

PrEP use trend and assessment of factors that may affect PrEP persistence

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RESEARCH OBJECTIVE

The U.S. government recently established a call to action to end the HIV epidemic within 10 years. Core to this effort, pre-exposure prophylaxis (or PrEP) is a daily, single pill, drug regimen that has proven to be highly effective in preventing HIV infection for individuals at high risk. This study evaluated patterns and factors that contribute to PrEP usage and persistence.

POPULATION STUDIED

- A random sample of 20,000 persons using PrEP within the study period (1/1/2016-12/31/2019) were identified from prescription fill data from a large, national pharmacy chain. Persons aged 18–64 years with at least one PrEP prescription were included in the sample. Persons were excluded if they received a full antiretroviral regimen at any time during the study period.
- Each study participant had (1) a baseline knee or back pain self-reported value greater than 0, (2) pain lasting at least 3 months prior to enrollment, (3) 10 or more exercise therapy sessions completing during the core 12-week program, and (4) at least one self-reported pain rating between weeks 6 and 12.

STUDY DESIGN

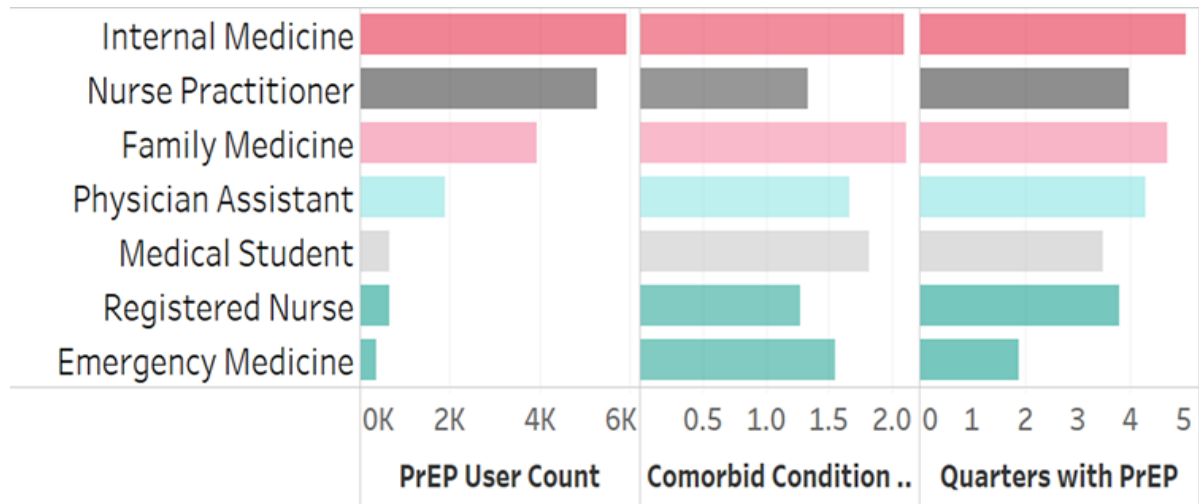
- Patient's age, sex, health plan, store locations, and prescriber type were included in the data pull. Geographic information such as state and zip code were also included. We performed analyses using SAS Version 9.4 (SAS Institute Inc., Cary, NC). We used the Kaplan-Meier time-to-event method to estimate the median duration of persistence in quarters, and Cox proportional hazard regression models to estimate the effect of covariates.
- Persistence was defined as number of calendar quarters that a person continued to refill PrEP prescriptions.

PRINCIPAL FINDINGS

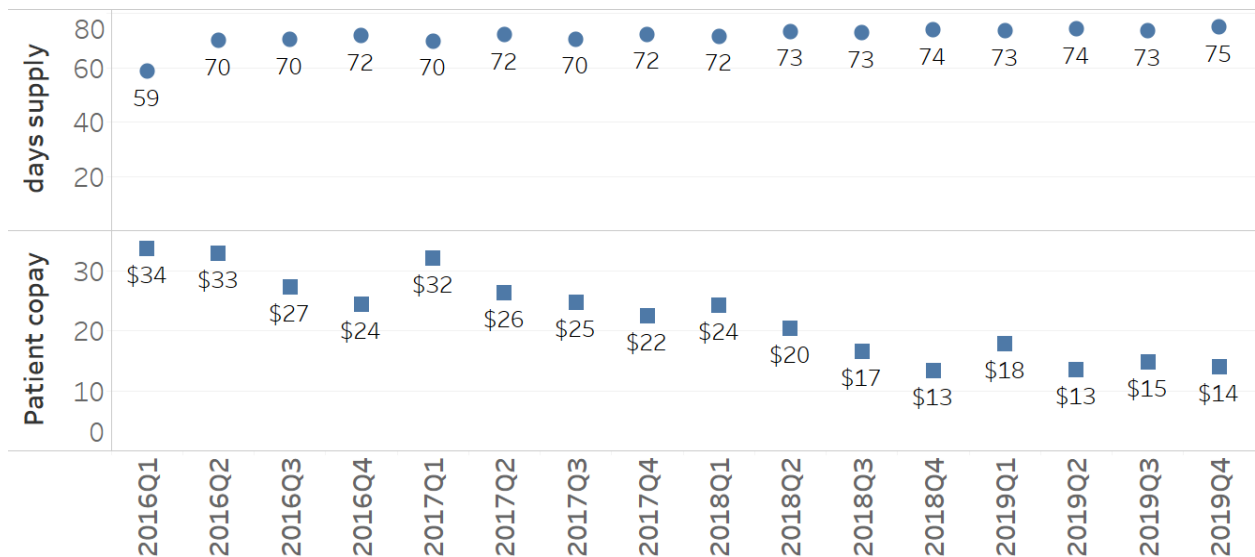
- Persons using PrEP were identified in 49 of 50 states, Puerto Rico, and Virgin Islands. Men accounted for 90% of PrEP usage.
- Nearly 46% of persons using PrEP were aged 18-35 years (mean age=29.5).
- Persons using PrEP more than tripled from 17k in 2016 to 60k in 2019.
- Average copay for PrEP decreased from \$34 in 2016 to \$14 in 2019.
- Fifty six percent of persons using PrEP had at least one chronic condition. Primary care providers (e.g., nurse practitioners, internal medicine, family medicine) accounted for 92% of PrEP prescriptions.

- In multivariable modeling, age, copay, and prescriber type were associated with PrEP persistence. Higher age, having no copay, and patient prescribed PrEP by an internist, physician assistant, family medicine doctor, were more likely to persist on their therapy.

PrEP user count and days supply by prescriber



Trend of PrEP days supply and patient copay



Hazard Ratios: Assessment of PrEP Use Persistence

Age	Age (increase in every 20 years)	0.763	0.722	0.806
Copay	Zero copay (vs with Copay)	0.84	0.759	0.929
Prescriber Specialty	Internal Medicine (vs Nurse Practitioner)	0.812	0.742	0.889
	Physician Assistant (vs Nurse Practitioner)	0.829	0.725	0.948
	Family Medicine (vs Nurse Practitioner)	0.873	0.789	0.965
	Internal Medicine (vs Medical students)	0.782	0.613	0.998

*Note: All comparisons are significant at p-value <0.01

CONCLUSION

- An analysis of supporting factors for PrEP usage has revealed lowering copays associated with therapy positively impacts PrEP persistence.
- Primary care providers were shown to be the main prescriber of PrEP and may play a critical role in assisting widespread uptake of PrEP utilization.

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