

# Prevalence and Correlates of AUD Diagnoses Among Users of HIV Pre-exposure Prophylaxis

Rishit Yokanath<sup>1</sup>, Godwin Okoye<sup>2</sup>, Aliza Norwood<sup>3,4,5</sup>, Phillip Schnarrs<sup>4,5,\*</sup>, Anton L.V. Avanceña<sup>2,3,4</sup>

<sup>1</sup>Department of Neuroscience, College of Natural Sciences, The University of Texas at Austin, TX <sup>2</sup>Health Outcomes Division, College of Pharmacy, The University of Texas at Austin, TX <sup>3</sup>Department of Internal Medicine, Dell Medical School, The University of Texas at Austin, TX <sup>4</sup>Texas Institute for Sexual and Gender Minority Health Research, The University of Texas at Austin, TX, <sup>5</sup>Department of Population Health, Dell Medical School, The University of Texas at Austin, TX, \*Current address. Department of Behavioral and Community Health Sciences, School of Public Health, University of Pittsburgh, Pittsburgh, PA, USA

## Introduction

- Pre-exposure prophylaxis (PrEP) is a key HIV prevention tool, and adherence and continuation are crucial for effectiveness. Unhealthy alcohol use, including alcohol use disorder (AUD), may impact PrEP adherence and continuation<sup>1</sup>
- The prevalence of AUD among individuals who use PrEP and whether they receive medications for AUD (MAUDs) remains unclear
- This study uses real-world data to estimate prevalence of AUD diagnoses, identify clinical and sociodemographic correlates of AUD diagnoses, and assess MAUD initiation among individuals who use PrEP to inform healthcare practice and policy

## Methods

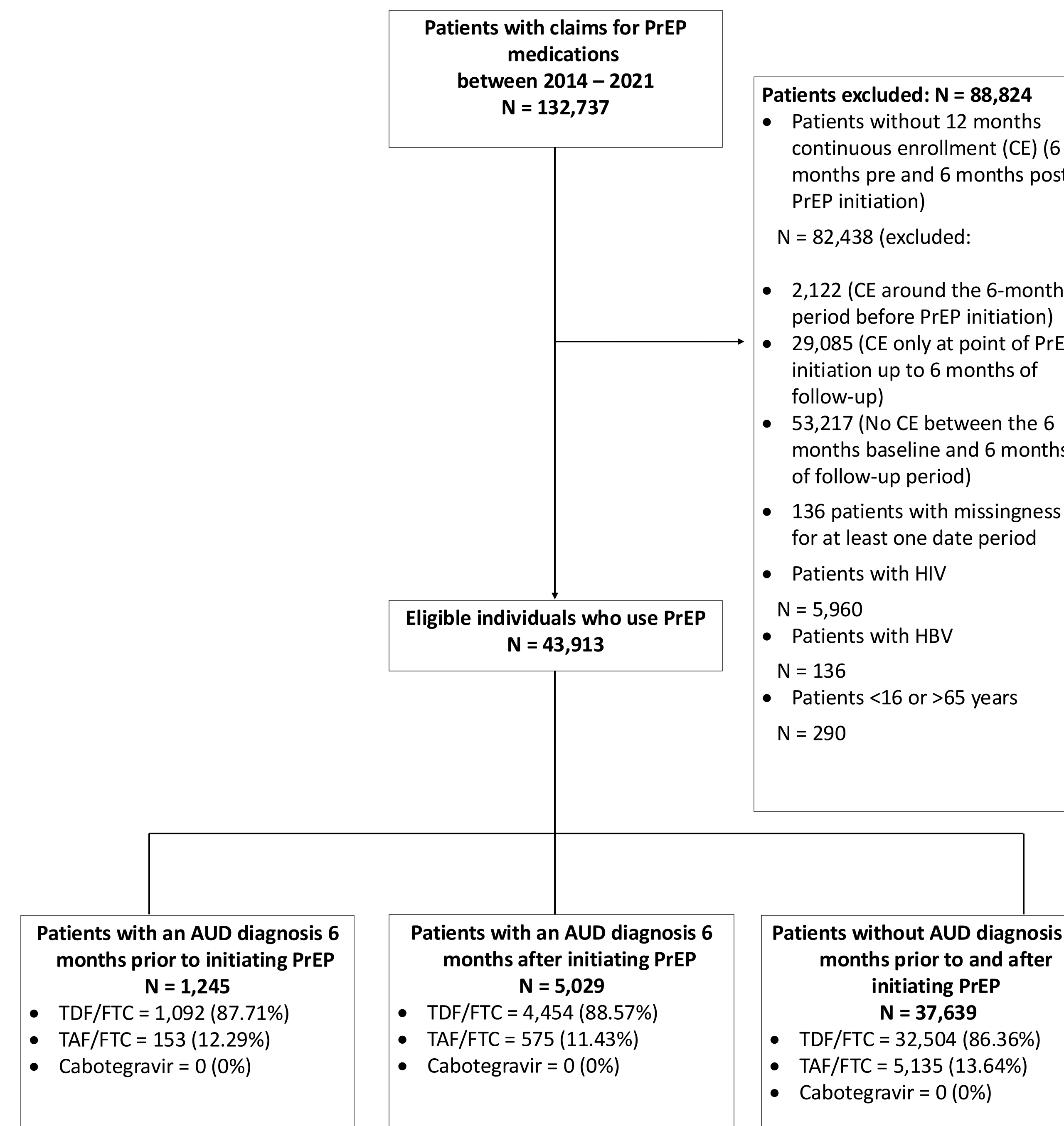
- Study Design & Data Source**
- Study type:** Retrospective cohort study following STROBE guidelines
  - Data source:** Merative™ MarketScan®, a US healthcare claims database (>25M individuals annually with employer-sponsored private health insurance and their dependents)
  - Ethics:** Exempted from full review by UT Institutional Review Board
- Study Population**
- Inclusion criteria:** Individuals aged 16-64 years initiating FDA-approved PrEP (TDF/FTC, TAF/FTC, Cabotegravir) from Jan 1, 2014 to December 31, 2021<sup>2</sup>
  - Exclusions:** HIV or hepatitis B diagnosis within 6 months pre-PrEP initiation
  - Continuous insurance coverage** required for at least 6 months after PrEP initiation
- Measures**
- Primary outcome:** AUD diagnosis, identified via ICD-10 codes in inpatient/outpatient claims
  - AUD groups:** Pre-PrEP AUD (Diagnosis ≤ 6 months before PrEP initiation), Post-PrEP AUD (Diagnosis ≤ 6 months after PrEP initiation), No AUD (No diagnosis in baseline or follow-up periods)
  - AUD Treatment:** Receipt of FDA-approved MAUDs (naltrexone, acamprosate, disulfiram) and non-FDA approved MAUDs (baclofen, gabapentin, topiramate)
- Correlates**
- Sociodemographic:** Age, sex, insurance type, employment, geographic region, and year of PrEP initiation (2014-2016, 2017-2019, 2020-2021)
  - Clinical characteristics:** Diagnoses of mental health conditions (depression, anxiety, PTSD, bipolar disorder), substance use disorders (SUDs), STIs, STI screening, and psychotherapy service utilization
- Statistical Analysis**
- Descriptive statistics used to compare baseline characteristics of individuals with and without AUD
  - Group comparisons using Student's t-test for continuous variables, Pearson's chi-square test for Binary variables, and Mantel-Haenszel chi-square test for nominal variables
  - Multivariable logistic regression to assess sociodemographic and clinical factors associated with AUD diagnosis before and after PrEP initiation
  - Statistical significance:  $p < 0.05$

## Results

- Prevalence of AUD in individuals who use PrEP:** Among 43,913 individuals who use PrEP, 6,274 (14.3%) had an AUD diagnosis. 1,245 (2.8%) had AUD before initiation, while 5,029 (11.5%) developed AUD after (Figure 3).
- Correlates of AUD Before vs. After PrEP Initiation:**
  - Protective factors:** Being male assigned at birth and older age (before only) were protective. PrEP initiation in 2020-2021 was also protective after initiation (Figure 2).
  - Risk factors:** Depression, anxiety, PTSD, bipolar disorder, and SUD were all strongly associated with AUD (Figure 2)
  - Regional differences:** Higher AUD odds in the Northeast (before & after), West (before), and Midwest (after) vs. South (Figure 2)
- AUD Pharmacotherapy:** Only 8.5% of individuals with AUD received FDA-approved medications. Non-FDA-approved medications (gabapentin, topiramate, baclofen) were more commonly used (Figure 3).
- Healthcare Utilization:** AUD-diagnosed individuals had higher psychotherapy use & STI screening rates than those without AUD (Figure 4)

## Results

Figure 1: CONSORT diagram showing the cohort selection of individuals who use PrEP with and without AUD diagnoses



Among individuals who use PrEP, AUD diagnoses were common and associated with mental health conditions and SUDs, yet treatment rates remained low

Figure 2: Multivariable Logistic Regression: Significant Correlates Associated with AUD Before vs After PrEP Initiation

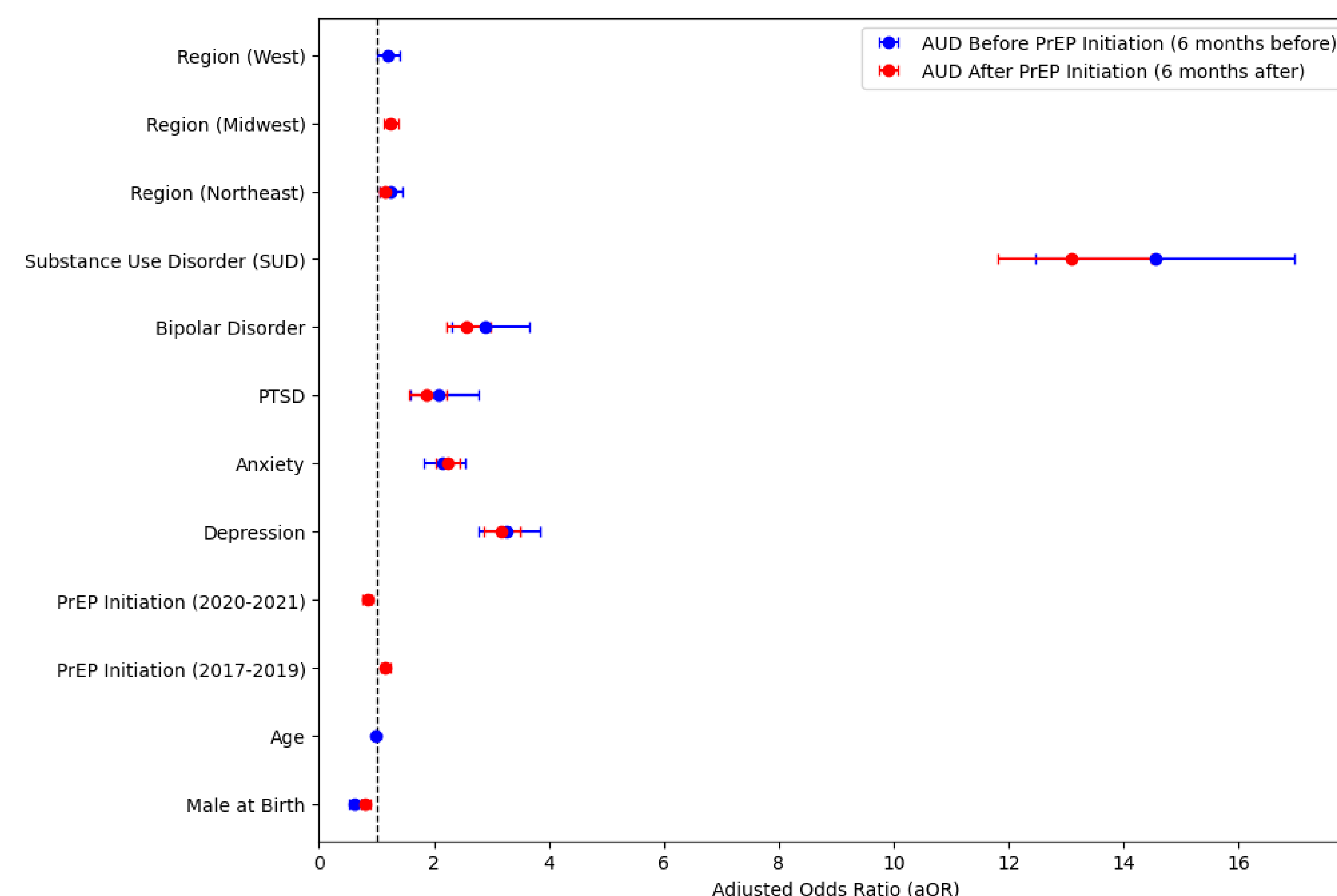


Figure 3: AUD Treatment Receipt Before and After PrEP Initiation

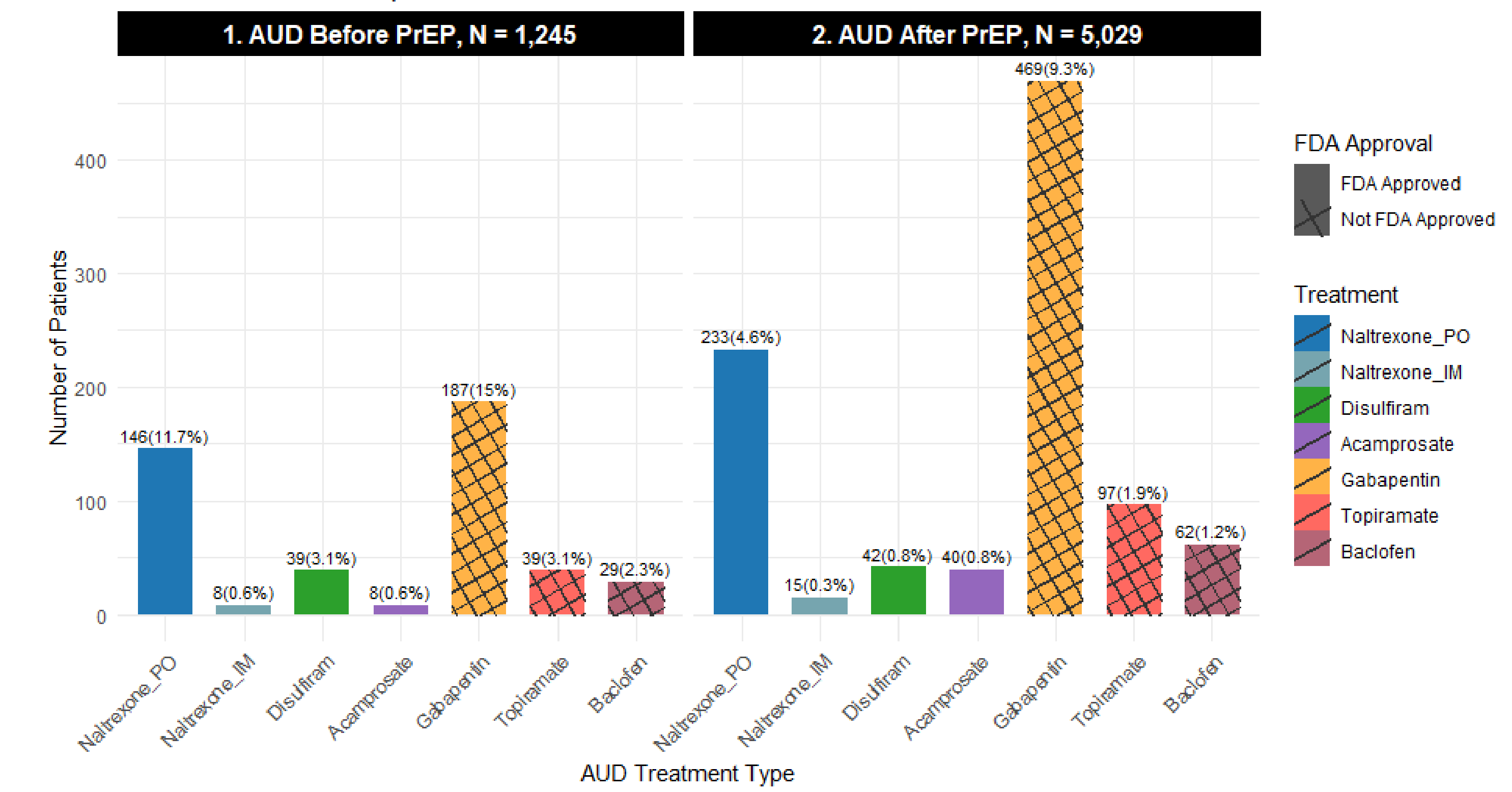


Figure 4: Baseline Characteristics of individuals who use PrEP with and without AUD Diagnosis

Group	Mean Age (SD)	Male Assigned at Birth (%)	Employed (%)	Depression (%)	Anxiety (%)	Bipolar Disorder (%)	Opioid Use Disorder (%)	Psychotherapy Services (%)	STI Diagnosis (%)	STI Screening (%)
AUD Before PrEP	34.88 (11.43)	83.29	79.20	31.24	26.75	13.01	5.22	13.90	10.6	15.2
No AUD	35.85 (10.78)	90.31	83.45	5.30	6.61	1.57	0.24	5.54	17.8	10.1
AUD After PrEP	35.49 (11.96)	86.40	81.71	26.98	23.58	10.88	5.15	10.64	9.5	11.5
No AUD	35.85 (10.78)	90.31	83.45	5.30	6.61	1.57	0.24	5.54	17.8	10.2

## Strengths and Limitations

### Strengths

- Large national cohort (43,913 individuals who use PrEP) using real-world claims data
- First study to evaluate AUD diagnosis timing in relation to PrEP initiation
- Provides insight into AUD treatment gaps, including low receipt of both FDA-approved and non-FDA approved MAUDs

### Limitations

- Excludes uninsured & Medicaid populations, limiting generalizability
- AUD underdiagnosis may lead to underestimation of true prevalence
- Claims-based data may be susceptible to miscoding or missing information

## Discussion & Conclusion

- High AUD prevalence:** 14.3% of individuals who use PrEP had an AUD diagnosis before or after initiation, with strong associations for mental health conditions and other SUDs
- Low treatment rates:** Less than 9% received FDA-approved AUD treatment despite healthcare access
- Need for intervention:** Improved AUD screening and treatment could enhance PrEP outcomes

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### References

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