Overview of the cascade: where should we focus next?

Ann Sullivan
Chelsea and Westminster Hospital NHS Foundation Trust, UK
Overview of the cascade: where should we focus next?

A Sullivan
Chelsea and Westminster Hospital NHS Foundation Trust
Conflict of Interest

I declare that I have no conflict of interest
HIV Action Plan ambitions - England

- HIV related deaths (40% of all cause deaths)
- AIDS at diagnosis
- HIV diagnoses (first diagnosed in England)

△ 50% reduction in HIV related deaths from baseline to less than 115
△ 50% reduction in AIDS at diagnosis from baseline to less than 110
△ 80% reduction in HIV diagnoses from baseline to less than 600
Progress towards the UNAIDS 95-95-95 targets, England, 2019 - 2021

Scotland: 94%, Wales: 96%, Northern Ireland: 97%

Definitions:
- of those estimated to be living with HIV: estimated number living with undiagnosed HIV (95%CI) 4,400 (3,500 – 6,100)
- of those diagnosed, in care with treatment status during time period of report
- of those on treatment with a viral load result during time period of report
Cascade using upper estimate and where missing VL data = not suppressed

- People diagnosed with HIV: 94.2%, 95.2%, 95.4%
- On treatment: 98.2%, 98.7%, 98.7%
- Virally suppressed: 97.4%, 97.4%, 97.8%

Percentage of people (%)
Following cascade flow of those diagnosed, assuming missing data = negative outcome

77.4% using upper estimate of those undiagnosed
Continuum of HIV care: England, 2021

- People living with HIV: 95,930
- People diagnosed: 91,520
- People seen for HIV care: 89,820
- People on treatment: 86,140
- People virally suppressed: 75,520
Equity and the cascade, population groups

% of people living with HIV who know their status
% of people who know their status who are on antiretroviral therapy
% of people on antiretroviral therapy who are virally suppressed

Percentage of people (%)

Year

Exposure group
- All
- GBMSM
- Black African heterosexuals
- Non Black African heterosexuals
- PWID
Equity and the cascade, by age

- % of people living with HIV who know their status
- % of people who know their status who are on antiretroviral therapy
- % of people on antiretroviral therapy who are virally suppressed

Year

Age group: Age 15-34, Age 35-44, Age 45-59, Age 60-74, Age 74+
Estimated number of people with undiagnosed HIV infection by region and exposure group, 2019 to 2021, England
HIV TESTING
HIV testing; offer and uptake among people tested at specialist SHS, by ethnicity, sexual orientation and gender: England, 2021
Number of people tested and new diagnoses among Black African heterosexual men, and heterosexual and bisexual women attendees by service type and repeat testing (for specialist SHS): England, 2017 to 2021
Number of partner notified contacts testing for HIV and proportion positive at specialist SHS: England, 2021

<table>
<thead>
<tr>
<th></th>
<th>%PN contact attending</th>
<th>% new diagnoses</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBMSM</td>
<td>35</td>
<td>21</td>
</tr>
<tr>
<td>Heterosexual men</td>
<td>22</td>
<td>39</td>
</tr>
</tbody>
</table>

- **HIV diagnoses in specialist SHSs**: 212 (Heterosexual and bisexual women), 212 (Heterosexual men)
- **PN contacts who attended**: 228 (Heterosexual and bisexual women), 179 (Heterosexual men)
- **PN contacts tested (% of attendees tested)**: 166 (Heterosexual and bisexual women), 143 (Heterosexual men)
- **PN contacts newly diagnosed with HIV (% testing positive)**: 8 (Heterosexual and bisexual women), 11 (Heterosexual men), 3 (Lesbians and other WSW, and people with unknown sexual orientation), 6 (GBMSM)
Proportion late diagnosed among adults newly diagnosed with HIV by demographics and probable route of exposure, England: 2019 - 2021

Definitions:
- of those with a CD4 count result within 91 days of diagnosis

[1] Includes people aged 15 and older
[2] Excludes people previously diagnosed abroad
Late diagnosis – different handling of missing data

Currently: no CD4 count within 91 days excluded
Lower estimate: missing = not late diagnosis
Upper estimate: missing = late diagnosis
Adjusted = same pattern as those with CD4 count data reported
Count and proportion late diagnosed

- **Count late**
  - Baseline
  - Lower estimate
  - Adjusted estimate
  - Upper estimate

- **% late**
  - Baseline/adjusted
  - Lower estimate
  - Upper estimate

Note:
- BL: no CD4 count in 91d = excluded
- Lower: missing = not late diagnosis
- Upper: missing = late diagnosis
- Adjusted: same pattern as those with CD4 count
Count and proportion late diagnosed

BL: no CD4 count in 91d = excluded
Lower: missing = not late diagnosis
Upper: missing = late diagnosis
Adjusted: same pattern as those with CD4 count
One-year mortality (per 1,000) among adults newly diagnosed with HIV, by diagnosis status and by demographics and probable route of exposure: England, 2021

[1] Includes people aged 15 and older
[2] Excludes people previously diagnosed abroad
IN CARE AND ON TREATMENT
Linkage to HIV care within 2 weeks, one month and 3 months among adults first diagnosed with HIV in England: 2019 to 2021
Number of adults seen for HIV care by treatment status: England, 2012 to 2021

[Graph showing the number of adults seen for HIV care by treatment status from 2012 to 2021.]

[1] Includes people aged 15 and older
Time to treatment

- 30 days
- 90 days
- 180 days
- 365 days

Days from diagnosis

- 2018
- 2019
- 2020
- 2021
Time to treatment: proportion starting treatment by 90 days by ethnic group, 2017-21

Number not starting within 90 days in 2021:
- Black African: 53
- Black Caribbean: 14
- Black other: 6
Data completeness for those in care
Lower-level estimates for the number of people living with HIV with transmissible levels of virus, England, 2019-21
Upper and lower-level estimates for the number of people living with HIV with transmissible levels of virus, England, 2021

Lower-level estimate

- Undiagnosed (MPES) (N = 4,400)
- Not linked to care (N = 147)
- In care but not on treatment (N = 1,195)
- In care, on treatment but not virally suppressed (N = 1,799)
- Not retained in care (15 months) (N = 4,118)

n=11,659 (12,177)

Upper-level estimate

- Undiagnosed (MPES, upper) (N = 6,100)
- Not linked to care (N = 147)
- In care but not on treatment but status unknown (N = 1,500)
- In care, on treatment but not virally suppressed (N = 2,621)
- In care, on treatment but no evidence of viral suppression (N = 15,963)

n=28,130
What do I think we need to we focus on?

Data completeness

Examine and address inequalities in processes and outcomes across cascade

HIV Testing:

- review HIV testing levels and data in sexual health clinics
- expand ED testing in line with BHIVA/BASHH/BIA guidelines
- adapt ED model to implement indicator condition testing strategy in other healthcare settings

Ensure all people living with HIV are accessing effective treatment and care
Acknowledgements

UKHSA
HIV reporting team
Cuong Chau
James Lester
Veronique Martin

HIV Services
HIV clinicians and HARS reporters

People living with HIV in England