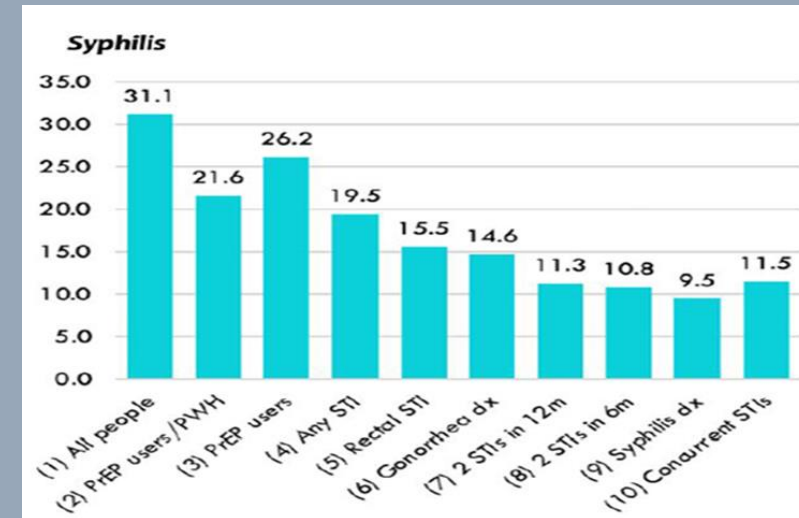
# Mathematical modelling

Need to define strategies that minimize overall antibiotic prescribing while maximizing impact on STI incidence

Evaluated 10 hypothetical doxy-PEP prescribing strategies

The most efficient prescribing strategies are based on STI history rather than HIV status or PrEP use

Traeger et al. CID 2023



# Aotearoa Consensus Statement

Recommendation proactively offering to:

- GBMSM with a diagnosis of syphilis or two other bacterial STIs (gonorrhoea/chlamydia) in the past 12 months
- GBMSM who identify an upcoming period of heightened risk e.g. attending sex event etc
- GBMSM with concurrent partners with a uterus\*
- GBMSM who are Māori or Pasifika, given inequities in syphilis for these populations

Published on the NZSHS website -

Targeted use of doxy-PEP has the potential to contribute at both individual and population levels to the prevention of STIs, particularly syphilis

\* No evidence of prevention benefit for sex partners

# Aotearoa Consensus Statement

Doxy-PEP should be prescribed -

- In the context of comprehensive sexual health care and with counselling on the benefits and harms including side effects and AMR
- To maximise the benefits of doxy-PEP while minimising overall antibiotic use. For example, a single Monday morning dose of 200mg doxy-PEP should adequately cover the weekend STI risk. The maximum amount of doxycycline prescribed for each 3-month period should not exceed 72 x 100mg tabs, which equates to 3 doses per week for 12 weeks
- For people who have or continue to have frequent full STI checks (every 3 months)
- With the need for ongoing doxy-PEP being reviewed at each follow up visit

# Aotearoa Consensus Statement

In addition –

- Every time gonorrhoea is diagnosed in a doxy-PEP user, an additional swab for culture and antibiotic susceptibilities should be requested for surveillance purposes
- If a doxy-PEP user presents as a contact of syphilis or gonorrhoea they should be treated as a contact if within the window period for infection. If they present as a contact of chlamydia, re-testing outside the window period rather than presumptively treating is recommended
- Doxy-PEP may result in an attenuated syphilis serological response, therefore any reactive syphilis serology (including EIA only) in a doxy-PEP user should be discussed with a sexual health physician

# Our response to the consensus statement

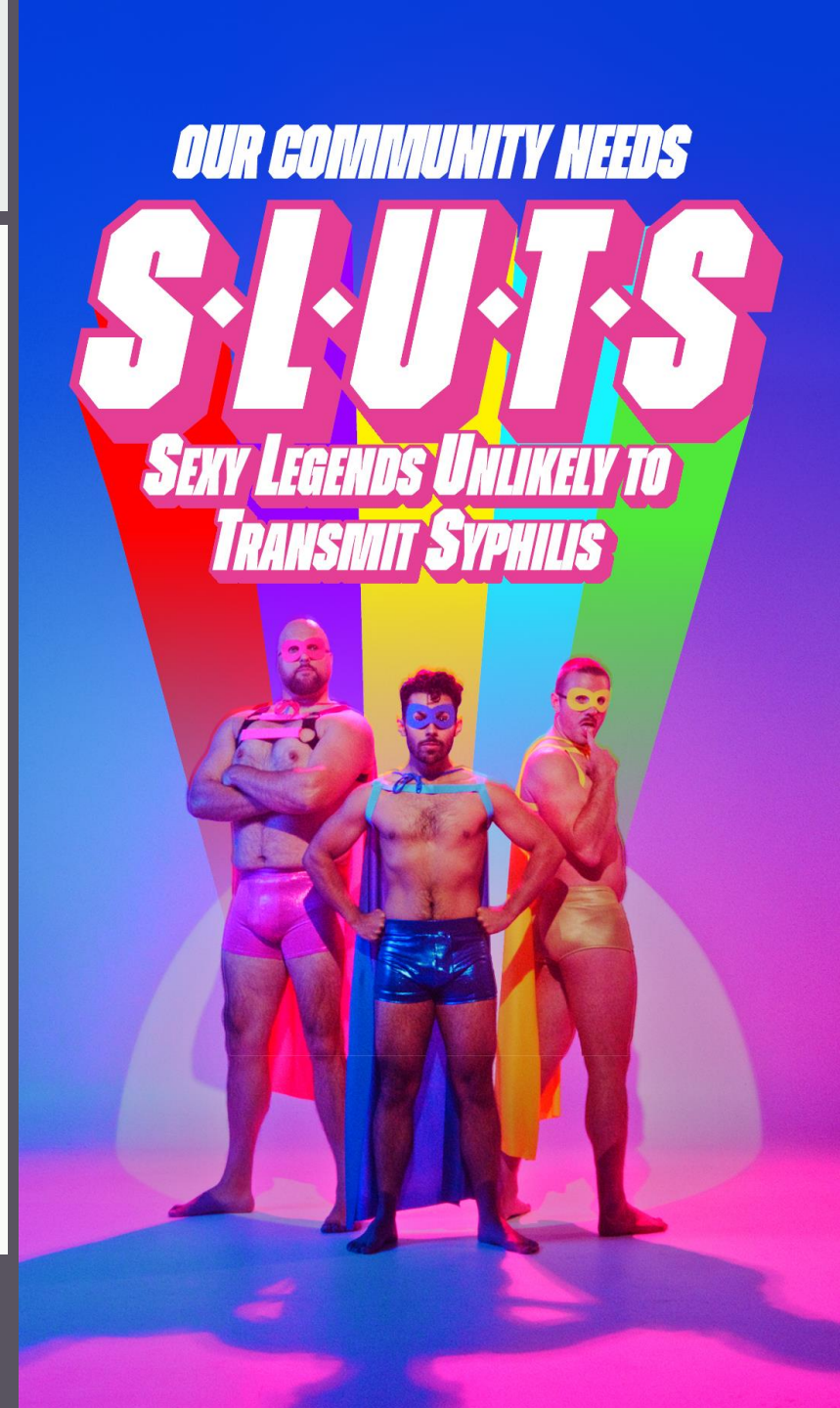
- Burnett Foundation Aotearoa decided to create a campaign to encourage DoxyPEP uptake.
- Health Promotion at the centre.
- Key challenge based on:
  - Behaviour-based and identity based
- How do we reach the maximum amount of our target audience without diluting the message or having too many audiences to target?



# SLUTS!

*(S.L.U.T.S: Sexy Legends Unlikely to Transmit Syphilis – creative)*

*Objective:* to educate the community about the benefits of DoxyPEP, while also reclaiming a sex-shaming term by flipping it into a sex-positive badge of honour.



# Campaign Design

Grow awareness of doxyPEP as a prevention method for syphilis, by maximizing video ad views

Drive clicks to the campaign landing page

Drive website conversions to a custom DoxyPEP eligibility tool + downloadable PDF that our communities could take to a GP to help them get a prescription





# Assets:

**JOIN THE S·L·U·T·S**  
*SEXY LEGENDS UNLIKELY TO TRANSMIT SYPHILIS*

OUR COMMUNITY NEEDS

**S·L·U·T·S**

*SEXY LEGENDS UNLIKELY TO TRANSMIT SYPHILIS*

**ANSWER THE CALL**

Burnett Foundation  
Aotearoa

**ONLY**

**S·L·U·T·S**

**CAN PROTECT US!**

**TAKE THE TEST**

Burnett Foundation  
Aotearoa

**S·L·U·T·S**

*HOW WAS THAT FOR YOU?*

Grindr

Burnett Foundation  
Aotearoa

**3 MONTHS GRINDR XTRA FREE FOR S·L·U·T·S**

T&Cs APPLY

**OUR COMMUNITY NEEDS**  
**S·L·U·T·S**  
**SEXY LEGENDS UNLIKELY TO**  
**TRANSMIT SYPHILIS**



## Results

- No disapproval or ASA complaints – great!
- 53.3% reported taking an action because of the campaign
- 477 downloads of the DoxyPEP resource/guideline for GPs
- 56% of survey respondents who recalled seeing the campaign were 18-35

# Results

- 21% of survey respondents who recalled seeing the campaign were Māori – however unfortunately only 8% were Pasifika
- *“DoxyPEP helps prevent transmission of syphilis & chlamydia” and “DoxyPEP is only recommended for people at heightened risk of syphilis transmission”.*





# The team

- 17 Nurses/Contact Tracers
- One Nurse Practitioner
- Six Doctors, Two Registrars

# Aims

**Monday 10<sup>th</sup> June 2024  
– go live date!**

**NGO partners – Body  
Positive, Burnett  
Foundation Aotearoa,  
NZPC, Village Collective  
notified**

1. To describe the demographic characteristics of people prescribed doxy-PEP in the first 6 months of use at ASHS
2. To investigate the impact on incident syphilis and chlamydia infections for people receiving doxy-PEP

# Methods

**Retrospective audit**

**Doxy-PEP initiated  
June – December 2024**

## **Doxy-PEP group**

- All patients coded as receiving Doxy-PEP between June - Dec 2024
- Demographic and STI testing data recorded

## **Control group**

- Random sample of patients prescribed HIV PrEP (without doxy-PEP) from same time frame
- Same demographic, and STI data recorded

## **Data sources:**

- Clinical notes
- Regional lab data (STI tests in year before and following consultation)

## **Statistical analysis:** SAS version 9.4

- McNemar's test for paired pre/post comparisons
- Chi-squared tet for between-group differences with logistic regression to adjust for baseline STI history

# Results



Demographic	All Doxy-PEP Users (n = 172)	Doxy-PEP + PrEP (n = 128)	HIV PrEP only (n = 128)
<b>Mean Age (years)</b>	37 ± 11 (range 18–72)	36 ± 11 (range 19–72)	35 ± 11 (range 17–72)
<b>Gender</b>			
Male	97.70%	97.70%	100%
Trans female	2.30%	2.30%	0%
<b>Age at Appointment</b>			
≥ 30 years	72.70%	69.50%	58.60%
< 30 years	27.30%	30.50%	41.40%
<b>Ethnicity</b>			
Asian	25.60%	28.10%	37.50%
Māori	16.30%	12.50%	10.20%
NZ European	27.90%	29.70%	25.00%
Pāsifika	9.30%	8.60%	7.80%
Other	20.90%	21.10%	19.50%

Note: Continuous variables are reported as numbers observed (n), mean ± SD (range). SD = standard deviation.

Categorical variables are reported as frequencies (n) and percentage (%)

# Results

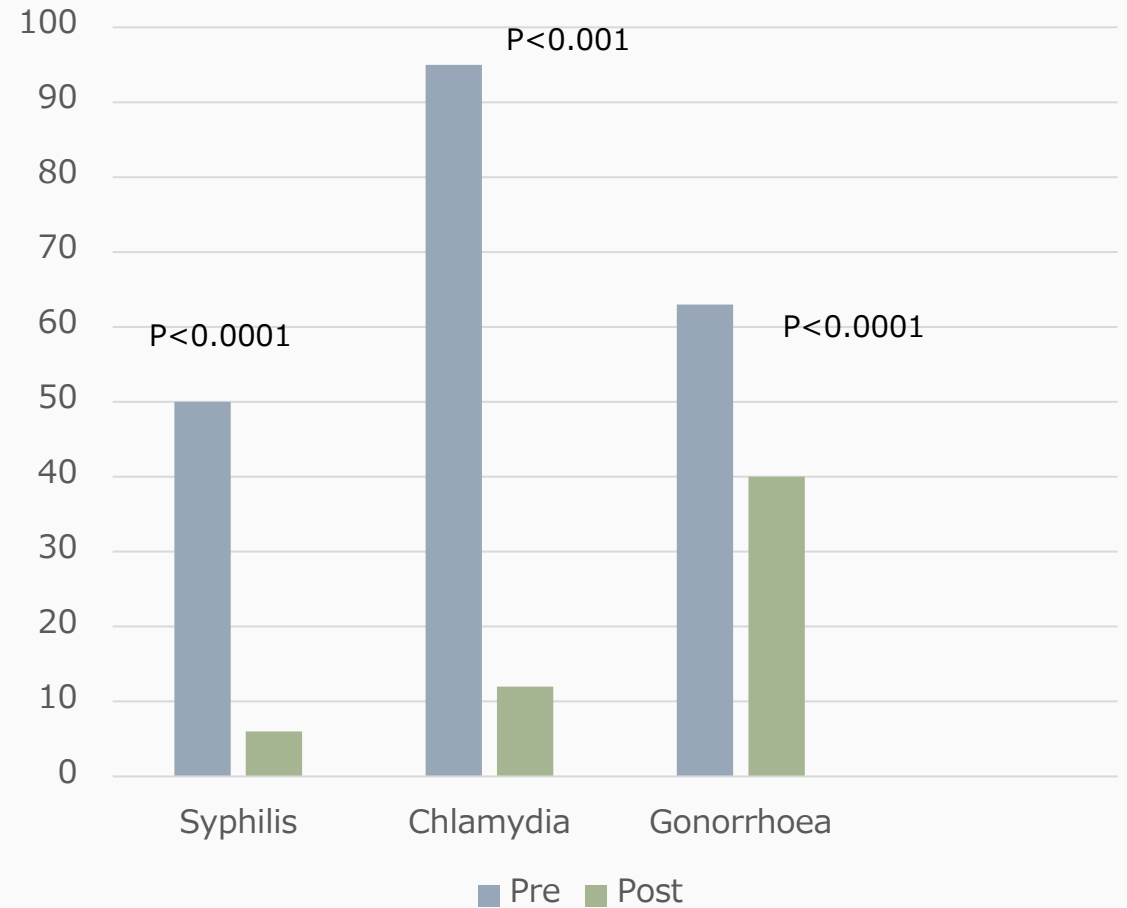
**172 people prescribed Doxy-PEP  
June to December 2024**

**148 people had STI testing data  
after doxy-PEP**

**STIs in 12 months before**

**Average follow up of 31 weeks  
(range 13-40 weeks) after**

Paired individual comparisons of STI  
diagnoses before and after Doxy-PEP



McNemar's chi-square test

# Results

Comparing the group of people who were taking Doxy-PEP + HIV PrEP to those on PrEP alone (control group).

Comparing the proportion of people in each group who tested positive before and after their appointments

	<b>Doxy-PEP + PrEP N=115</b>		<b><i>P</i>-value</b>	<b>PrEP only N=103</b>		<b><i>P</i>-value</b>
	Before	After		Before	After	
<b>Syphilis</b>	29.6%	3.5%	<0.0001	6.8%	1.0%	0.014
<b>Chlamydia</b>	78.3%	8.7%	<0.0001	30.1%	15.5%	0.005
<b>Gonorrhoea</b>	75.7%	35.7%	<0.0001	27.2%	13.6%	0.023

McNemar's chi-square test

# Results

Comparing the group of people who were taking Doxy-PEP + HIV PrEP to those on PrEP alone (control group).

Comparing the proportion of STI diagnoses between the Doxy-PEP and control group AFTER the appointment.

	<b>Doxy-PEP + PrEP</b>	<b>PrEP only (control)</b>	<b>Odds Ratio (95% CI)</b>	<b>P-value</b>
<b>Syphilis</b>	3.5%	1.0%	3.92 (0.41-37.14)	0.234
<b>Chlamydia</b>	8.7%	15.5%	0.26 (0.10-0.67)	0.005
<b>Gonorrhoea</b>	35.7%	13.6%	3.06 (1.43-6.53)	0.004

Chi-squared testing to compare raw proportions of STI diagnoses between the two groups after the index appointment.

Logistic regression model adjusting for the STIs diagnoses before the appointment.

An odds ratio (OR) with 95% confidence interval (CI) below 1 (i.e. the null value) suggests a lower chance of having a positive STI diagnosis after appointment in the Doxy-PEP group compared to the No Doxy-PEP group, and vice versa.

# Limitations



- Retrospective observational design
  - Limited individual data on baseline characteristics
  - Multiple confounding factors e.g. variable testing frequency, no adherence/compliance data
- Short follow-up: post-Doxy-PEP period often <6 months (average f/u 31 weeks)
- Small sample size - underpowered to detect differences in some comparisons

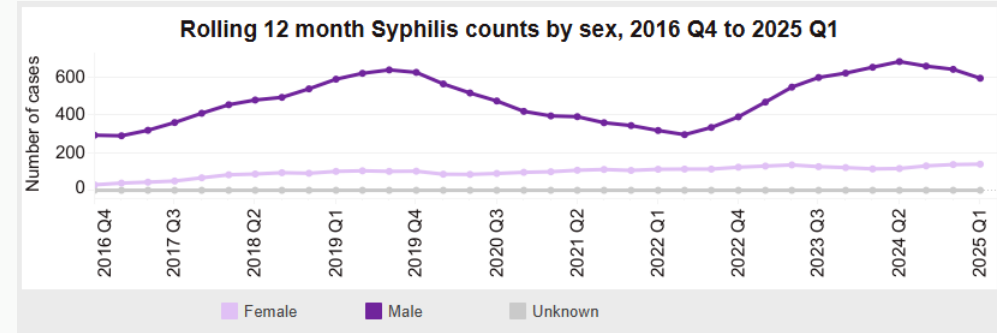
## **Take home message:**

- Preliminary data suggests DoxyPEP may reduce bacterial STI rates in our cohort
- Longer follow-up needed to confirm

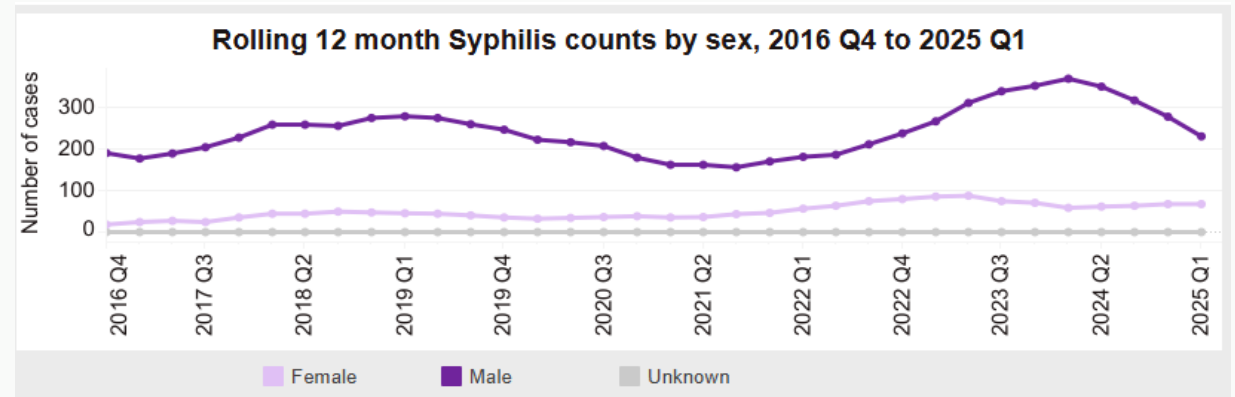


# Population data

PHF quarterly dashboard for syphilis case numbers by gender in Aotearoa and Auckland



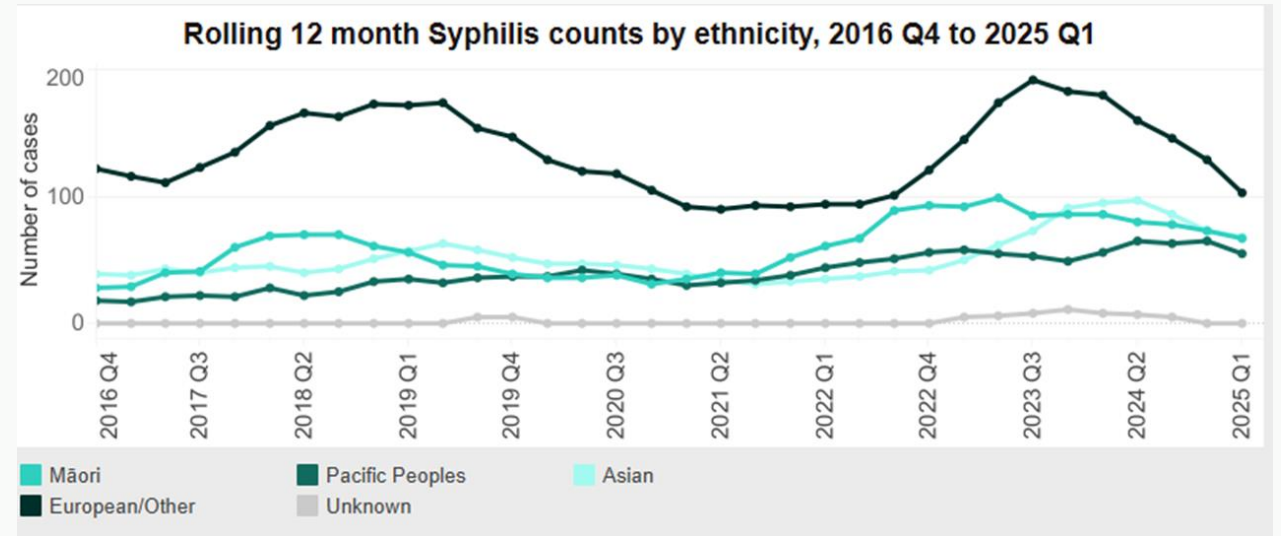
Aotearoa



Auckland

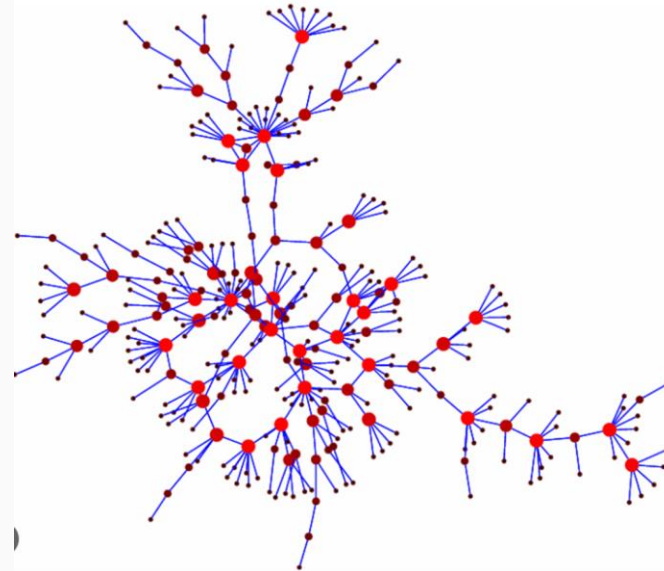
# Is it working for everyone?

PHF quarterly dashboard for syphilis case numbers by ethnicity in Auckland



Auckland

“However, for large declines to occur, doxycycline prophylaxis needs to be at least 70% effective and be taken by over half of GBMSM with more than 40 partners a year.”



Wilson DP, Prestage GP, Gray RT, et al. Chemoprophylaxis is likely to be acceptable and could mitigate syphilis epidemics among populations of gay men. *Sex Transm Dis* 2011; 38: 573–79.

# Comment

## The Lancet 2018

### Let the debate begin

Christopher Fairley,  
Eric Chow

# PRESCRIBING DOXYCYCLINE POST-EXPOSURE PROPHYLAXIS (DOXYPEP) IN AOTEAROA NEW ZEALAND

## 1 ELIGIBILITY CRITERIA

Patient requests DoxyPEP  
or  
Patient meets eligibility criteria.

**Then**

Proactively discuss DoxyPEP

### Eligibility

Assigned male at birth\*  
**AND**  
Has sex with men

**AND**

Diagnosis of syphilis or 2 other bacterial  
STIs in the past 12 months

### OR CONSIDER IF

An upcoming heightened period of risk is  
identified, e.g. sex on-site venue, or sex events  
or  
Concurrent male and female partners, or  
partners at risk of pregnancy  
or  
Māori or Pacific Peoples, given inequities in  
syphilis for these populations.

**Proceed to Step 2**

## 2 CLINICAL CONSIDERATIONS

Complete patient's medical history  
and routine STI testing

Check for allergies, interactions  
or contraindication for doxycycline.

**Proceed to Step 3**

## 3 PATIENT EDUCATION

Regimen: 200mg (2x 100mg pills) taken as a  
single dose up to 72 hours after sex.

Maximising effect with minimal dosing:

- Limit to one dose every 72 hours  
(maximum of 3 doses per week).
- Do not take a dose after each event  
unless at least 72 hours have passed since  
the last dose.  
A single Monday morning dose will cover  
weekend risk.

Discuss potential benefits and harms of  
medication, antimicrobial resistance risk.

Discuss doxycycline side effects and  
mitigations, photosensitivity, oesophagitis.

Quarterly routine STI testing - multisite  
pharyngeal, urine, rectal sampling and  
blood tests for HIV and syphilis are required  
for ongoing supply of DoxyPEP.

**Proceed to Step 4**

## 4 PRESCRIBING

Prescribe up to 72x 100mg tablets  
of doxycycline

This supply is sufficient for a minimum of  
12 weeks, assuming 1 dose every 72 hours.  
Length of time until repeat will vary depending  
on the frequency of the client's sexual activity.

Do not exceed 72x 100mg tablets  
in any 12-week period.

Do not provide repeat script until previous  
stock is depleted. Reevaluate need for  
DoxyPEP with every prescription.

### Clinician Notes

- Review ongoing need for medication  
with every repeat prescription.
- If gonorrhoea is present, collect a  
culture swab for resistance testing prior  
to treatment.
- If DoxyPEP user presents as a contact  
of an STI, manage as per NZ STI  
Management Guidelines.
- The use of DoxyPEP may affect syphilis  
serology results, therefore any reactive  
syphilis serology (including EIA only) should  
be discussed with a sexual health physician.

\*May include cisgender men, transgender women and non-binary people

Source: This guidance is based on the NZSHS doxy-PEP statement for Aotearoa New Zealand – [www.nzshs.org](http://www.nzshs.org)

**THANK YOU**