Factors for delayed linkage to care following HIV diagnosis in the WHO European Region

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Overview

1) Background

2) Aim & Objectives

3) Methods
   • Data sources
   • Inclusion and exclusion criteria
   • Definitions
   • Statistical analyses

4) Results
   • Descriptive analysis
   • Prompt linkage to care
   • Factors for delayed linkage

5) Conclusions
Background

• Linking people who test HIV-positive to accessible care and support services is a crucial step in the HIV continuum of care.

• Delayed linkage to HIV care is associated with delayed receipt of antiretroviral medications, faster disease progression and increased mortality.\textsuperscript{1-4}

• Little comparable data are available on linkage to care in Europe.\textsuperscript{5}
Definitions of linkage to care in the literature

HIV diagnosis

- Attendance to specialist after POCT\textsuperscript{18} (72 hrs)
- CD4\textsuperscript{6,7,8,9,10} (4 weeks 28 days)
- First HIV consult\textsuperscript{13} (1 month)
- Receiving HIV care\textsuperscript{14}
  - CD4 or VL\textsuperscript{12} (3 months)
- HIV unit referral\textsuperscript{19}
  - First HIV consult\textsuperscript{15}
- Enrolment to HIV clinic\textsuperscript{20-22}
  - Receiving HIV care\textsuperscript{14,24}
  - CD4 or VL\textsuperscript{11} (6 months)
- Enrolment to HIV clinic\textsuperscript{23}
  - Attendance to specialist\textsuperscript{16,17} (??)

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Aim & Objectives

• **Aim:** to utilise an existing surveillance dataset and apply a standardised definition of linkage to care, producing comparable estimates

• **Objectives:**
  - To describe linkage to HIV care following diagnosis in the World Health Organization (WHO) European Region
  - To identify factors associated with delayed linkage
Methods - Data

- **Data source:** The European Surveillance System (TESSy)

- Case reports of new HIV diagnoses submitted to the European Centre for Disease Prevention and Control (ECDC) and the WHO Regional Office for Europe in 2014

- Data were included for countries that reported using the revised submission template (n=33/53).
Methods – Inclusion/Exclusion

• Inclusion criteria:
  ➢ Adults (aged ≥15 years) diagnosed with HIV between 2010 and 2014

• Exclusion criteria:
  ➢ Previously diagnosed (HIVStatus=PREVPOS)
  ➢ Previously in care (CD4 count taken >14 days prior to diagnosis date)
  ➢ Died within 3 months of diagnosis
  ➢ Missing diagnosis and/or CD4 information

• All partial dates - only M/Q and YYYY - defaulted to middle of M/Q
Methods – Definitions

• **Linkage to care:** patient seen for specialist HIV care after diagnosis, measured as the time between the HIV diagnosis date and first CD4 count date (CD4 count taken = proxy for in care)

• **Prompt linkage to care:** patient seen for HIV care in the 3 months (≤91 days) following diagnosis

• **Delayed linkage to care:** patient seen for HIV care more than 3 months (>91 days) after diagnosis
Methods – Statistical Analyses

- Factors for delayed linkage to care
  - Logistic regression
  - Factors found to be significant in univariable analyses included in final model
  - Adjustments:
    - Sex
    - Age at diagnosis
    - Diagnosis year
    - Probable HIV exposure category
    - European region of diagnosis
    - Region of origin
    - First CD4 count after diagnosis
Results

N=125,665 adults diagnosed from 2010-2014

- Diagnosed previously
- Previously in HIV care
- Died within 3 months of diagnosis
- Missing CD4 data
- Incomplete diagnosis/CD4 dates
- CD4 count with no date
- Included in analysis
Prompt linkage to HIV care following diagnosis: Europe, 2010-2014

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Multivariable analysis of factors associated with delayed linkage to care in Europe
Limitations

• Analysis restricted to people with CD4 data available – unknown as to whether those missing CD4 counts were not linked to care or CD4 data not collected

• Partial dates

• Under-reporting of deaths

• Reliance on CD4 data as proxy for care – no data collected on date of first care attendance
Conclusions

- Overall, linkage to care among adults diagnosed with HIV in Europe is prompt.

- However, given the high number of people with incomplete CD4 data, linkage estimates may be much lower than reported.

- Analyses highlight the importance of complete CD4 data reporting as almost half of patients were excluded due to missing information.

- Findings show improvements are needed in ensuring those diagnosed in Central and Eastern Europe and infected through heterosexual contact and injecting drug use enter care promptly.
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References


References


