

Exploring Disparities in PrEP Prescriptions for High-Risk HIV Patients Using Real-World Data

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BACKGROUND

- Pre-exposure Prophylaxis (PrEP) is safe and effective at preventing HIV, but it is under prescribed for certain groups that could benefit.^{1,2} In the United States, PrEP is currently prescribed to less than 5% of eligible individuals.³ Inpatient settings have been proposed as an underused avenue for connecting patients (specifically IV drug users) with PrEP⁴

OBJECTIVE

- Assess the demographics of adults receiving PrEP prescriptions versus those who could benefit, and the characteristics of hospitals prescribing PrEP

METHODS

- Premier Electronic Health Records Data, an inpatient healthcare database, was used to assess PrEP prescribing practices from June 2012-2019, in individuals eligible for PrEP
 - ICD-9/10-CM codes were used to assess patient eligibility (HIV-negative with normal kidney function), who were at increased risk of HIV due to sexual behaviors or STI exposure
 - Patients taking PrEP medications for post-exposure prophylaxis were excluded
- Rates of PrEP prescriptions and patient and hospital demographics were assessed for those prescribed PrEP (PrEP group) and those without a prescription (no PrEP group)
 - Sexuality was determined by ICD-10 codes Z72.51-Z72.53 when available
 - Transgender individuals were determined with ICD-10 code F64.0 and ICD-9 code 302.5. Gender diverse patients were determined with ICD-10 codes F64.1, F64.2, F64.8, F64.9, F65.1, and Z87.89.0; and ICD-9 codes 302.5, 302.6, 302.85
- Chi-square tests were used to assess between-cohort differences

RESULTS

- Since PrEP was approved for use, 0.07% (418) were prescribed PrEP out of the 611,749 patients that met eligibility criteria (**Table 1**). Patient demographics and hospital characteristics for those prescribed PrEP are detailed in **Tables 2 and 3**
- Among the population at-risk (611,749), sexuality was indicated in 2,641 individuals. Only 0.49% of those individuals were prescribed PrEP. Approximately 0.08% were heterosexual, 0.38% homosexual, and 0.04% bisexual
- Chi-squared analysis to assess differences in prescribing practices across patient demographics (age, race, gender, sexuality, and medical insurance status) and hospital characteristics (geographical region, teaching status, urban vs. rural classification, and hospital bed-size) yielded no significant differences between groups ($p \geq 0.32$)
- Figure 1** showcases the risk factors for HIV among patients, emphasizing the significant role of HIV exposure and sexually transmitted infections for PrEP eligibility
- Figure 2** details the age distribution of PrEP recipients, highlighting the higher prescription rates among the 26-35 age group

FIGURE 1. Distribution of HIV Risk Factors Among Patient Population

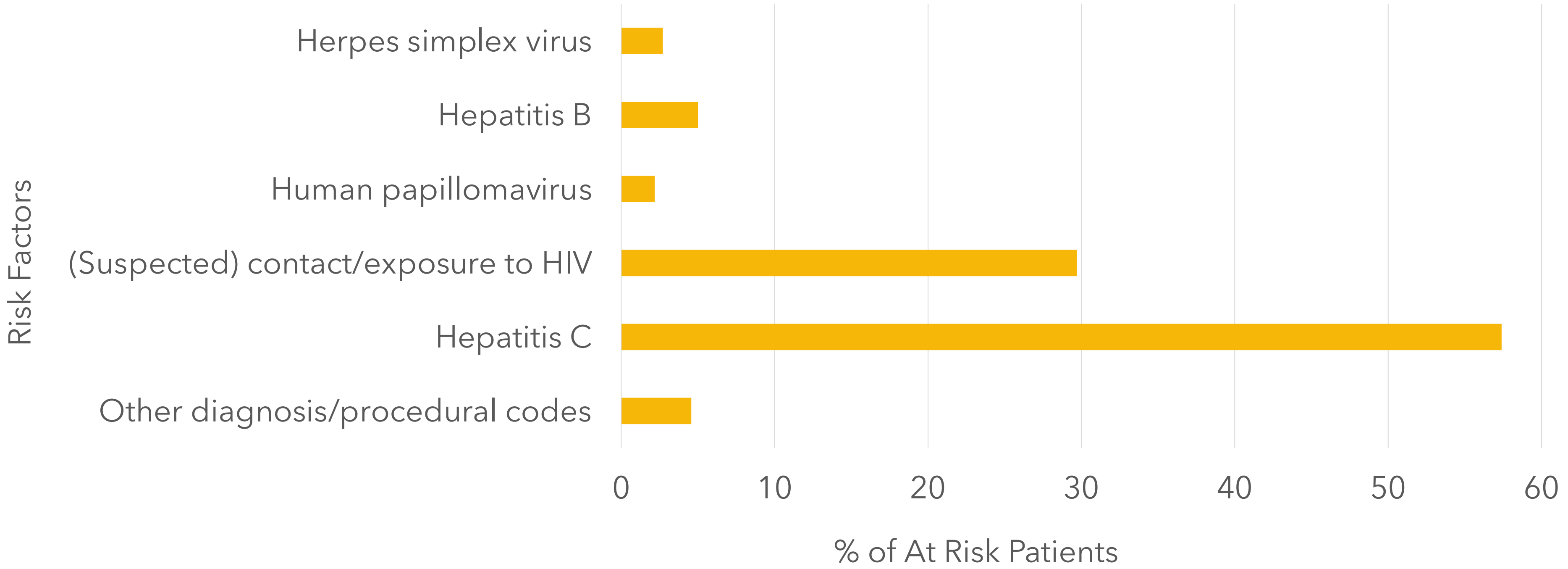
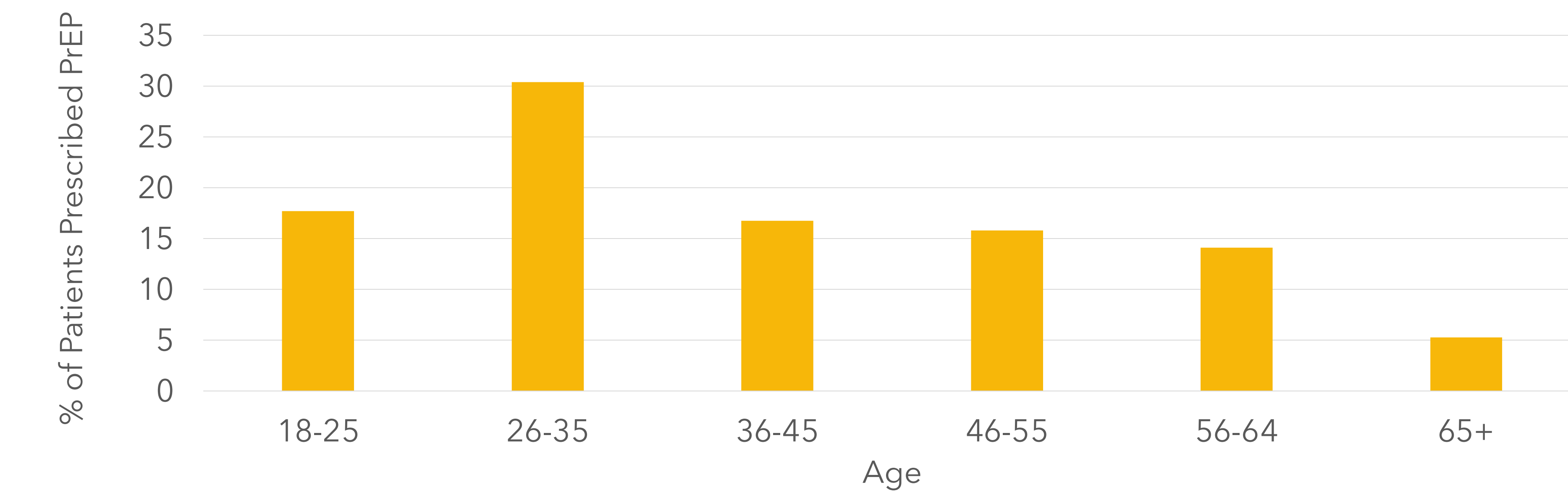


FIGURE 2. Age Distribution of Inpatient Pre-exposure Prophylaxis Prescriptions



CONCLUSIONS

- Low PrEP prescription rates were observed for eligible hospital inpatients
- The lack of statistical significance between demographic groups for those with and without PrEP prescriptions is likely due to low count of prescriptions
- Despite immediate patient concerns inpatient facilities could serve as a resource for providing preventative HIV medication to at risk individuals

TABLE 1. Overview of PrEP Prescriptions Among High-Risk Patients

	Total At Risk Patients	Patients With PrEP Prescription	Patients Without PrEP Prescription
Number of Patients	611,749	418 (0.07%)	611,330 (99.93%)

TABLE 2. Demographics of Patients Prescribed PrEP

Variable	Patients with PrEP Prescription	
	N	(%)
Gender		
Female	114	(27.27%)
Male	304	(72.72%)
Gender Diverse (Not Trans)	0	(0%)
Transgender	0	(0%)
Unknown	0	(0%)
Race		
Black	86	(20.57%)
White	249	(59.56%)
Other	76	(1.67%)
Unknown	7	(18.18%)

TABLE 3. Hospitals Characteristics for Patients Prescribed PrEP

Variable	Patients with PrEP Prescription	
	N	(%)
Geographical Division		
East North Central	33	(7.89%)
East South Central	10	(2.39%)
Middle Atlantic	114	(27.27%)
Mountain	13	(3.11%)
New England	15	(3.59%)
Pacific	91	(21.77%)
South Atlantic	89	(21.29%)
West North Central	17	(4.07%)
West South Central	36	(6.61%)
Location		
Urban	400	(95.69%)
Rural	18	(4.31%)
Teaching Status		
Teaching	248	(59.33%)
Non-Teaching	170	(40.67%)
Bed Size		
<200	52	(12.44%)
200-299	72	(17.22%)
300-399	85	(20.33%)
400-499	34	(8.13%)
500+	175	(41.87%)

REFERENCES

[1] Adimora AA, et al. *Lancet*. 2021[2] Caponi M, et al. *Prev Med Rep*. 2019 [3] Siegler AJ, et al. *Ann Epidemiol*. 2018 [4] Marryshow, TA, Caro J. Presented virtually at: 10th Annual IDWeek 2021; September 29, 2021. Abstract 50

