HIV testing guidelines in Europe and linkage to care: need for implementation
Western Europe perspective

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Overview

• Context
  – Guidelines
  – Epidemiology

• Implementation
  – Core principles
  – Examples from the UK

• Monitoring & Evaluation
  – the F.A.C.T.S of the program
  – National and international indicators
  – Entry into care & Quality of care indicators
Epidemiology
Who, what, where, when & how to test?

• Key markers
  – New diagnoses
  – % diagnosed late
    • (low CD4 &/or AIDS)
  – Prevalence
    • Total
    • Diagnosed
    • Undiagnosed
  – Most affected groups
  – Geographical spread
  – Time trends

UK HIV Prevalence

Number of people living with HIV


Undiagnosed Diagnosed
## Characteristics of cases

<table>
<thead>
<tr>
<th>Characteristics of cases</th>
<th>WHO European Region*</th>
<th>West*</th>
<th>Centre*</th>
<th>East</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of HIV cases</td>
<td>118 335</td>
<td>25 659</td>
<td>2 478</td>
<td>90 198</td>
</tr>
<tr>
<td>Rate per 100 000 population</td>
<td>13.7</td>
<td>6.6</td>
<td>1.3</td>
<td>31.7</td>
</tr>
<tr>
<td>Percentage of cases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 15–24 years**</td>
<td>11.6%</td>
<td>10.0%</td>
<td>17%</td>
<td>13%</td>
</tr>
<tr>
<td>Female</td>
<td>38%</td>
<td>27%</td>
<td>19%</td>
<td>42%</td>
</tr>
<tr>
<td>Transmission mode**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosexual</td>
<td>43%</td>
<td>24%***</td>
<td>24%</td>
<td>48%</td>
</tr>
<tr>
<td>Men who have sex with men</td>
<td>20%</td>
<td>39%</td>
<td>29%</td>
<td>0.7%</td>
</tr>
<tr>
<td>Injecting drug use</td>
<td>23%</td>
<td>4%</td>
<td>4%</td>
<td>43%</td>
</tr>
<tr>
<td>Unknown</td>
<td>13%</td>
<td>16%</td>
<td>41%</td>
<td>7%</td>
</tr>
</tbody>
</table>

*No data from the following countries: Austria, Liechtenstein, Monaco.

** Countries with no data on age or transmission mode excluded.

*** Excludes individuals originating from countries with generalised epidemics.
HIV infections diagnosed, 2010
Men who have sex with men, EU/EEA

Rate as number per 100 000 male population

- < 1
- 1 to < 3
- 3 to < 5
- ≥ 5
- Missing or excluded data

Heterosexually acquired HIV infections
Proportion of cases among persons originating from countries with generalised epidemics, 2010

Countries that have consistently reported AIDS since 2004 included: West Austria, Belgium, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, San Marino, Switzerland, United Kingdom; Centre: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, the former Yugoslav Republic of Macedonia, Hungary, Montenegro, Poland, Romania, Serbia, Slovakia, Slovenia; East: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Turkmenistan, Uzbekistan.
Testing Guidelines

• Number of guidance and guidelines within Europe (1-5)
• Advocate:
  ➢ Routine & universal offer of attendees of specified services:
    • STI clinics
    • Antenatal
    • Termination of Pregnancy
    • Drug dependency services
    • Patients with clinical indicator disease attending a range of healthcare services for example patients with tuberculosis, HBV, HCV and lymphoma
  ➢ Targeted approach for patients at higher risk:
    • from a high prevalence country
    • MSM
    • reporting history of IDU
  ➢ Robust monitoring and evaluation

Implementation: Core Principles

- Testing is voluntary, confidential and undertaken with informed consent (which can be verbal)
- Prompt access to affordable (free) treatment, care and prevention services
- Need for political commitment with financial investment for implementation and monitoring
- Reduce Stigma through normalisation of HIV testing
- Remove the legal, structural and social barriers that discriminate and create vulnerable communities
- Make access to HIV testing an integral part of national strategies
- Develop and implement and HIV strategy with the participation of stakeholders
Implementation

Example from the UK
UK National Guidelines for HIV testing, 2008

Expand routine offer and recommendation HIV test in areas of high diagnosed HIV prevalence (>2/1,000)

- Registrants in primary care
- General medical admissions
Further Policy & Stakeholder Developments

- National Institute of Clinical Excellence (NICE) 2011 published guidance on increasing HIV testing among:
  - Men who have sex with men; and
  - Black African communities
  - Reinforced many of recommendations from UK BHIVA national guidance:

- ‘Halve it Campaign’ (2010)

- House of Lords Report (2011) recommended expanded HIV testing

  - Late diagnosis of HIV key indicator
HIV testing Pilot Projects funded by Department of Health and Gilead Fellowships

- 8 funded by DH, 34 by Gilead
- Aim: Assess the feasibility, acceptability and effectiveness of expanding HIV testing

- Pilots demonstrated:
  - high levels of acceptability among patients
  - feasibility of routine testing in different medical services

- Evaluation of DH projects (HPA)
  - A total of 10,500 HIV test performed with 50 new diagnoses (5/1,000). Positivity rates ranged from 0 to 20.1/1,000
  - 13.6/1,000 in community projects
  - 4.8/1,000 in primary care
  - 3.1/1,000 in hospitals
### DH funded HIV testing pilots, Results of hospital projects, UK

<table>
<thead>
<tr>
<th>Pilot project</th>
<th>Number offered</th>
<th>Number of tests</th>
<th>% Uptake</th>
<th>Number Positive</th>
<th>Positivity (/1000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>London - ACU</td>
<td>551</td>
<td>383</td>
<td>70%</td>
<td>4</td>
<td>10.4</td>
</tr>
<tr>
<td>Brighton – ACU</td>
<td>1,553</td>
<td>1413</td>
<td>91%</td>
<td>2</td>
<td>1.8</td>
</tr>
<tr>
<td>Leicester - ACU</td>
<td>-</td>
<td>984</td>
<td>-</td>
<td>10</td>
<td>10.2</td>
</tr>
<tr>
<td>London – A&amp;E</td>
<td>3,469</td>
<td>2,123</td>
<td>61%</td>
<td>4</td>
<td>1.8</td>
</tr>
<tr>
<td>London – OPD</td>
<td>840</td>
<td>600</td>
<td>71%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>-</td>
<td>6,494</td>
<td></td>
<td>20</td>
<td>3.1</td>
</tr>
</tbody>
</table>
"It is acceptable to me to be offered an HIV test in this setting"

95% of questionnaire respondents overall (n=635) agreed with this statement
- no difference by gender or age
- difference by ethnicity in ACU, but was still 82% in non-white
- difference stratified by test uptake:

<table>
<thead>
<tr>
<th>Setting and test uptake</th>
<th>Proportion agreeing</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACU</td>
<td>Accepted test</td>
<td>95%</td>
</tr>
<tr>
<td></td>
<td>Declined test</td>
<td>78%</td>
</tr>
<tr>
<td>ED</td>
<td>Accepted test</td>
<td>95%</td>
</tr>
<tr>
<td></td>
<td>Declined test</td>
<td>90%</td>
</tr>
</tbody>
</table>
**Acceptability among patients in primary care**

### Preliminary Results

<table>
<thead>
<tr>
<th>Questionnaire items</th>
<th>Accepted</th>
<th>Declined</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>It was a good idea to offer me an HIV test today during my new patient health check*</td>
<td>97.8</td>
<td>93.5</td>
<td>96.7</td>
</tr>
<tr>
<td>I think I may be at risk of HIV*</td>
<td>6.5</td>
<td>2.5</td>
<td>5.5</td>
</tr>
<tr>
<td>I had enough time to decide whether or not to have an HIV test today*</td>
<td>85.3</td>
<td>71.1</td>
<td>81.7</td>
</tr>
<tr>
<td>I would like to receive my HIV test result straight away*</td>
<td>93.9</td>
<td>51.1</td>
<td>84.1</td>
</tr>
<tr>
<td>I am happy to have an HIV test at my doctor’s surgery*</td>
<td>98.6</td>
<td>73.3</td>
<td>92.3</td>
</tr>
<tr>
<td>I would prefer to have an HIV test at a specialist sexual health clinic*</td>
<td>8.6</td>
<td>10.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Overall I would rate my experience of being offered an HIV test as helpful and useful*</td>
<td>94.1</td>
<td>86.2</td>
<td>92.1</td>
</tr>
</tbody>
</table>

* Indicates significant difference by chi-squared test (p<0.05)
Offer and Acceptance by Admitting Doctor

Offer rate differed significantly by grade $p<0.001$

Offer rate differed significantly by Consultant $p<0.001$
Staff attitudes towards HIV testing

- 79% of ED and ACU staff were supportive of the need for increased HIV testing, and thought it acceptable for it to be offered in their Department.
- BUT only 42% ACU and 57% ED staff agreed they would feel comfortable offering HIV tests themselves.
## Cost per HIV diagnosed, UK, 2011

<table>
<thead>
<tr>
<th>Pilot Site</th>
<th>Number HIV diagnosed</th>
<th>Number HIV tests</th>
<th>Cost per HIV diagnosed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Care</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brighton</td>
<td>2</td>
<td>1,473</td>
<td>£4,673</td>
</tr>
<tr>
<td>London</td>
<td>19</td>
<td>2,713</td>
<td>£787</td>
</tr>
<tr>
<td>Medical Admissions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>London (Homerton)</td>
<td>4</td>
<td>384</td>
<td>£299</td>
</tr>
<tr>
<td>Brighton</td>
<td>2</td>
<td>1,413</td>
<td>£3,870</td>
</tr>
<tr>
<td>Leicester</td>
<td>10</td>
<td>984</td>
<td>£818</td>
</tr>
<tr>
<td>Newcastle</td>
<td>2</td>
<td>396</td>
<td>£3,793</td>
</tr>
<tr>
<td>London (UCL)</td>
<td>2</td>
<td>130</td>
<td>£2,222</td>
</tr>
</tbody>
</table>

Costs per HIV detected compare well with other studies:
- USA\(^1\): varied from $1,980 (UCC) to $9,724 (ED)
- Netherlands\(^2\): €16,900 (STI clinic)

\(^1\) Mehta et al Pub Health Rep 2008; \(^2\)YBos JM et al AIDS 2001;
Cost-effectiveness of expanding HIV testing

Cost-effective threshold for expanded HIV testing in USA
• 1 new HIV diagnosis/1,000 tests in general medical services

Shown to be cost-effective in:
• USA: testing every 3 years cost $63,000 per QUALY
• France: test everyone once cost €56,000 per QUALY

Absence of published data for Europe:
• Expansion of HIV testing cost of £7,500 per QUALY gained (RTI, Gilead Fellowship)- UK
• No indication in which services HIV testing would be most cost-effective

Sustainability

5 of 8 DH projects have continued outside of the pilot
- Inclusion of HIV testing questions in pro-forma
- Use of local performance indicator (CQUIN)
- Including POCT tests in primary care contracts for level 1 LES

Staff training
- Variation in the offer of an HIV test according to consultant
- Anxieties about patients questions
- Anxieties about managing reactive results
Monitoring & Evaluation
## Monitoring and evaluation

Examples of indicators to assess local HIV testing initiatives using the FACTS criteria

<table>
<thead>
<tr>
<th>Criteria for project success</th>
<th>Examples of indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility</td>
<td>Number and % of persons offered HIV testing</td>
</tr>
<tr>
<td></td>
<td>% newly diagnosed individuals who are successfully transferred to care within three months</td>
</tr>
<tr>
<td></td>
<td>Number and % uptake of an HIV test (overall and among populations most at risk)</td>
</tr>
<tr>
<td>Acceptability</td>
<td>% of patients agreeing that the offer of an HIV test in this setting is acceptable</td>
</tr>
<tr>
<td></td>
<td>% of patients willing to disclose risk behaviour</td>
</tr>
<tr>
<td></td>
<td>% of patients satisfied with the patient information provided</td>
</tr>
<tr>
<td>Effectiveness and cost effectiveness</td>
<td>% of staff reporting barriers to offer an HIV test in this setting</td>
</tr>
<tr>
<td></td>
<td>% of staff reporting specific training needs</td>
</tr>
<tr>
<td></td>
<td>Positivity rate (overall and among populations most at risk)</td>
</tr>
<tr>
<td>Target populations reached</td>
<td>Staff costs associated with intervention</td>
</tr>
<tr>
<td></td>
<td>Resource costs associated with intervention</td>
</tr>
<tr>
<td></td>
<td>Outcome of cost-effectiveness model</td>
</tr>
<tr>
<td></td>
<td>% of most-at-risk populations who had an HIV test in the last 12 months and know their results</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Positivity rate among most-at-risk populations tested in the setting</td>
</tr>
<tr>
<td></td>
<td>Number and % uptake of an HIV test (overall and among populations most at risk)</td>
</tr>
<tr>
<td></td>
<td>Staff costs associated with intervention</td>
</tr>
<tr>
<td></td>
<td>Resource costs associated with intervention</td>
</tr>
</tbody>
</table>
Compiling the evidence of what works

• Good evidence both acceptable to patients and staff in a variety of settings
  – STI clinics
  – Antenatal care
  – harm reduction services
  – Range of medical settings
  – General practice

• Cost-effectiveness data are required
## Monitoring and evaluation
### National & international level

**Appendix A**

Table 1: Monitoring and evaluation at the national/international level

<table>
<thead>
<tr>
<th>Process indicators</th>
<th>Examples of indicators</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Existence of national testing policies and guidelines that are consistent with international standards (WHO/AIDS)</td>
<td>UNGASS (as part of National Composite Policy Index), WHO M&amp;E guide</td>
</tr>
<tr>
<td></td>
<td>% men and women who had an HIV test in the last 12 months and know the results</td>
<td>UNGASS, WHO M&amp;E guide</td>
</tr>
<tr>
<td></td>
<td>% of most-at-risk populations (MSM, IDU, migrants) who had an HIV test in the last 12 months and know their results</td>
<td>UNGASS, WHO M&amp;E guide</td>
</tr>
<tr>
<td></td>
<td>% of pregnant women who have been tested for HIV in the last 12 months and know their results</td>
<td>WHO M&amp;E guide</td>
</tr>
<tr>
<td></td>
<td>% of TB patients who have been tested for HIV in the last 12 months and know their results</td>
<td>WHO M&amp;E guide</td>
</tr>
<tr>
<td></td>
<td>% of STI patients who have been tested for HIV in the last 12 months and know their results</td>
<td>ECDC</td>
</tr>
<tr>
<td></td>
<td>Numbers and proportions of persons offered testing stratified by setting (particularly, anonymous testing sites and primary care sites)</td>
<td></td>
</tr>
<tr>
<td>Outcome indicators</td>
<td>Total number of new diagnoses stratified by most-at-risk populations including unknowns</td>
<td>Dublin Declaration</td>
</tr>
<tr>
<td></td>
<td>Number and % of new diagnoses which are diagnosed late with CD4 &lt;200 (overall and by most-at-risk population)</td>
<td>Dublin Declaration</td>
</tr>
<tr>
<td></td>
<td>Number and % of new diagnoses which are diagnosed late with CD4 &lt;350 (overall and by most-at-risk population)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number and % of new diagnoses which are diagnosed late with AIDS at presentation (overall and by most-at-risk population)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% new diagnoses who are recently infected (RITA or other seroconversion algorithms)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% of newly diagnosed individuals who are successfully transferred to care within three months (overall and by most-at-risk populations)</td>
<td>WHO M&amp;E guide</td>
</tr>
<tr>
<td></td>
<td>Total number and proportion of undiagnosed infections</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number and proportion in most-at-risk groups of undiagnosed infections</td>
<td></td>
</tr>
</tbody>
</table>
HIV infection by transmission group and origin in EU/EEA, 2004–10

Predominant transmission group: men who have sex with men

Data were not included or not available from Austria, Estonia and Poland.
Access to HIV care and ensuring quality care
HIV Quality of Care Indicators

• Early access to HIV testing
• Early integration into care
• Access to ART
• Retention into care
• Achieving viral load suppression
• Survival
• Patient satisfaction
Quality of HIV care in adults
United Kingdom, 2010

INTEGRATION INTO CARE  within a month of diagnosis 89%

ACCESS TO ART  for those with a CD4 count <350 cells/mm³ 87%

VIRAL SUPPRESSION  undetectable viral load (<50 copies/ml) within 1 yr of starting ART 85%

SUCCESSFUL CARE  CD4 count ≥350 cells/mm³ after at least 1 year in HIV care 80%
The public health impact of ‘treatment as prevention’
Distribution of the infectious population among HIV-infected MSM: UK, 2010

- **Non-infective**: 35%
- **Infective**: 65%

**Distribution of infectives**

- On ART: 5%
- Untreated >500: 16%
- Untreated 350-500: 12%
- Untreated <350: 5%

* viral load >1500 copies/ml
Thank-you for listening!

www.hpa.org.uk
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