Supplementary Online Content

This supplementary material has been provided by the authors to give readers additional information about their work.

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eMethods 1. PrEPX Behavioural Eligibility Criteria

The study participant is likely to have multiple events of condomless anal intercourse (CLAI), with or without sharing intravenous drug use (IDU), in the next 3 months (indicating sustained risk) AND has any of the following:

1. Is a regular sexual partner of an HIV-infected male partner with whom condoms were not consistently used in the last 3 months (HIV positive partner is not on treatment and/or has detectable HIV viral load)

2. At least one episode of receptive CLAI with any casual HIV-infected male partner or a male partner of unknown HIV status in the last 3 months

3. A diagnosis of rectal gonorrhoea, chlamydia and/or syphilis during the last 3 months or at screening

4. Has used methamphetamine in the last 3 months

5. Has had more than one episode of anal intercourse in the last 3 months when proper condom use was not achieved (e.g., condoms slipped off or broke)

6. The study participant reports more than one episode of insertive CLAI in the last 3 months where the serostatus of their partner was not known, or the partner was HIV positive and not on antiretroviral treatment.

eTable 1. Self-Reported Gender, Sex Assigned at Birth, and Sexuality Among Included Participants (N=2981)

	Sex assigned at birth	
Self-reported gender identity at enrolment	Male	Female
Male	2943	4
Female	5	1
Transgender female	4	0
Transgender male	2	9
Non-binary / Gender fluid	1	0
Intersex	9	2
Agender	1	0

Sexuality	Gender		
	Male (cis or trans)	Female (cis or trans)	Non-binary / Gender fluid
Homosexual	2813	0	4
Bisexual	123	2	0
Heterosexual	3	6	0
Non-specified	19	2	9

eTable 2. Characteristics at Enrollment of Included vs Not Included PrEPX Victoria Participants

	Included in STI analyses (n=2,981)	Not included in STI analyses (n=1,294)	P Value*
Age (mean years)	36.2	35.1	**<0.001**
Aboriginal or Torres Strait Islander n(%)	8 (0.3)	6 (0.5)	0.300
Injection drug use at enrolment n(%)	148 (5.0)	48 (3.7)	0.076
Enrolment risk criteria. In the last 3 months; n(%)			
A regular sexual partner who is an HIV-infected man (not on treatment and/or with detectable viral load), with whom condoms were not consistently used	129 (4.3)	44 (3.4)	0.166
Any receptive CLAI (condomless anal intercourse) with a casual male partner of HIV-positive or unknown status	1429 (47.9)	623 (48.4)	0.795
Been diagnosed with rectal gonorrhoea, rectal chlamydia or infectious syphilis	484 (16.2)	190 (14.8)	0.222
Used methamphetamines	412 (13.8)	100 (7.8)	**<0.001**
More than one episode of anal intercourse when correct and consistent condom use was not achieved (e.g., condom slipped off or broke)	913 (30.6)	375 (29.1)	0.323
More than one episode of insertive CLAI where the serostatus of their partner was not known, or the partner was HIV positive and not on antiretroviral treatment	1041 (34.9)	438 (34.0)	0.564

*P Value is from two-sided t-test of means for age and test of proportions for all other characteristics.

eTable 3. Distribution of Participants and STI Diagnoses by Number of Infections per Participant During follow-up

	Number of participants	Number of STI diagnoses	Proportion of participants (N=2,981)	Proportion of all STIs diagnosed (N=2,928)
No STIs	1554	0	52.1	0.0
1 STI	691	691	23.2	23.6
2 STIs	344	688	11.5	23.5
3 STIs	203	609	6.8	20.8
4 STIs	93	372	3.1	12.7
≥5 STIs	96	568	3.2	19.4
Total	2981	2928	100	100

eTable 4. Characteristics at Enrollment Among Participants With Preenrollment Testing Data vs Participants With no Preenrollment Testing Data

	Pre-enrolment STI data available (n=1,378)	No pre-enrolment STI data available (n=1,603)	P Value*
Age (mean years)	39.0	33.8	**<0.001**
Aboriginal or Torres Strait Islander n(%)	6 (0.4)	2 (0.2)	0.228
Injection drug use at enrolment n(%)	59 (3.7)	90 (6.5)	**<0.001**
Enrolment risk criteria. In the last 3 months; n(%)			
A regular sexual partner who is an HIV-infected man (not on treatment and/or with detectable viral load), with whom condoms were not consistently used	67 (4.9)	62 (3.9)	0.183
Any receptive CLAI (condomless anal intercourse) with a casual male partner of HIV-positive or unknown status	663 (48.1)	772 (48.2)	0.980
Been diagnosed with rectal gonorrhoea, rectal chlamydia or infectious syphilis	219 (15.9)	265 (16.5)	0.637
Used methamphetamines	226 (16.4)	186 (11.6)	**<0.001**
More than one episode of anal intercourse when correct and consistent condom use was not achieved (e.g., condom slipped off or broke)	425 (30.8)	493 (30.8)	0.959
More than one episode of insertive CLAI where the serostatus of their partner was not known, or the partner was HIV positive and not on antiretroviral treatment	553 (40.1)	493 (30.8)	**<0.001**

*P Value is from two-sided t-test of means for age and test of proportions for all other characteristics.

eTable 5. Characteristics at Enrolment of PrEP-Experienced vs PrEP-Naive Participants

	PrEP-experienced participants (n=541)	PrEP-naïve participants (n=837)	P Value*
Age (mean years)	39.3	38.9	0.362
Aboriginal or Torres Strait Islander n(%)	0 (0.0)	2 (0.2)	0.255
Injection drug use at enrolment n(%)	36 (6.7)	54 (6.5)	0.882
Enrolment risk criteria. In the last 3 months; n(%)			
A regular sexual partner who is an HIV-infected man (not on treatment and/or with detectable viral load), with whom condoms were not consistently used	34 (6.3)	33 (3.9)	**0.048**
Any receptive CLAI (condomless anal intercourse) with a casual male partner of HIV-positive or unknown status	324 (59.9)	340 (40.6)	**<0.001**
Been diagnosed with rectal gonorrhoea, rectal chlamydia or infectious syphilis	104 (19.2)	115 (13.7)	**0.007**
Used methamphetamines	96 (17.7)	130 (15.5)	0.279
More than one episode of anal intercourse when correct and consistent condom use was not achieved (e.g., condom slipped off or broke)	153 (28.3)	273 (32.6)	0.089
More than one episode of insertive CLAI where the serostatus of their partner was not known, or the partner was HIV positive and not on antiretroviral treatment	254 (47.0)	300 (35.8)	**<0.001**

*P Value is from two-sided t-test of means for age and test of proportions for all other characteristics.

eTable 6. Number of Tests Performed and Positive Tests Among Participants With Preenrollment Testing Data Before and During Study Follow-up (n=1378)

Type of test	1 year prior to enrolment		During study follow-up (median 14 months)	
	Number performed	Number positive	Number performed	Number positive
Rectal chlamydia	3759	315	5950	518
Pharyngeal chlamydia	3198	26	5122	55
Urethral chlamydia	4089	124	6396	206
Rectal gonorrhoea	3776	228	5968	356
Pharyngeal gonorrhoea	3957	172	6203	267
Urethral gonorrhoea	4102	65	6418	123
Syphilis serology	4129	87	6124	130

eTable 7. Incidence of Sexually Transmitted Infections Before and After Enrollment Among All Participants With Preenrollment Testing Data (n=1378)

	All participants (n=1,378)					
	Incidence rate (per 100 person-years)		IRR (95% CI)	*P* Value	AIRR* (95% CI)	*P* Value
Outcome	One year before enrolment	During PrEPX				
Any STI	69.5	98.4	1.41 (1.29 – 1.56)	<0.001	1.12 (1.02 – 1.23)	0.015
Chlamydia	33.3	49.0	1.47 (1.30 – 1.66)	<0.001	1.17 (1.04 – 1.33)	0.012
Rectal	26.1	37.1	1.42 (1.23 – 1.64)	<0.001	1.06 (0.92 – 1.23)	0.404
Urethral	9.8	14.0	1.43 (1.14 – 1.81)	0.002	1.12 (0.88 – 1.43)	0.357
Pharyngeal	2.6	4.6	1.78 (1.12 – 2.82)	0.015	1.53 (0.94 – 2.49)	0.085
Gonorrhea	30.6	42.3	1.38 (1.22 – 1.57)	<0.001	1.05 (0.93 – 1.19)	0.440
Rectal	18.9	25.4	1.35 (1.14 – 1.59)	<0.001	0.98 (0.82 – 1.16)	0.790
Urethral	5.1	8.3	1.63 (1.21– 2.20)	0.001	1.23 (0.92 – 1.65)	0.165
Pharyngeal	13.9	18.5	1.33 (1.11 – 1.61)	0.003	1.04 (0.86 – 1.26)	0.669
Syphilis	8.7	6.8	1.28 (0.98 – 1.68)	0.065	1.08 (0.82 – 1.42)	0.599
Rectal infections	45.0	62.3	1.39 (1.22 – 1.57)	<0.001	1.01 (0.89 – 1.15)	0.829
Urethral infections	15.1	22.3	1.48 (1.23 – 1.79)	<0.001	1.11 (0.92 – 1.35)	0.259
Pharyngeal infections	16.3	23.3	1.43 (1.20 – 1.70)	<0.001	1.08 (0.90 – 1.30)	0.406

Abbreviations: IR, incidence rate per 100 person-years; CI, confidence interval; IRR, incidence rate ratio; AIRR, adjusted incidence rate ratio; STI, sexually transmitted infection.
Only participants with a test result for each specific STI and site in the year prior to enrolment contributed to that outcome.
Participants could contribute multiple diagnoses in each period (before enrolment and during follow-up).
AIRRs were calculated using negative binomial regression with robust standard errors clustered by participant.
*Adjusted for change in individual testing frequency between before enrolment and during follow-up