HIV and STI Trends With Rising PrEP and Emerging Doxy-PEP Use Among MSM in Tokyo, 2017–2025

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BACKGROUND

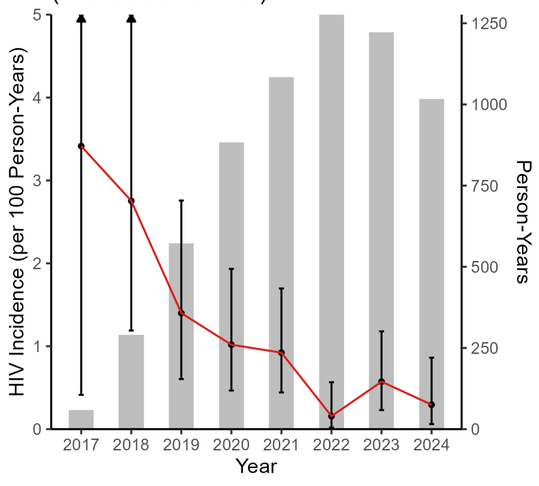
HIV PrEP and doxycycline post-exposure prophylaxis (Doxy-PEP) are increasingly used by gay and bisexual men worldwide. However, evidence on their population-level impact remains limited, particularly in settings with low HIV incidence and without structured programmatic support.

- We analyzed a single-center cohort of MSM without HIV in Tokyo (2017–June 2025) to describe trends in HIV incidence, STI incidence, and uptake of PrEP and Doxy-PEP, including Doxy-PEP–only use.

METHODS

- We analyzed data from the Sexual Health Clinic (SHC) cohort in Tokyo, established in 2017, which provides free quarterly HIV and STI testing (syphilis, chlamydia, gonorrhea) for MSM.
- We estimated annual HIV incidence (Fig1) and half-year STI incidence and modeled STI trends using negative binomial regression with calendar half-year splines and person-time offsets, adjusting for age and enrollment period with cluster-robust standard errors; analyses were stratified by PrEP and Doxy-PEP exposure.
- We summarized prevention uptake each half-year into four categories: neither, PrEP only, Doxy-PEP only, and both.

Fig1 Yearly HIV Incidence and Person-Years (Truncated 95% CI)

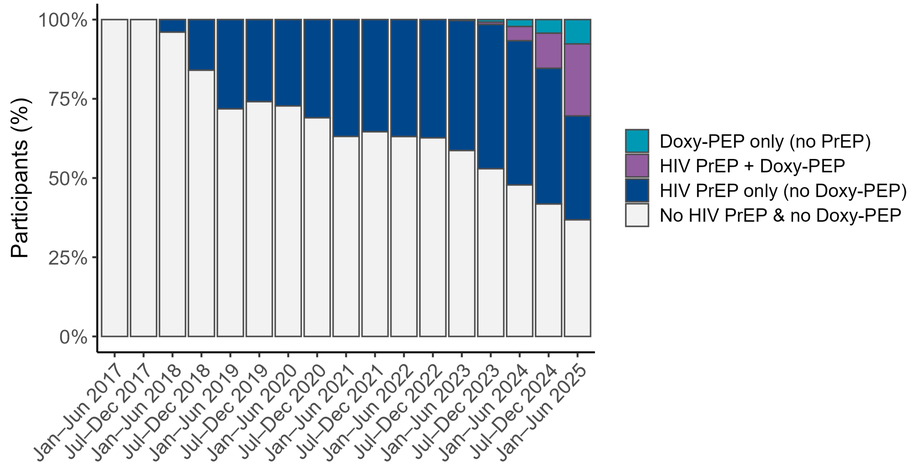


HIV infections declined as PrEP uptake increased, while STI trends remained stable. Rapid Doxy-PEP adoption coincided with declining STI incidence. In the absence of official PrEP support in Japan, prevention has evolved asymmetrically, underscoring the need for integrated and equitable guidance.

RESULTS

- STI incidence remained stable over time (Fig3) despite increasing uptake of PrEP and Doxy-PEP (Fig2). Among 2,355 participants, we observed no significant monotonic trend in STI incidence. The incidence rate ratio (IRR) per half-year was 1.02 (95% CI: 0.99–1.04) for ever Doxy-PEP users and 1.01 (95% CI: 0.99–1.03) for never Doxy-PEP users.

Fig2 Percentage of participants by PrEP and Doxy-PEP use status



CONCLUSIONS

- This study demonstrates sustained HIV control without an increase in STI burden in a low–HIV-incidence setting without formal PrEP coverage. PrEP uptake within a frequent-testing, clinic-based care model may achieve population-level impact even without national programs. However, emerging Doxy-PEP use without concurrent HIV prevention highlights the need for integrated guidance and ongoing risk monitoring.

ADDITIONAL KEY INFORMATION

- Analyses used routinely collected data from an ongoing prospective cohort (2017–2025)
- Some participants initiated Doxy-PEP before formal guidance in Japan.
- Approved by the Human Research Ethics Committee of NCGM (NCGM-S-004600-00).

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Fig3 Predicted STI Incidence Over Time by PrEP and Doxy-PEP Use