Are bacterial STIs concentrated in subpopulations of men who have sex with men using HIV PrEP?

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Disclosures

- Vita Jongen
  Nothing to disclose

- AMPrEP (Public Health Service of Amsterdam)
  - ZonMW
  - RIVM
  - GGD research fund
  - Gilead Sciences: incl. study medication

- H-TEAM
  - Aidsfonds
  - Stichting Amsterdam Dinner Foundation
  - Gilead Sciences Europe Ltd
  - Gilead Sciences
Background

- PrEP is highly effective against HIV\textsuperscript{1,2}
- Does not protect against other STIs

- Among PrEP users\textsuperscript{3,4}

\textsuperscript{1} Fonner et al. 2016 AIDS
\textsuperscript{2} Molina et al. 2015 N Engl J Med
\textsuperscript{3} Vuylsteke et al. 2019 JIAS
\textsuperscript{4} Hoornenborg et al. 2019 Lancet HIV
Background

• Current PrEP guidelines advice 3-6 monthly STI screening

• 3-monthly screening leads to earlier diagnosis\(^1,2\)

But do all PrEP users need this testing frequency?

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1. Tang et al. 2020 AIDS
2. Jongen, Zimmermann et al. 2022 STI
Background

- In Australia, 50% of participants had no STI <1 year\(^1,2\)
- STIs were concentrated in a small subpopulation\(^1,2\)
- Younger age, chemsex and condomless anal sex\(^1,3\)

1. Traeger et al. 2019 JAMA
2. Traeger et al. 2022 Lancet ID
3. Jongen, Zimmermann et al. 2022 STI
Background

Further characterization of those at risk for STI could lead to more targeted screening

AIM

To assess whether incident STIs were concentrated within subpopulations within AMPrEP
Methods

• AMPrEP participants: HIV-negative MSM & transgender persons

• Study period: August 2015 – March 2020

• Data up to 45 months of participation
Methods

- At baseline and 3-monthly visits

- Additional STI testing between study visits was possible
Statistical analysis

• **Group based trajectory model:**
  • Social, behavioural and biological processes change over time
  • Subgroups within a population can follow different trajectories of behaviour
  • GBTM assesses whether and which different trajectories are present in a dataset

• **Outcome:** Incident cumulative number of Ct, Ng, or syphilis
Statistical analysis

• Cumulative proportion of STIs within each group-based trajectory
Results

- 366 participants included
  - 99% male
- Median age 40 years
- 73% chose daily PrEP at baseline
- 20% had a bacterial STI detected at baseline
Results

• Median follow-up time: 3.7 years
• Median 16 study visits
• Median 1 additional STI screening visit
Results
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- Low overall: 0.1 STIs
- Medium overall: 0.4 STIs
- High and fluctuating: 1 → 0.3 STIs
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- Participants in the high and fluctuating group (n=17) accounted for 23% of STIs
- Participants in the medium overall group (n=120) for 64% of STIs
Discussion

• We found 3 distinct trajectories of STI incidence over time

• Trajectories were associated with younger age, chemsex and more condomless anal sex acts

• ±90% of STIs were diagnosed in 53% of the population
  • 5% of the population accounted for 23% of STIs
Discussion

Is 3-monthly screening for STI too much?

- Costly for Ct and Ng
- Ct and Ng can clear spontaneously
- AMR is on the rise
- Risk of serious complications is low
- Delayed diagnoses
- Onward transmission
Discussion

Is 3-monthly screening for STI too much?

• EZIPrEP study may give us answers

Other options?
• Targeted screening, doxyPEP/PrEP, vaccines
Conclusion

Almost all STIs were found in about half of the AMPrEP population.

A relatively large proportion of PrEP users may be over screened
Acknowledgments

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Images from: https://thenounproject.com/