Additional file 3 – Supplementary Methods on assessing determinants of unscheduled STI testing visits and Supplementary Results on (determinants of) unscheduled STI testing.

Methods

We used Poisson regression to identify factors associated with attending an unscheduled STI testing visits in-between PrEP monitoring visits. We report incidence rate ratios (IRR) along with 95% confidence intervals (CI).

We included the following variables as candidate determinants for the rate of unscheduled visits: age category (<35 / 35-44 / ≥45 years), being born in the Netherlands (yes/no), completing or pursuing a university or university of applied sciences degree (yes/no), having an indication for clinical depression (yes/no, based on a Patient Health Questionnaire (PHQ-9) score ≥10), having used PrEP in the 12 months preceding enrolment (yes/no), number of sex partners in the past 6 months (continuous, log-transformed), reporting group sex in the past 6 months (yes/no), reporting chemsex in the past 6 months (yes/no), and having any bacterial STI at the enrolment visit (yes/no). Variables relating to sexual behavior (i.e., number of sex partners, group sex, and chemsex) were included as time-updated variables, based on the information recorded in the National STI surveillance database (SOAP) during the unscheduled visit.

We used forward selection to construct a multivariable Poisson model. Candidate determinants that were associated with unscheduled visits at a significance level of $p<0.20$ in univariable analysis were included in the initial multivariable model. We then tested for collinearity using the variance inflation factor (VIF) and excluded variables with a VIF of 5 or greater to arrive at the final multivariable model. We present the final multivariable model, stratified by monitoring frequency (i.e., 6-monthly or 3-monthly). Results are presented below in Additional file 3: Table 1.

Moreover, we described the distribution of unscheduled visits across participants (Additional file 3: Figure 1, Figure 2), and the characteristics of participants who attended unscheduled visits in the absence or presence of symptoms or a partner notification (Additional file 3: Table 2).

Table 1. Determinants of attending unscheduled STI testing visits, stratified by monitoring frequency (EZI-PrEP, 2021-2024, The Netherlands)

		3-monthly monitoring						6-monthly monitoring					
		Univariable			Multivariable			Univariable			Multivariable		
Determinant		IRR	95% CI	p-value	IRR	95% CI	p-value	IRR	95% CI	p-value	IRR	95% CI	p-value
Age category	<35 years	ref.			ref.			ref.			ref.		
	35-44 years	1.05	[0.79-1.40]	0.72	0.90	[0.76-1.26]	0.54	1.07	[0.84-1.36]	0.60	1.02	[0.78-1.33]	0.90
	≥45 years	0.45	[0.32-0.64]	**<0.001**	0.38	[0.25-0.57]	**<0.001**	0.74	[0.58-0.95]	**0.019**	0.68	[0.51-0.90]	**0.0071**
Born in the Netherlands		0.73	[0.55-0.97]	**0.029**	0.71	[0.52-0.97]	**0.032**	0.95	[0.77-1.18]	0.65	1.09	[0.86-1.39]	0.48
Completed/pursuing a university or applied sciences degree		1.39	[0.94-2.05]	0.097	1.22	[0.80-1.85]	0.36	1.97	[1.38-2.82]	**<0.001**	1.89	[1.28-2.80]	**0.0015**
Indication for clinical depression[1]		0.59	[0.37-0.95]	**0.028**	0.27	[0.13-0.53]	**<0.001**	0.89	[0.64-1.23]	0.47	0.99	[0.70-1.40]	0.96
Used PrEP in 12 months prior to enrolment		1.62	[0.98-2.69]	0.062	1.22	[0.72-2.05]	0.45	1.16	[0.81-1.66]	0.43	1.02	[0.70-1.50]	0.92
Number of sex partners (past 6 months), log-transformed		1.59	[1.38-1.83]	**<0.001**	1.48	[1.24-1.75]	**<0.001**	1.39	[1.24-1.57]	**<0.001**	1.16	[1.00-1.34]	0.052
Had chemsex (past 6 months)[2]		1.57	[1.19-2.09]	**0.0017**	1.12	[0.81-1.55]	0.49	1.61	[1.28-2.01]	**<0.001**	1.14	[0.88-1.48]	0.32
Had group sex (past 6 months)		2.05	[1.53-2.75]	**<0.001**	1.29	[0.92-1.55]	0.14	1.85	[1.48-2.29]	**<0.001**	1.58	[1.19-2.08]	**0.0013**
Any bacterial STI at enrolment[3]		1.27	[0.92-1.73]	0.14	1.00	[0.70-1.40]	0.96	1.41	[1.10-1.80]	**0.0058**	1.36	[1.05-1.77]	**0.020**

Abbreviations: CI, confidence interval; EZI-PrEP, EZI-PrEP: E-Health for Zero Infections - facilitating access to and use of Pre-Exposure Prophylaxis in the Netherlands; IRR, incidence rate ratio; PrEP, pre-exposure prophylaxis; STI, sexually transmitted infection

1. Based on a Patient Health Questionnaire-9 (PHQ- 9) score ≥10 at enrolment

2. Sex under influence of one or more of the following drugs: crystal meth ('Tina'); mephedrone ('miau miau'); GHB/GBL; ketamine.

3. Any diagnosis of gonorrhea, chlamydia, or infectious syphilis (stage 1, stage 2, or recent latent infection)

Table 2. Characteristics of participants who attended unscheduled STI testing in the absence or presence of symptoms or a partner notification (EZI-PrEP, 2021-2024, The Netherlands).

	Unscheduled STI testing in the absence of symptoms and partner notification (n=334 visits)		**Unscheduled STI testing in the presence of symptoms or partner notification (n=275 visits)**		
	n	%	n	%	p-value[3]
Age in years (median, IQR)	36	30-43	36	30-44	0.94
Born in the Netherlands	215	64.5%	173	62.9%	0.71
Completed or pursuing a university or university of applied sciences degree	305	91.6%	238	87.5%	**0.10**
Used PrEP in the 12 months prior to enrolment	318	95.2%	248	90.2%	**0.016**
Number of sex partners in the past 6 months (median, IQR)	15	7-25	10	5-20	**<0.001**
Chemsex in the past 6 months[1]	102	35.9%	88	33.0%	0.47
Group sex in the past 6 months[2]	201	70.8%	155	58.5%	**0.0026**
Any bacterial STI diagnosis at baseline	76	23.4%	58	21.6%	0.60

Visits with missing information, respectively for unscheduled visits in the absence and presence of symptoms or partner notification: completed or pursuing a university or university of applied sciences degree (n=1 and n=3), number of sex partners (n=50 and n=8), chemsex (n=50 and n=8), group sex (n=50 and n=10), any STI at baseline (n=9 and n=6)

1. Sex under influence of one or more of the following drugs: crystal meth ('Tina'); mephedrone ('miau miau'); GHB/GBL; ketamine.

2. Any diagnosis of gonorrhea, chlamydia, or infectious syphilis (stage 1, stage 2, or recent latent infection)

3. P-values were calculated based on the χ^2-test or Wilcoxon rank-sum test.