



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

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## BACKGROUND

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.

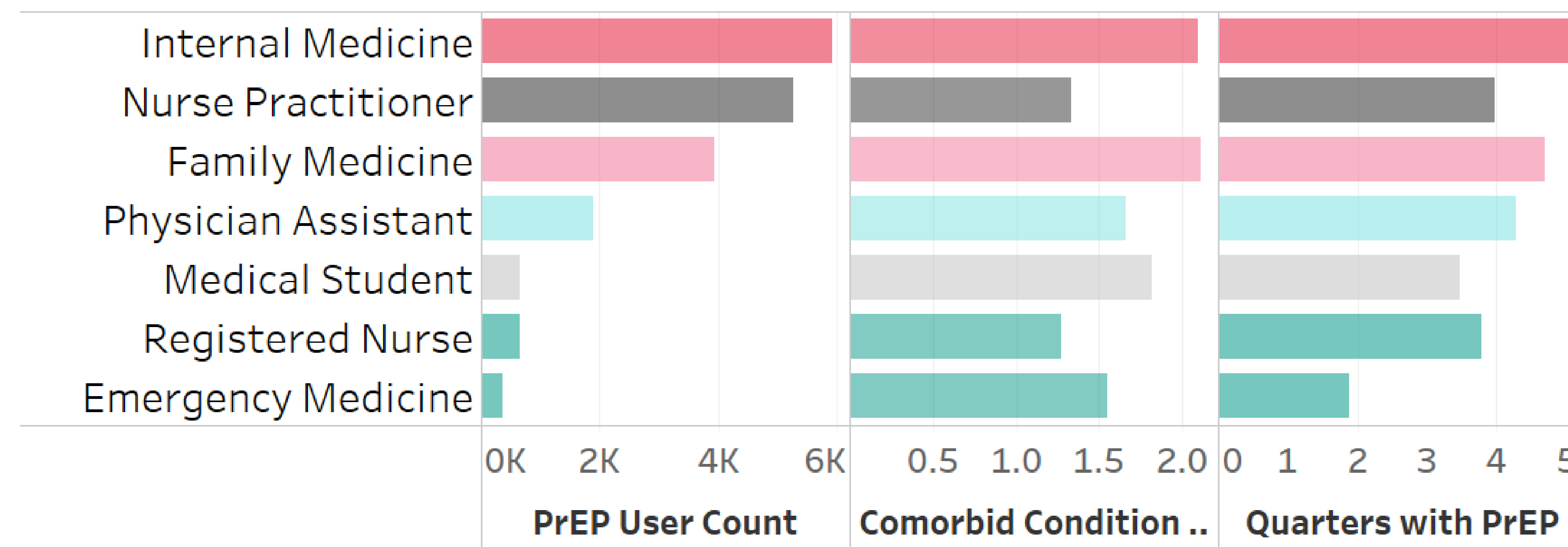
## OBJECTIVE

- To describe patterns and factors that contribute to PrEP usage and persistence.

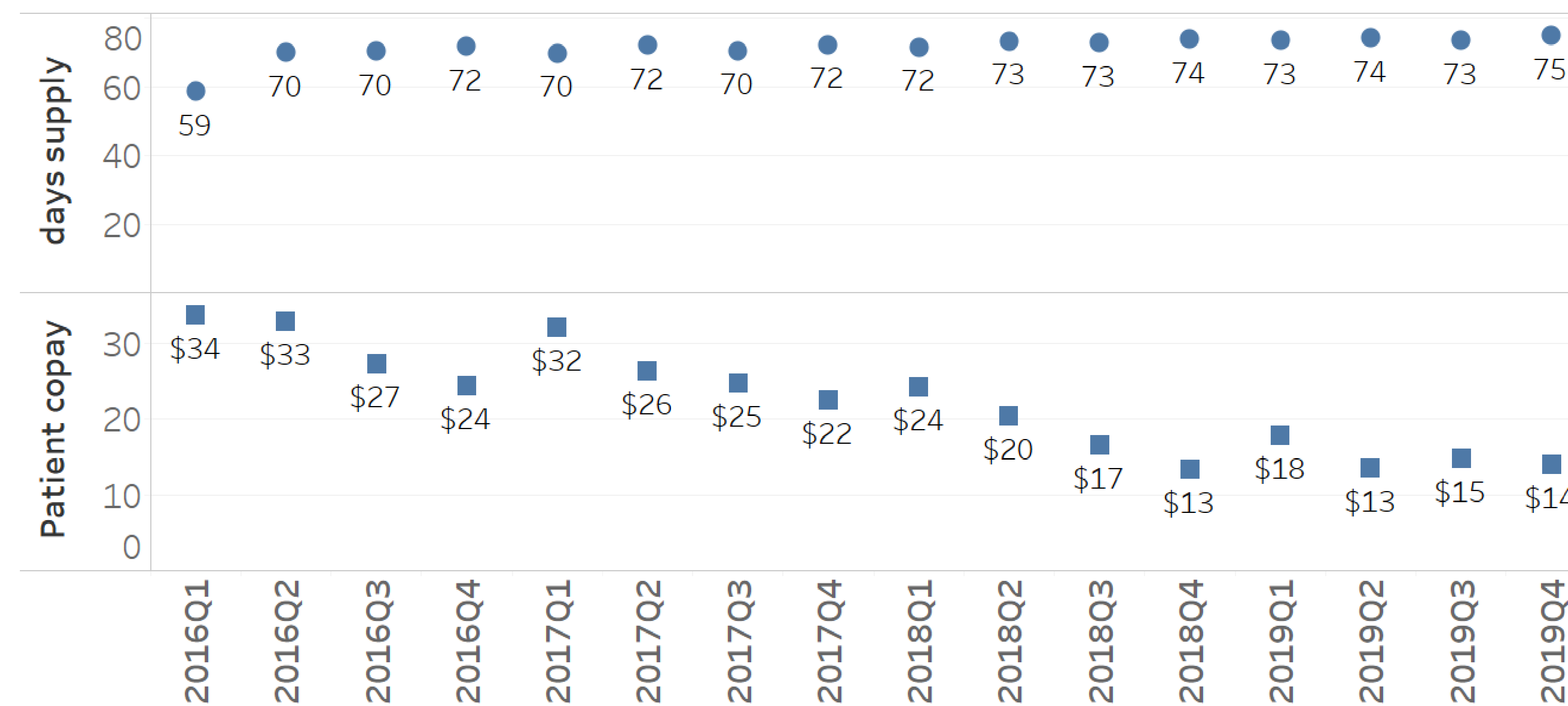
## METHODS

- 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. Persistence was defined as number of calendar quarters that a person continued to refill PrEP prescriptions.
- 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.

## PrEP user count and days supply by prescriber



## Trend of PrEP days supply and patient copay



## Hazard Ratios: Assessment of PrEP Use Persistence

| Description of group comparisons |   | Point Estimate* | 95% Confidence Limits |          |
|----------------------------------|---|-----------------|-----------------------|----------|
|                                  |   |                 | Lower CL              | Upper CL |
| 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 < .01

## RESULTS

- 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.

## CONCLUSIONS

- 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.