Disparities in awareness and uptake of doxyPEP among U.S. MSM living with HIV

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Background

- The CDC recommends doxycycline post-exposure prophylaxis (doxyPEP) for men who have sex with men (MSM) with a bacterial sexually transmitted infection (bSTI) in the past year
- DoxyPEP remains underutilized among some groups
- This study explored doxyPEP use and uptake, and associations with HIV care outcomes, among MSM living with HIV across the U.S.

Design and Methods

Study population

- From 10/2023–10/2024, we enrolled 827 cisgender MSM with HIV from 46 states, Washington D.C., and Puerto Rico via a popular geospatial dating app through a study called ARCHES (NIH/NIDA UG3DA058304)

Primary outcomes

- Explore doxyPEP awareness or use and any association with HIV care continuum outcomes among MSM living with HIV in the U.S., namely:
    - ART adherence
    - HIV viral suppression
    - Engagement in HIV/bSTI care

Secondary objectives and outcomes

- Assess characteristics associated with doxyPEP awareness, interest after learning of its indication and use, eligibility per CDC guidelines, and uptake

Statistical analysis

- Associations between HIV care continuum outcomes and doxPEP exposure were explored by multivariable logistic regression
- Adjusted for age, race/ethnicity, income, region, and bSTI history
- Presented as adjusted odds ratios (aOR) or inverse-variance weighted average (IVW-Avg) aORs for composite indices, with 95% confidence intervals (CI)

Results

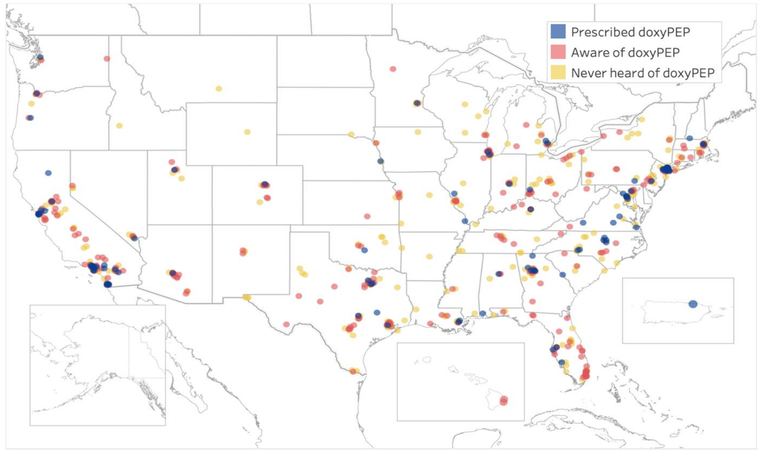
Participant characteristics (n=827)

- Mdn age = 40 years (range: 21–74)
- 40% Black, 21% Latino, 3% Asian/ Pacific Islander, 10% Multiracial/Other
- Nearly half (47%) reported income < $25,000 per year (Table 1)
- 46 U.S. states, D.C., and Puerto Rico (Figure 1)

Table 1.
Characteristics of Study Participants

Characteristic	Overall (N =827)
Age, median (range) - years	40.4 (21.0, 73.8)
Ethnicity – no. (%)	
Hispanic/Latino	171 (20.7%)
Non-Hispanic/Latino	656 (79.3%)
Race – no. (%)	
White	391 (47.3%)
Black	329 (39.8%)
Asian/Pacific Islander	25 (3.0%)
Multiracial/Other	82 (9.9%)
Annual income – no. (%)	
$0 - $24,999	390 (47.2%)
$25,000 - $74,999	335 (40.5%)
$75,000 - $150,000 +	102 (12.3%)
Region – no. (%)	
Midwest	144 (17.4%)
Mountain	60 (7.3%)
Northeast	191 (23.1%)
Pacific	158 (19.1%)
South	274 (33.1%)
STI history – no (%)	
STI in the last 12 mos	360 (43.5%)
No STI in the past 12 mos	467 (56.5%)
ART adherence – no. (%)	
Urine TFV detected	472 (57.1%)
Suboptimal urine TFV detected	87 (10.5%)
Missing/Not on TFV-regimen	268 (32.4%)
HIV viral suppression – no. (%)	
Suppressed < 200 copies/ml	706 (85.4%)
Not suppressed ≥ 200 copies/ml	121 (14.6%)
HIV care engagement – no. (%)	
Recent HIV appointment	756 (91.4%)
No recent HIV appointment	71 (8.6%)
DoxyPEP awareness and uptake – no. (%)	
Currently on doxyPEP	109 (13.2%)
Aware of doxyPEP (but not on it)	383 (46.3%)
Never heard of doxyPEP	335 (40.5%)

Figure 1.
DoxyPEP awareness and uptake among U.S. MSM HIV



Associations between doxyPEP exposure and HIV outcomes

- Neither awareness nor use of doxyPEP was associated with HIV care continuum outcomes.

DoxyPEP interest, awareness, and uptake

- 59% (n=492) of participants were aware of doxyPEP
- 13% (n=109) of all participants were on doxyPEP
- 46% (n=383) already knew of doxyPEP though were not on it, 84% of whom would start if offered at their HIV clinic
- 41% (n=335) had not heard of doxyPEP, 89% of whom were interested in it
- Of 360 participants meeting CDC criteria for doxyPEP counseling:
    - 69% were aware of doxyPEP
    - 20% were prescribed and taking it
    - 49% had heard of it but were not on it, 93% of whom would start it if offered it at their HIV clinic
    - 31% were unaware, 95% of whom expressed interest

Results (cont)

Disparities in doxyPEP awareness and uptake

- DoxyPEP awareness and uptake were greater in those with a recent bSTI (aOR=1.15, 95%CI: 1.06–1.25; aOR=1.11, 95%CI: 1.05–1.17, respectively)
- Individuals with an income ≥$25,000 were more likely to be aware of doxyPEP. (IVW-Avg aOR=1.15, 95%CI: 1.06–1.26)
- Awareness and uptake were lower in the South, Midwest, and Mountain regions relative to the Pacific (IVW-Avg aOR=0.81, 95%CI: 0.76–0.86; IVW-Avg aOR=0.86, 95%CI: 0.82–0.90, respectively)

Discussion

- To our knowledge, this is the first description of doxyPEP implementation among a U.S. national sample of MSM living with HIV
- This study highlights the potential and challenges of doxyPEP and reveals socioeconomic and geographic disparities in its rollout
- High interest among those not on doxyPEP (>80%) suggests substantial opportunities for expanding access
- Those newly aware of doxyPEP expressed interest in co-located HIV/bSTI services, emphasizing benefits of integrated care models
- Future doxyPEP research should:
    - monitor for antimicrobial resistance
    - measure its real-world effectiveness
    - ensure its equitable implementation
    - identify uptake barriers to avoid perpetuating inequities in bSTI epidemic

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