

Characterizing latent profiles of young long-acting injectable PrEP users in in Cape Town, South Africa

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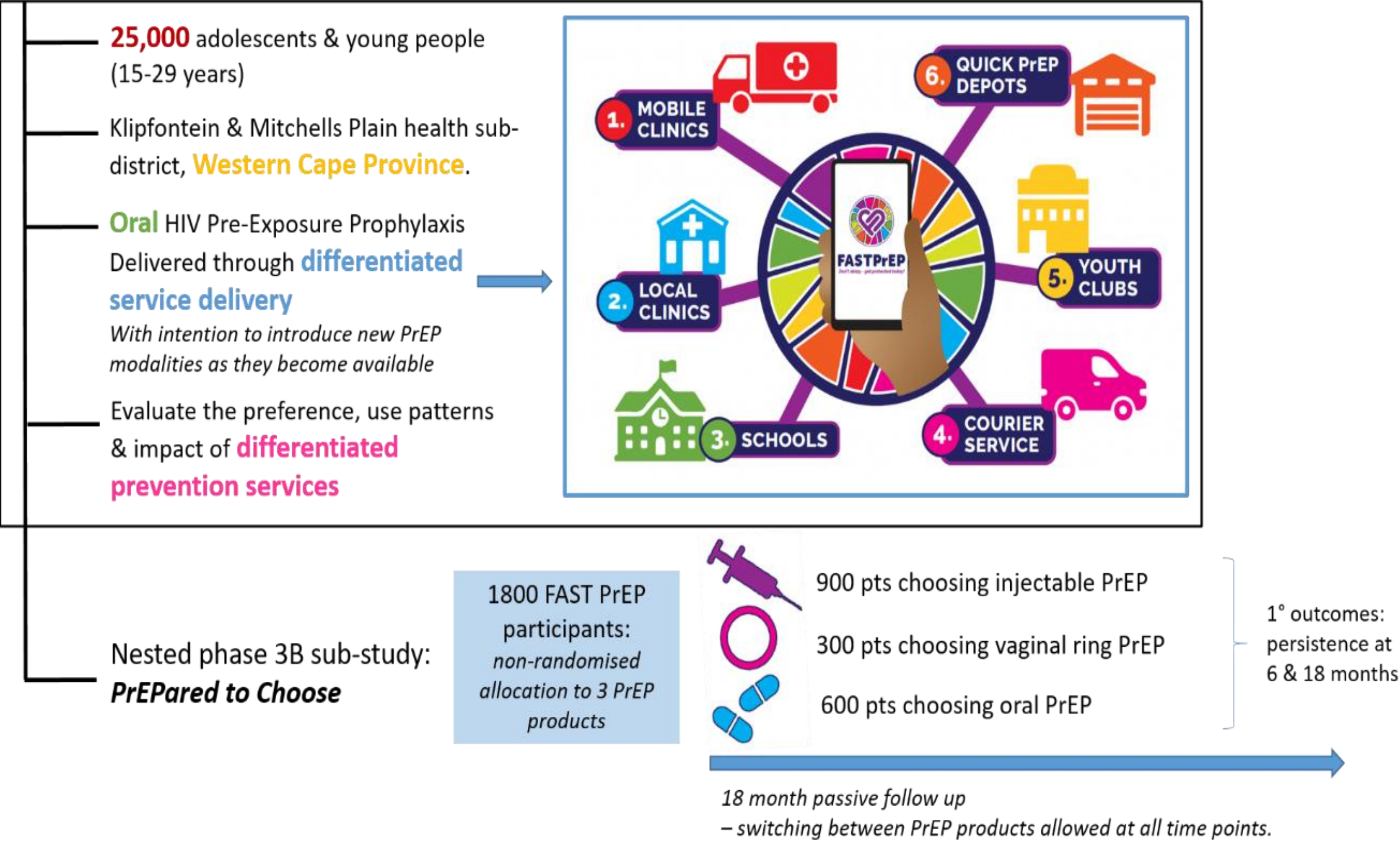
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INTRODUCTION

Adolescents and young people in South Africa face a disproportionately high risk of HIV. Effective HIV prevention requires products and services that meet the specific needs of adolescent and young people (AYA) interested in pre-exposure prophylaxis (PrEP). Yet, real-world evidence on their preferences for pre-exposure prophylaxis (PrEP) products and delivery platforms remains limited. Understanding PrEP users' preferences will aid in tailoring PrEP choice options and access of services to specific groups, which could inform the development of a demand-driven healthcare system, potentially boosting PrEP uptake and continued use. Recently, a range of new PrEP products have entered the market, providing users with choices that may be more aligned with their lifestyles. The PrEPared to Choose (PtC) study (nested within the larger FastPrEP implementation study) offered adolescents and young people a choice of PrEP products integrated with a comprehensive sexual and reproductive health service including family planning, and testing and treatment for STIs.

Following HIV testing and comprehensive choice counselling, participants could choose between daily oral PrEP (Emtricitabine/tenofovir) and two monthly injectable long-acting Cabotegravir (Cab-LA). PrEP products were made available through community-based mobile clinics and fixed-site public health facilities. This study explored how delivery methods and product preferences influence the choice between oral PrEP and long-acting injectable Cabotegravir (Cab-LA) among AYA.

Figure 1: FastPrEP and PrEPared to Choose study designs



METHODS

Descriptive statistics were used to present sociodemographic and sexual behaviour information of adolescents and young people initiating PrEP in the PtC study. Latent class analysis was used to classify clients based on patterns of response to nine variables related to PrEP awareness, autonomy of decision-making, sexual and HIV risk behaviour, and mental health risk. Descriptive analysis of class membership was performed. Model fit was evaluated across models using the Bayesian Information Criterion (BIC) and model entropy to determine the optimal number of classes. Multinomial logistic regression analysis was performed to examine sociodemographic factors associated with class memberships. Finally, multivariable logistic regression was conducted to examine the association between latent classes and the type of PrEP chosen (injectable long-acting vs. daily oral), controlling for sociodemographic characteristics. Results are presented as odds ratios (OR) and 95% confidence intervals (CI).

RESULTS

In the PrEPared to Choose parent study, between February and August 2024, 1153 participants (67% adolescent girls and young women) initiated PrEP, with 75% (n=863) choosing Cab-LA. Majority of participants (70.2%) initiated PrEP at the mobile clinic. A 3-class model was selected based on the lowest Bayesian Information Criterion (718.96) and high entropy value of 0.71. Class 1 was labelled as 'curious risk-aware adopters' (19.8%), Class 2 as the 'exploratory lifestyle initiators' (62.2%), and Class 3 as the 'cautious committed users' (18%).

ACKNOWLEDGEMENTS

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Figure 2: PrEP-user classes

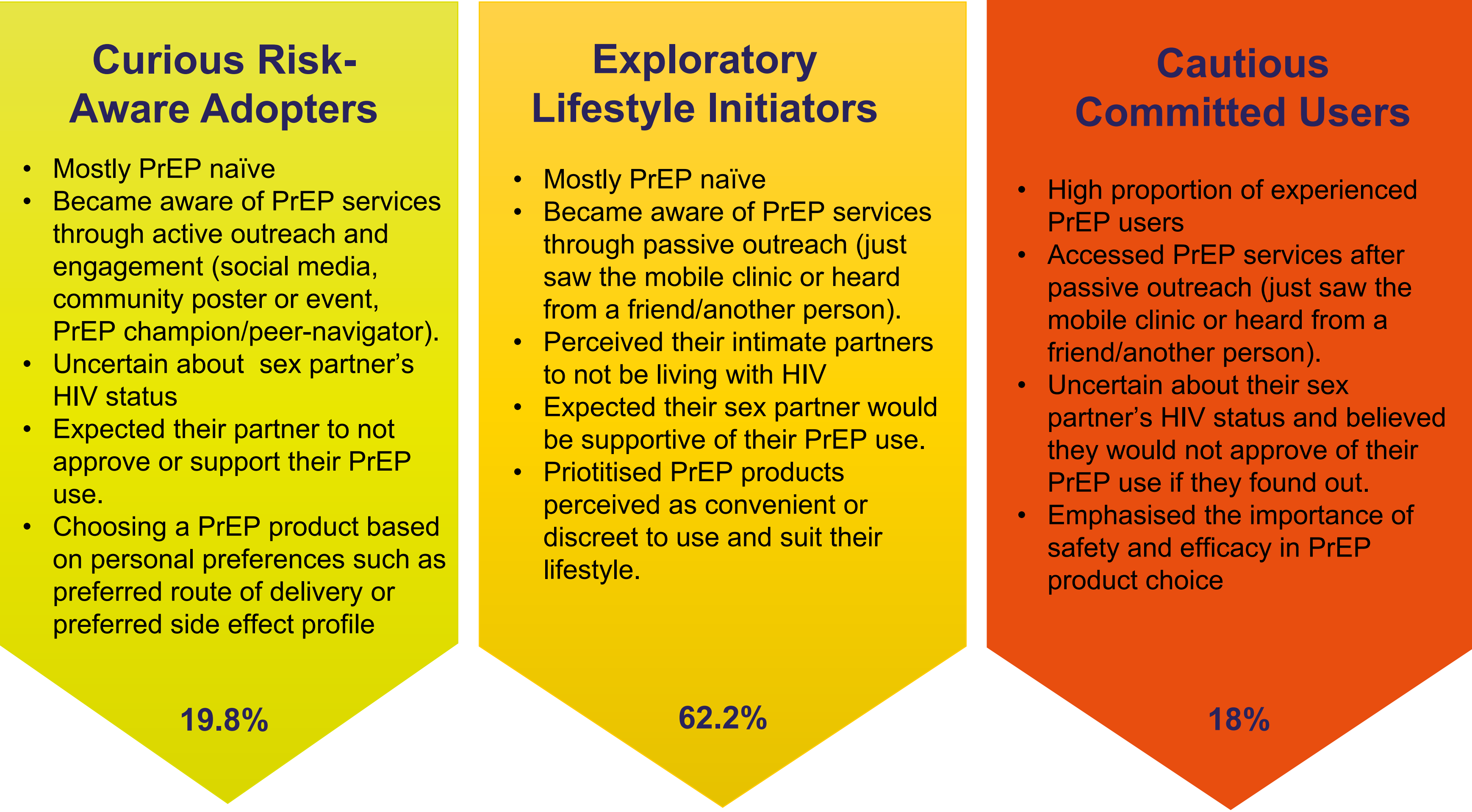


Table 1 shows the association of sociodemographic factors with class membership. Compared to the cautious committed users (class 3), exploratory lifestyle initiators (class 2) had lower odds of being AGYW versus male/MSM participants (aOR: 0.55, 95% CI: 0.36-0.85) and were more likely to have a primary/secondary school education compared to those with education levels beyond a diploma (aOR: 2.32, 95% CI: 1.29-4.15). Class 1 (aOR: 0.01, 95% CI: 0.00-0.04) and Class 2 (aOR: 0.07, 95% CI: 0.02-0.19) had lower odds of seeking care at mobile facilities than fixed-site public health facilities when compared to the cautious committed users (class 3).

Table 1: Association of sociodemographic factors with class membership

	Class 1 vs class 3			Class 2 vs. class 3		
	OR	95% CI		OR	95% CI	
Age						
15-19 vs. ≥25	0.93	0.41	2.13	0.62	0.33	1.16
20-24 vs. ≥25	1.79	0.97	3.30	1.25	0.78	2.01
Population						
AGYW vs MSM/ Male partner	0.65	0.37	1.16	0.55	0.36	0.85
PBFW vs. MSM/ Male partner	0.74	0.20	2.82	0.84	0.26	2.67
Education						
primary or secondary school vs. Diploma/certificate /degree/postgraduate	2.51	1.09	5.80	2.32	1.29	4.15
Matric vs. Diploma/certificate /degree/postgraduate	1.78	0.84	3.76	1.59	0.97	2.63
Employment status						
attending school vs. employed (full +casual+self employed)	1.01	0.48	2.14	1.10	0.62	1.95
Unemployed vs. employed	0.70	0.41	1.22	1.02	0.67	1.54
Marital Status						
Married/other vs. single	0.59	0.18	1.95	1.14	0.55	2.34
Number of living children						
1 vs. 0	1.17	0.66	2.10	0.80	0.51	1.26
>1 vs. 0	0.53	0.23	1.21	0.63	0.35	1.12
Service location						
Mobile vs clinic	0.01	0.00	0.04	0.07	0.02	0.19

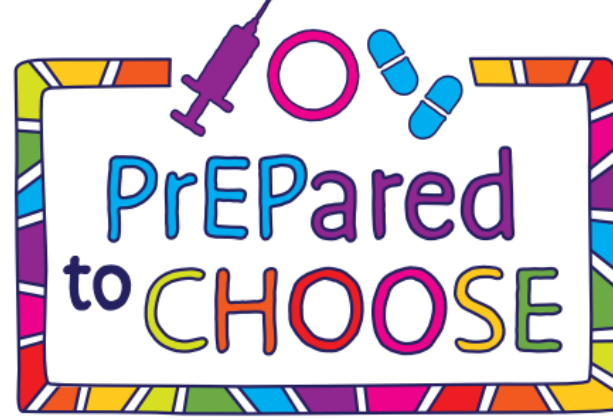
Table 2: Factors associated with PrEP modality choice

	Injectable vs. oral		
	OR	95% CI	
Latent classes			
Class 1 vs. class 3	0.45	0.27	0.77
Class 2 vs. class 3	0.88	0.59	1.31
Age			
15-19 vs. ≥25	0.57	0.34	0.94
20-24 vs. ≥25	0.88	0.60	1.30
Population			
AGYW vs MSM/ Male partner	1.76	1.27	2.44
PBFW vs. MSM/ Male partner	2.00	0.91	4.38
Education			
Primary or secondary school vs. Diploma/certificate /degree/postgraduate	0.82	0.50	1.36
Matric vs. Diploma/certificate /degree/postgraduate	0.90	0.57	1.44
Employment status			
attending school vs. employed (full +casual+self employed)	1.00	0.63	1.58
Unemployed vs. employed	1.00	0.72	1.39
Marital Status			
Married/other vs. single	1.08	0.60	1.92
Number of living children			
1 vs. 0	1.28	0.88	1.85
>1 vs. 0	1.14	0.71	1.83
Service location			
Mobile vs clinic	0.37	0.25	0.54

Table 2 shows that in multivariable analysis, while controlling for latent class membership and sociodemographic characteristics, participants attending community-based mobile clinics compared to fixed-site public health facilities had lower odds of using Cab-LA (aOR:0.37, 95% CI:0.25–0.54) than oral PrEP. AGYW had higher odds of choosing Cab-LA compared to male participants (aOR:1.76, 95% CI:1.27–2.44). Curious risk-aware adopters compared to cautious committed users had lower odds of using Cab-LA than oral PrEP (aOR:0.45, 95%CI:0.27–0.77).

CONCLUSION

Most young people (two-thirds; exploratory lifestyle initiators) accessing PrEP were PrEP naïve, chose a PrEP modality based on convenience and lifestyle fit, and became aware of PrEP services through passive outreach (just saw the mobile clinic or heard from a friend/another person). However, PrEP-experienced, cautious committed users who valued PrEP product safety and efficacy and AGYW specifically, were more likely to choose Cab-LA than oral PrEP.



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