Pre-exposure prophylaxis (PrEP) among men who have sex with men (MSM) in the Amsterdam Cohort Studies (ACS):

*Eligibility, intention and actual use*
Disclosure of speaker’s interests

- No conflicts of interests
Background

- In the Netherlands, costs of PrEP currently not reimbursed
- Ways to obtain PrEP:
  - Study-provided (AMPrEP / DISCOVER)
  - Self-obtained (doctor’s prescription, abroad, buyer’s club, via friends, etc)

In the Netherlands,

- How many MSM are currently using PrEP? Are users different from non-users?
- How many MSM would be eligible for PrEP?
- How many MSM are willing to use PrEP?

Data from the Amsterdam Cohort Studies
Methods

- All HIV-negative MSM participating in the ACS between July 2015 and June 2017
  - 6-monthly visits
  - At each visit:
    - Self-completed questionnaire on (sexual) behavior in the preceding 6 months
    - HIV/STI testing
  - Included 4 questionnaire waves
Methods

- Trend in PrEP use over time, using generalized estimating equations
- Comparing PrEP users and non-PrEP users, using descriptive statistics
  - PrEP users: reported PrEP use at least once between 2015-2017
    - Information taken from questionnaire prior to first PrEP use

[Diagram showing time points 1 to 4, with an arrow indicating 6 months]
Methods

- Trend in PrEP use over time, using generalized estimating equations
- Comparing PrEP users and non-PrEP users, using descriptive statistics
  - PrEP users: reported PrEP use at least once between 2015-2017
  - Non-PrEP users: never reported PrEP use

[Diagram showing time points 1 to 4 with 6 mo interval]
Methods

- **Trend in PrEP use over time**, using generalized estimating equations
- **Comparing PrEP users and non-PrEP users**, using descriptive statistics
  - **PrEP users**: reported PrEP use at least once between 2015-2017
  - **Non-PrEP users**: never reported PrEP use

- **Determined eligibility for PrEP**:  
  - Condomless anal sex (CAS) with partner with unknown or seropositive HIV status \( AND/OR \)  
  - Rectal STI \( AND/OR \)  
  - PEP prescription ... in the preceding 6 months

- **Intention to use PrEP** measured on a 7-point Likert scale

* based on: HIV Pre-expositie profilaxe (PrEP) richtlijn Nederland - NVHB
Results

<table>
<thead>
<tr>
<th>PrEP users</th>
<th>use before 2015</th>
<th>n = 686</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV negative MSM in the ACS between 2015-2017</td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Self-obtained</th>
<th>n = 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>PrEP users</td>
<td>33%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Study-provided</th>
<th>n = 38</th>
</tr>
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<tr>
<td>PrEP users</td>
<td>8%</td>
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<table>
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<tr>
<th>Non-PrEP users</th>
<th>n = 620</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study-provided</td>
<td>90%</td>
</tr>
</tbody>
</table>
Results

HIV negative MSM in the ACS between 2015-2017
n = 686

PrEP users
n = 57
8%

Non-PrEP users
n = 620
90%

PrEP users, use before 2015
n = 9
1%
Results

HIV negative MSM in the ACS between 2015-2017
n = 686

- PrEP users
  - n = 57
  - 8%
  - Study-provided
    - n = 38
    - 67%
  - Self-obtained
    - n = 19
    - 33%

- Non-PrEP users
  - n = 620
  - 90%
  - Study-provided
    - n = 38
  - Self-obtained
    - n = 9
    - 1%

PrEP users, use before 2015
n = 9
Results

HIV negative MSM in the ACS between 2015-2017
n = 686

PrEP users
n = 57
8%

Non-PrEP users
n = 620
90%

PrEP users, use before 2015
n = 9
1%

Results

PrEP use over time

Questionnaire wave

1 (n=605) 2 (n=604) 3 (n=509) 4 (n=485)

%/number of qst respondents

Linear trend: P<0.001

Missing source
Self-obtained PrEP
Study-provided PrEP
Results

HIV negative MSM in the ACS between 2015-2017
n = 686

<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td>n</td>
<td>686</td>
<td>620</td>
<td>670</td>
</tr>
<tr>
<td>%</td>
<td>8%</td>
<td>90%</td>
<td>90%</td>
</tr>
</tbody>
</table>

- **Steady partner** (85% vs 60%; p<0.001)
- **Median # of casual partners** (21 vs 11; p<0.001)
- **CAS with casual partners** (86% vs 70%; p=0.022)
- **Chemsex* with casual partners** (42% vs 21%; p=0.001)

No difference in:
- **Age** (median 40 vs 41)
- **Country of birth and educational level**
- **Any STI diagnosis** in preceding 6 months (27% vs 24%)
- **Rectal STI diagnosis** in preceding 6 months (15% vs 17%)

*use of GHB/GBL, mephedrone and/or methamfetamin during sex.
Results

- MSM eligible for PrEP in second half 2016: 33%

- MSM with high intention to use PrEP in 2015: 30%
  - Eligible MSM: 51%
  - Non-eligible MSM: 24%
Conclusion

- PrEP use among MSM in the ACS is relatively low (<10%), but increased over time.

- PrEP users had higher levels of sexual risk behavior than non-PrEP users.

- Eligibility and intention to use PrEP are high (~30%), suggesting that a large proportion of MSM could benefit from PrEP once accessibility is improved.
Discussion

- **Strengths**
  - Real-life setting
  - First data on PrEP eligibility

- **Limitations**
  - Study-provided PrEP users are a selected high-risk group
  - Low number of people on PrEP: subgroup analyses not possible
  - Missing information on eligibility (~10%) -> slight overestimation
Total number of MSM 18-65 years old in Amsterdam\textsuperscript{a}
\begin{itemize}
  \item $n = 27,000$
  \item (range ?)
\end{itemize}

HIV-positive MSM\textsuperscript{b}
\begin{itemize}
  \item $n = 3,593$
  \item (range 1.781 - 5.406)
\end{itemize}

HIV-negative MSM
\begin{itemize}
  \item $n = 23,407$
  \item (range 21.594 - 25.219)
\end{itemize}

Eligible MSM\textsuperscript{c}
\begin{itemize}
  \item $n = 7,022$
  \item (range 6.478 - 7.566)
\end{itemize}

High intention\textsuperscript{d}
\begin{itemize}
  \item $n = 3,581$
  \item (range 3.304 - 3.859)
\end{itemize}

Indicated and expected users

Low intention\textsuperscript{d}
\begin{itemize}
  \item $n = 3,441$
  \item (range 3.174 - 3.707)
\end{itemize}

Indicated, but not expected users

Non-eligible MSM\textsuperscript{c}
\begin{itemize}
  \item $n = 16,385$
  \item (range 15.116 - 17.653)
\end{itemize}

High intention\textsuperscript{d}
\begin{itemize}
  \item $n = 3,932$
  \item (range 3.628 - 4.237)
\end{itemize}

Not-indicated, but possible expected users

Low intention\textsuperscript{d}
\begin{itemize}
  \item $n = 12,453$
  \item (range 11.488 - 13.416)
\end{itemize}

Not-indicated and not-expected users

\textsuperscript{a} Amsterdamse gezondheidsmonitor 2012 and CBS. \textsuperscript{b} prevalence estimation from Van Veen et al, AIDS, 2011, and poster of Op de Coul et al, 2014. \textsuperscript{c} Based on national PrEP guidelines of NVHB
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ACS participants

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