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Five-Year German PrEP Cohort Reveals High HIV Protection and Persistent STI Burden

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BACKGROUND

Oral HIV PrEP is highly effective, but real-world protection depends on multiple factors. In Germany, PrEP uptake remains below need. Longitudinal data on effectiveness and related burdens are limited. We therefore evaluated adherence patterns, effectiveness, STI incidence, interest in long-acting PrEP, and renal outcomes.

METHODS

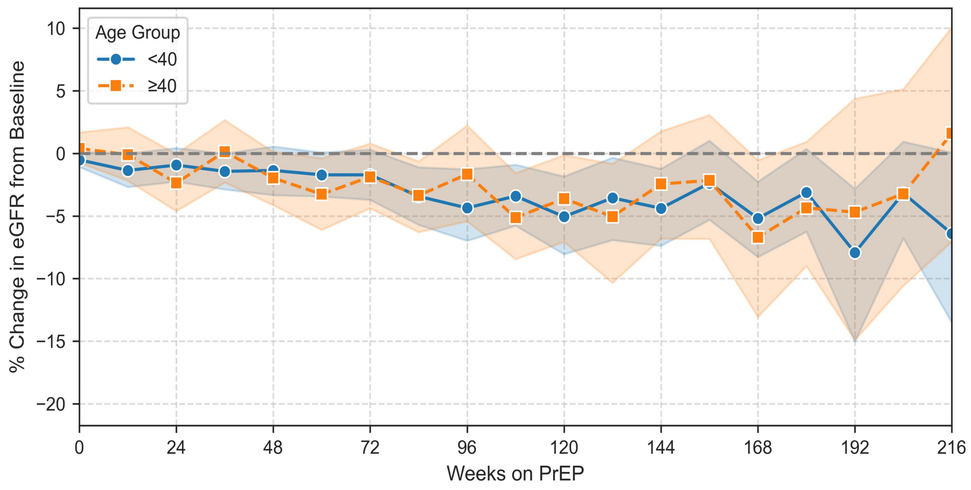
Single-site, pseudonymized prospective observational cohort of 589 PrEP users at our **Check Point for Sexual Health** at Outpatient Department of Infectious Diseases of the University Medical Center Hamburg-Eppendorf. Data collected (Dec 2019 - Sep 2024):

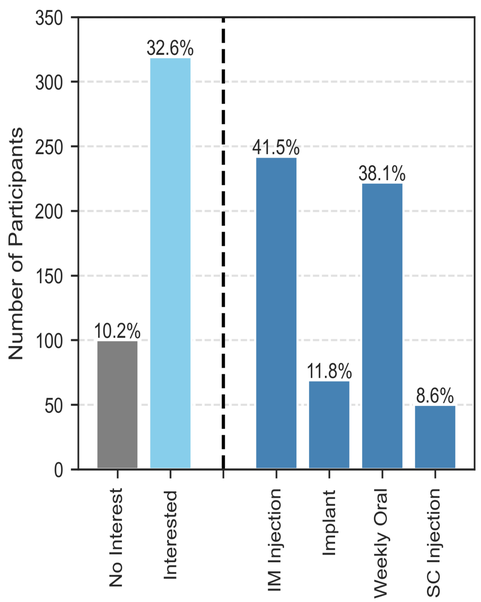
- Recurrent structured behavioral surveys
- Prescription records and routine clinical visits
- Laboratory data: STI testing and eGFR
- Clinical charts

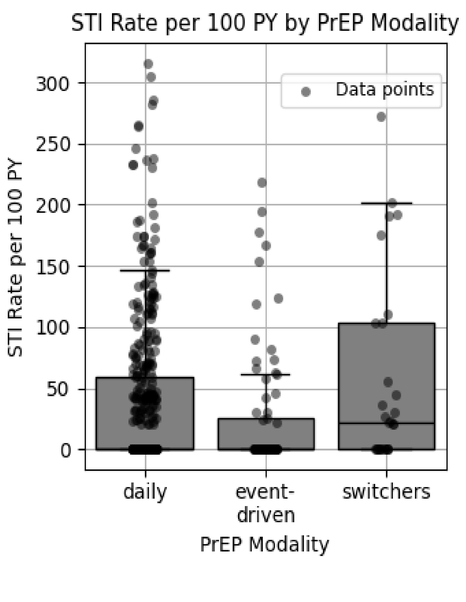
RESULTS

Mean follow-up 102.3 weeks (~2 years), totaling 1189.5 person-years. **HIV protection was high,** with no HIV infections during active PrEP use. Two HIV diagnoses were identified: first before PrEP initiation and second 24 months after dropout. **Adherence was high** among daily PrEP users, PrEP coverage during active phases averaged 315.1 days per person-year (median 340.7). **Dropout** rate was 3.56% per quarter (IQR 2.65%–4.83%). Documented reasons (available for ~24% of dropouts) included entering a partnership, changing medical center, or moving away. Overall, 9.2% discontinued after initiation. **STI burden varied** across participants and PrEP regimens, **but overall rates remained high** (Table 2). **Interest in long-acting PrEP was high** (not yet available in Germany). **Renal function was largely stable**; cumulative PrEP uptake was not significantly associated with eGFR decline. Most participants were MSM, German-born/with German nationality and had high educational attainment, differing from the general population (Table 1).

Women and migrants remain underrepresented in PrEP programs in Germany







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Table 1 Characteristics of the study population

Educational Level †	***N = 456***
No Answer/Missing	41
University / College Degree	195 (47.0)
High School Diploma (Abitur)	103 (24.8)
Apprenticeship / Vocational Training	66 (15.9)
Middle / Elementary School Diploma	39 (9.4)
Doctorate (PhD)	11 (2.7)
No School Diploma	1 (0.2)
Region of birth †	***N = 456***
No Answer/Missing	41
Germany	339 (81.8)
European Union	27 (6.5)
Europe (non-EU)	15 (3.6)
Middle East	11 (2.6)
South America	8 (1.9)
East Asia	5 (1.2)
North America	5 (1.2)
Others	5 (1.2)

Table 2 STI Counts and Rates (Participants > 2 Visits)

	Count (%)	Cases/100 PY (95% CI)
Overall	613	51.5 (47.5 – 55.8)
C. trachomatis	251 (40.9)	21.1 (18.6 – 23.9)
N. gonorrhoeae	224 (36.5)	18.8 (16.4 – 21.5)
Syphilis	65 (10.6)	5.5 (4.2 – 7.0)
C. acuminata	34 (5.5)	2.9 (2.0 – 4.0)
Herpes genitalis	12 (2.0)	1.0 (0.5 – 1.8)
Mpox	6 (1.0)	0.5 (0.2 – 1.1)
Mycoplasma	4 (0.7)	0.3 (0.1 – 0.9)
Hepatitis C	2 (0.3)	0.2 (0.0 – 0.6)
Others	15 (2.4)	1.3 (0.7 – 2.1)

CONCLUSIONS

High STI rates indicate **ongoing sexual exposure** and underscore the importance of PrEP. **Heterogeneous risk** patterns and stable renal function support more **flexible visit scheduling** and access to long-acting PrEP. Recent European surveillance data suggest that ~30% of new infections occur among migrants; in our cohort, only **8.1%** were born outside Europe. To meet national HIV-prevention goals, PrEP programs should expand equitable **access for underrepresented groups**.

PLAIN LANGUAGE SUMMARY

At a German sexual health center, oral PrEP was highly effective against HIV with stable kidney function. Other STIs remained common and varied among the 589 participants. Women and migrants were underrepresented.