Pre-exposure prophylaxis versus ‘test and treat’ amongst men who have sex with men in the Netherlands

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HIV diagnoses amongst MSM

![Graph showing the increase in HIV diagnoses among MSM from 2000 to 2012. The y-axis represents the number of diagnoses, ranging from 0 to 1000, and the x-axis represents calendar years from 2000 to 2012.]
Effective interventions

- status quo: N=1470
- immediate cART: N=917
- annual testing: N=629
- reduced risk: N=139
What is the impact of PrEP on the HIV epidemic amongst MSM in comparison to ‘test and treat’?
MSM and PrEP

Bezemer et al, AIDS 2008; Epidemics 2010 (updated)
MSM and TasP

200,000 MSM → Sexually active → HIV infection

~30 years

annual testing + immediate cART

Test and treat

Bezemer et al, AIDS 2008; Epidemics 2010 (updated)
MSM and PrEP

Bezemmer et al, AIDS 2008; Epidemics 2010 (updated)

200,000 MSM

Sexually active

HIV infection

~30 years

PrEP used from start of sexual career onwards

PrEP started in 5% of MSM each year
Unprotected sex partners

Xiridou et al, Epi Infect 2009
Sexual mixing

High risk

Low risk
Assortative mixing

High risk

Low risk
Proportionate mixing

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<tr>
<td></td>
<td>7%</td>
<td>Size</td>
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<td>38%</td>
<td>Partnerships</td>
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Diagnoses over time

- Uniform risk behaviour
- Low + high risk behaviour

Projection
MSM on PrEP

- Low and high risk
- Low risk only
- High risk only

Calendar year

2009 2014 2019

MSM on PrEP

0 40000 80000
MSM on treatment with ‘test and treat’

- No intervention
- Test and treat

Graph showing the trend of MSM on treatment over the years from 2009 to 2019.
Infections averted 2010-2019

No intervention: 7287 infections

- Low and high risk: 2910 infections (39%)
- Low risk only: 1354 infections (18%)
- High risk only: 2050 infections (28%)
- Test and treat: 4191 infections (57%)
Effectiveness

Infections prevented per 1000 person-years ARVs

- Low and high risk: 7
- Low risk only: 4
- High risk only: 97
- Test and treat: 676
Conclusion & Discussion

- ‘Test and treat’ most effective in reducing new number of HIV infections.

- PrEP may be a useful prevention measure when targeted to men with highest sexual risk behaviour.

- Danger of risk compensation. Did happen before!

- Implementation may be challenging.

- Use PrEP as part of combination prevention.
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