# Appendix

## Table S1. Metadata included in the modelling analysis

|  |  |  |
| --- | --- | --- |
| Outcome Variables | PrEP ever use | used to identify if participants in this study ever used PrEP in the past |
| PrEP awareness | was operationalized as “having heard of PrEP” to identify if the samples were aware of the existence of PrEP |
| PrEP intention | to identify whether MSM participants were willing to use PrEP if possible |
| Explanatory variable | Sociodemographic factors | |
| Age | both continuous years and 10-year age bands were included |
| Education level | was categorised as low/median/low. Low education is defined as people who do not obtain a high school diploma, median education is defined as people who hold a high school diploma, and high education is defined as people who at least hold a Dutch applied science university (HBO) diploma. |
| Employment status | was categorised as employed/ unemployed/ retired/ student |
| Income status | was categorised as low/median/high. Low income is defined as those who are living comfortably or really comfortably on present income; median income is defined as those who neither comfortable nor struggling on present income; and high income is defined as those who are struggling or really struggling on present income |
| Sexual identity | was categorised to homosexual/bisexual/straight or other |
| Outness | was categorised to low/high. Low outness is defined as participants were open about their sexual attraction with less than half of their network; high outness as more than half of their network |
| Behavioural factors | |
| Intercourse recency | recency of having anal sex with another man, which was categorised to recent/more than 12 months ago |
| Psycho-social factors | |
| Decision to have safe sex | ‘The sex I have is always as safe as I want it to be’, agreement assessed with a Likert scale from 1 to 5: 1 indicate strongly disagree to 5, which represents strongly agree. |
| Decision to reject sex | ‘I find it easy to say “no” to sex I don’t want’, agreement assessed with a Likert scale 1 to 5: 1 indicate strongly disagree to 5, which represents strongly agree. |
| PrEP knowledge | operationalized as a set of 3 questions about the functionality of PrEP (how it works, and daily and on-demand regimen). It contained the number of PrEP knowledge already known among the sample, range from 0 to 3. |
| HIV knowledge | operationalized as a set of 3 questions about the HIV transmission. It contained the number of HIV knowledge already known among the sample, range from 0 to 3 |
| Depression/anxiety level (PHQ-4) | a 4-point item to reflect the level of depression or anxiety status of the participant, from 1 normal to 4 severe |
| Alcohol dependency (CAGE-4) | 1 3-point item to reflect the level of alcohol dependency of the participant: 0 indicates missing measure, 1 indicates not alcohol dependent, and 2 indicates alcohol dependent. |
| Unprotected anal sex with non-steady partner | which was categorised to yes/no |
| Unprotected anal sex with steady partner | which was categorised to yes/no |
| Unprotected anal sex with non-steady partner living with HIV | which was categorised to yes/no |
| STI status | which was categorised to never diagnosed with any STI/ever diagnosed with any STI. Ever diagnosed with any STI is defined as ever diagnosed of the following infection in the past by the time of filling the survey: hepatitis C virus, syphilis, gonorrhoea, chlamydia, genital warts |
| Transactional sex recency | is defined as ever buy/sell sex with/for money, which was categorised to never/ever but more than 12 months ago/ever within the last 12 months |
| Injected drug using | is defined as ever injected steroid or non-steroid drugs, which was categorised to never/ever |
| Chemsex recency | is defined as the recency of using an illicit recreational drug before or during the sex to improve sexual experience |

## Table S2. Sensitivity analysis of Estimated prevalence and standardised prevalence ratio, Randstad vs. the rest of the country (ROC), 2017 for descriptive analysis

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Region** | | **PrEP Use** | | **PrEP awareness** | | **PrEP intention** | |
| Prevalence (%, 95%CI) | SPR\* | Prevalence (%, 95%CI) | SPR\* | Prevalence (%, 95%CI) | SPR\* |
| All | **Randstad** | 7,91 (6,49 - 9,62) | 1,41 | 90,84 (89,02 - 92,38) | 1,11 | 46,26 (43,4 - 49,15) | 1,02 |
| **ROC** | 3,07 (2,41 - 3,91) | 0,71 | 78,08 (76,23 - 79,83) | 0,94 | 45,44 (43,31 - 47,58) | 0,94 |
| Without non-eligible men | **Randstad** | 10.10 (8.27 - 12.25) | 1,63 | 93.36 (91.51 - 94.83) | 1,09 | 50.91 (47.61 - 54.20) | 1,01 |
| **ROC** | 3.96 (3.09 - 5.05) | 0,64 | 80.06 (78.51 - 82.51) | 0,94 | 50.00 (47.51 - 52.49) | 0,99 |

Data are crude prevalence (95% confidence interval). Data are not age/education level/income status/employment status- standardised.

\* Data are age/education level/income status/employment status- standardised. ROC=rest of the country.

## Table S3. Sociodemographic status among the MSM study population by 10-year-age bands

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Age group details | | | | | | | | | | | | | | | |
| 16-19 | | 20-29 | | 30-39 | | 40-49 | | 50-59 | | 60-69 | | 70-79 | | 80-89 | |
| n | % | n | % | n | % | n | % | n | % | n | % | n | % | n | % |
| Education level | High | 22 | 1.1 | 405 | 19.8 | 424 | 20.7 | 508 | 24.9 | 465 | 22.8 | 179 | 8.8 | 38 | 1.9 | 3 | 0.2 |
| Median | 35 | 4.6 | 173 | 22.5 | 130 | 16.9 | 150 | 19.5 | 190 | 24.7 | 71 | 9.2 | 20 | 2.6 | 1 | 0.1 |
| Low | 48 | 11.5 | 51 | 12.2 | 64 | 15.3 | 69 | 16.5 | 113 | 27.0 | 55 | 13.2 | 17 | 4.1 | 1 | 0.2 |
| Income status | High | 54 | 2.5 | 341 | 15.6 | 420 | 19.2 | 520 | 23.8 | 571 | 26.1 | 223 | 10.2 | 51 | 2.3 | 4 | 0.2 |
| Median | 42 | 5.4 | 217 | 27.9 | 139 | 17.8 | 155 | 19.9 | 144 | 18.5 | 60 | 7.7 | 21 | 2.7 | 1 | 0.1 |
| Low | 9 | 3.4 | 71 | 26.4 | 59 | 21.9 | 52 | 19.3 | 53 | 19.7 | 22 | 8.2 | 3 | 1.1 | 0 | 0.0 |
| Employment status | Employed | 17 | 0.7 | 354 | 14.7 | 553 | 23.0 | 659 | 27.4 | 669 | 27.8 | 142 | 5.9 | 8 | 0.3 | 1 | 0.0 |
| Unemployed | 4 | 1.3 | 53 | 17.4 | 47 | 15.4 | 65 | 21.3 | 87 | 28.5 | 47 | 15.4 | 2 | 0.7 | 0 | 0.0 |
| Retired | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 0.5 | 11 | 5.6 | 114 | 58.5 | 65 | 33.3 | 4 | 2.1 |
| Student | 82 | 25.7 | 220 | 69.0 | 17 | 5.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |

Data are n/N with %. Data are age standardised.

## Figure S4 Performance check of the final model

Chart

Description automatically generated with medium confidence