

# STIs: Global trends and prevention interventions

## **Current state of doxy-PEP**

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# A new intervention for STI prevention

- **Doxycycline post-exposure prophylaxis (doxy-PEP)** = strategy of taking 200mg of doxycycline PO within 24-72 hrs after condomless sex to prevent bacterial STI
- Sex-positive, user-controlled tool for persons at increased risk for bacterial STI
- Safe, cheap, well tolerated, highly acceptable in RCT participants and real-world users
- Ongoing debate on eligible populations, longer term risks and impacts, longevity of effectiveness for gonorrhea prevention





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# Evidence for doxy-PEP in 2024

Study	Participating population		STI rate or outcome		Relative risk reduction	Absolute risk reduction
			Doxy-PEP	No doxy-PEP		
<b>IPERGAY*</b> (France, 2015-2016)	232 MSM on HIV PrEP		37.7 per 100 person-years	69.7 per 100 person-years	47%* (15-67%)	32 per 100 person-years
<b>DoxyPEP</b> (Seattle & SF, 2020-2022)	501 MSM & TGW with recent bact. STI	<b>PWH (n=174)</b>	11.8% per quarter	30.5% per quarter	62% (40-76%)	18.7% per quarter
		<b>PrEP (n=327)</b>	10.7% per quarter	31.9% per quarter	66% (54-76%)	21.2% per quarter
<b>DOXYVAC*</b> (France, 2021-2022)	502 MSM on HIV PrEP with recent bact. STI		5.6 per 100 person-years	35.4 per 100 person-years	84%* (70-92%)	30 per 100 person-years
<b>dPEP</b> (Kenya, 2020-2022)	<i>Felix Mogaka to review</i>					

\*Point estimates are for CT & syphilis only

# IAS Emerging data to weigh benefits with possible risks

## □ Safety: Adverse events (AE) rarely severe

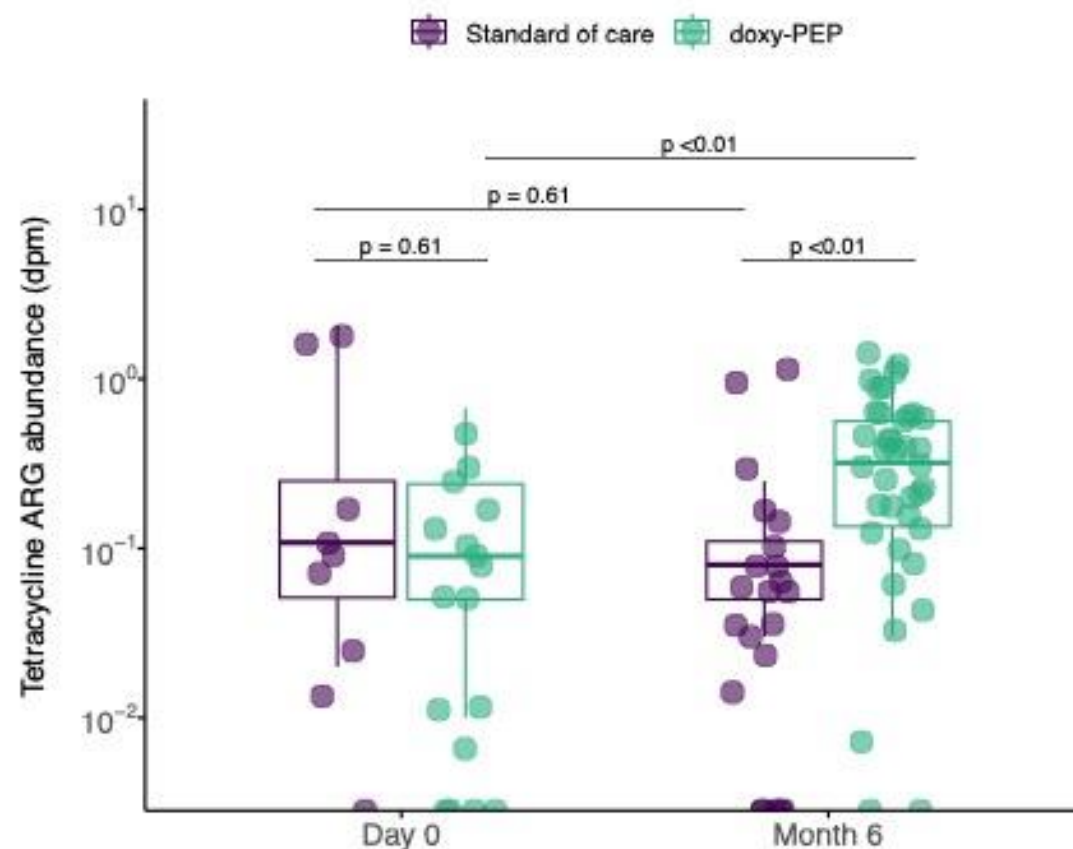
- No serious AE, rare discontinuations in trials
- Systematic review: GI effects and/or rash (0-50%); mixed data on metabolic effects

## □ Antimicrobial resistance (AMR)

- US DoxyPEP: small abs ↑ in TCN-R *S. aureus* colonization; higher numbers of AMR genes without significant change in bact. diversity
- No historic or expected resistance for *C. trachomatis* or *T. pallidum*
- Resistance in commensals? (*S. pneumoniae*, etc.)

## □ Remaining unknowns about doxy-PEP

- Long-term risk for AMR or effects on microbiome
- Impact on syphilis diagnostics
- Longevity for gonorrhea prevention



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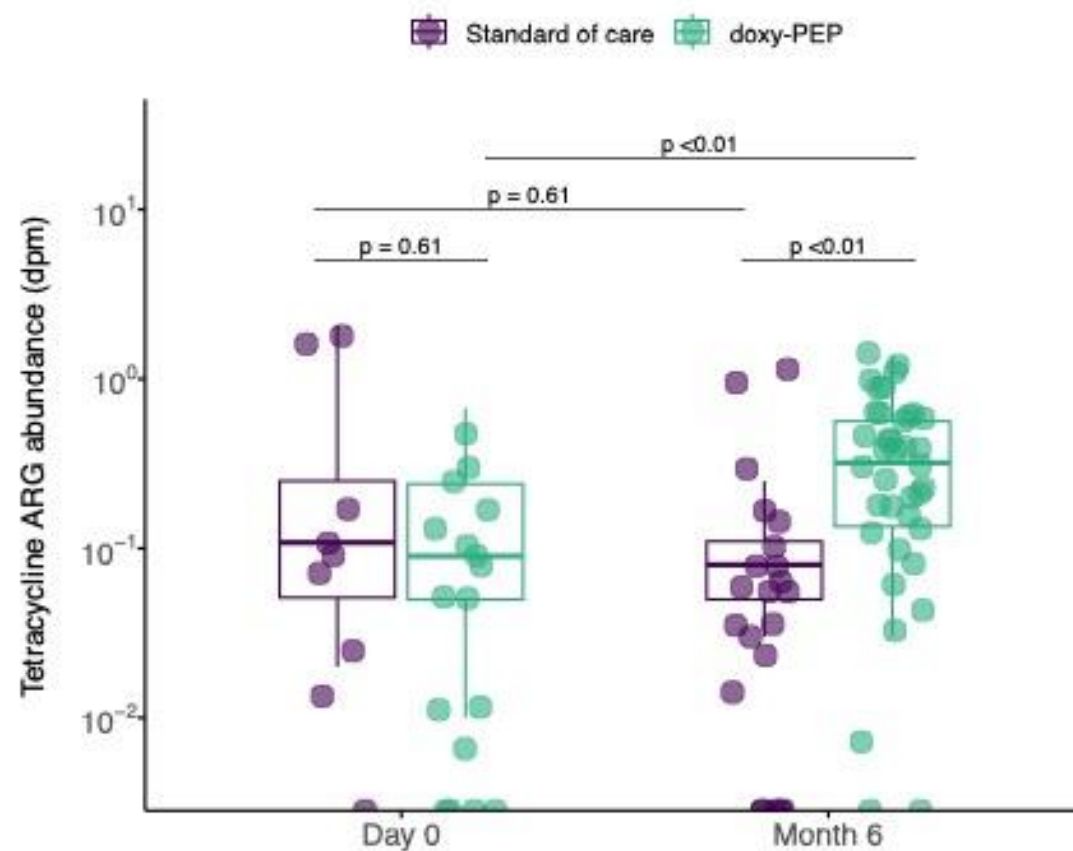
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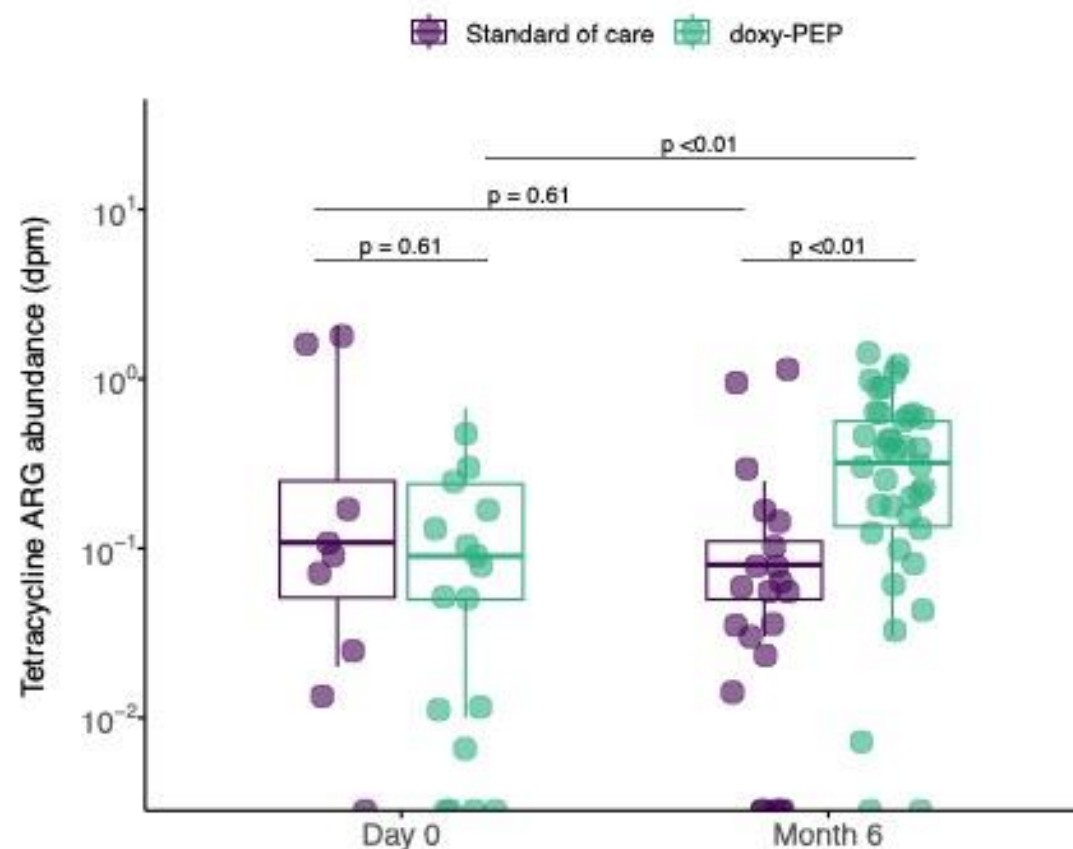
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Chan, et al. *Sex Transm Dis* 2023  
Luetkemeyer, et al. *NEJM* 2023  
Kong, et al. *J Antimicrob Chemother* 2023  
Chu, et al. *CROI* 2024  
Truong R, et al. *JAC Antimicrob Resist* 2022

# Finding the right balance with doxy-PEP

**Patient demand and interest**

**Clinical efficacy and safety**

**Population level effectiveness**

**Enhanced sexual pleasure**

**Reduction in ceftriaxone use**



**Prescriber discomfort**

**Lack of guidelines**

**Concern for induced AMR**

**Lack of adequate AMR surveillance systems**

**Lack of consensus on best target population**

**Implementation challenges**



**IAS**

# Doxy-PEP: Ready or not?

- Multiple RCTs support benefit for STI reduction (CT, syphilis > GC) in MSM and transgender women
- Doxy-PEP is safe, cheap, well tolerated
- Ongoing debates weighing benefits with known, potential and theoretical risks
- Crossroads of implementation – where do we go from here?

