Estimating the HIV epidemic on a local level: the HIV care continuum in Amsterdam

Ard van Sighem, Godelieve de Bree, Eline Op de Coul, Elske Hoornenborg, Daniela Bezemer, Wim Zuilhof, Jan M. Prins, Jan van Bergen, Maria Prins, Peter Reiss
## Disclosure of speaker’s interests

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<th>Potentially relevant company relationships in connection with event</th>
<th>Company name</th>
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<td>The ATHENA database is maintained by Stichting HIV Monitoring and supported by a grant from the Dutch Ministry of Health, Welfare and Sport through the Centre for Infectious Disease Control of the National Institute for Public Health and the Environment</td>
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Introduction

- Amsterdam aims to halt the ongoing HIV epidemic in the city through the HIV Transmission Elimination Amsterdam (H-TEAM) initiative.

- H-TEAM was launched in 2014 and is a unique collaboration between all relevant stakeholders involved in the prevention and care concerning HIV.

- To monitor progress towards achieving this aim, accurate and easily updatable estimates of the HIV care continuum at city level are essential.
## 5-step continuum of HIV care

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Status</th>
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<tbody>
<tr>
<td>1</td>
<td>Living with HIV</td>
<td>X</td>
</tr>
<tr>
<td>2</td>
<td>Diagnosed and linked to care</td>
<td>✔</td>
</tr>
<tr>
<td>3</td>
<td>Retained in care</td>
<td>✔</td>
</tr>
<tr>
<td>4</td>
<td>cART</td>
<td>✔</td>
</tr>
<tr>
<td>5</td>
<td>Viral suppression</td>
<td>✔</td>
</tr>
</tbody>
</table>

- **Step 2** - number still undiagnosed
- **Diagnosed** by the end of 2015 and registered by SHM
- **Retained in care** - clinic visit or CD4 or RNA measurement in 2015
- **cART** ever started a combination of 3 or more drugs from at least 2 classes
- **Viral suppression** latest RNA measurement in 2015 <100 copies/ml, irrespective of treatment
Data

ATHENA national observational HIV cohort

- annual data on new HIV diagnoses
  - CD4 count
  - concurrent AIDS diagnosis
- longitudinal data on antiretroviral treatment and HIV RNA
- death and emigration
- Amsterdam-specific data available from 2002 onwards, based on postal code
Back-calculation

Need to know the time between infection and diagnosis, which
- is a priori unknown
- may change over calendar time
- longer when CD4 counts are lower

Newly acquired HIV infections

- 70 (95% CI, 30 – 180) new HIV infections in 2015.
- Average time from infection to diagnosis: 2.9 (2.3 – 3.7) years.

Including corrections for reporting delay in 2014 (+3%) and 2015 (+11%).
Undiagnosed HIV infections

- 400 (95% CI, 260 – 660) people living with HIV were still undiagnosed by the end of 2015.

HIV care continuum in 2015

Total population

Number of individuals

- Living with HIV: 6,150 (100%)
- Diagnosed and linked to care: 5,772 (94%)
- Retained in care: 5,349 (87%)
- Antiretroviral treatment: 5,176 (84%)
- Viral suppression: 4,868 (79%)

UNAIDS

94%
HIV care continuum in 2015

MSM

- Living with HIV: 4,450 (100%)
- Diagnosed and linked to care: 4,198 (94%)
- Retained in care: 3,965 (89%)
- Antiretroviral treatment: 3,845 (86%)
- Viral suppression: 3,662 (82%)

Number of individuals
Discussion – strengths

• Only routine surveillance data on HIV diagnoses.
• No need for extensive historical data.
• Estimates are easily updated.
Discussion – limitations

Underreporting may affect estimates:
- some diagnosed individuals are not in care
- 2% opt out of registration in SHM
- patients no longer in care may have emigrated or died

Backlog in collecting information on start of treatment and on viral load measurements:
- need to extend automated import of laboratory measurements to all HIV treatment centres.
Conclusions

• Amsterdam attains high levels of engagement in various stages of the HIV care continuum.

• As our method only uses routinely available data, changes in the care continuum can easily be monitored annually.

• Increased efforts are necessary to reduce the undiagnosed population and the number of individuals not retained in care.