OptTEST
OPTIMISING TESTING AND LINKAGE TO CARE FOR HIV ACROSS EUROPE

Public Health England

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WP4: LINKAGE TO CARE IN EUROPE

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WP4: Linkage to care following HIV diagnosis

- Published data on linkage to HIV care from the European Union are lacking and few countries routinely monitor HIV quality of care measures locally or nationally.
- **Specific objective WP4:** *To increase knowledge on linkage to HIV care after diagnosis across geographical and health care settings and target groups*

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Reviewing the existing literature on linkage to care in Europe

1. What definitions have been used to measure linkage to HIV care following diagnosis in Europe?
2. What is the patient experience of linkage to care following diagnosis in Europe?
3. What are the barriers to being linked to HIV care following diagnosis in Europe?

- Presented at EACS 2015

Linkage to care following HIV diagnosis in Europe: a review of the literature

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BACKGROUND

- Linking people who test HIV-positive to accessible and culturally appropriate 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.[1-3]
- Though there have been efforts to describe existing definitions of retention in HIV care,[4] there is little work to date describing linkage into care in Europe.
- We reviewed the existing literature on linkage to care following HIV diagnosis and discuss the variation in definitions applied in Europe.

METHODS

- A literature review was conducted using PubMed and Google Scholar to search for relevant academic publications.
- A PICO framework was utilised to design the search strategy: Population: people newly diagnosed with HIV; Intervention: HIV diagnosis; Comparison: none; Outcome: linkage into care
- Database search: "HIV" and search terms including: "linkage to care", "integration into care", "entry into care", "enrolment in care", "newly diagnosed in care", "engagement in care", "treatment cascade" and "continuum of care".
- To be included, studies had to be in English, set in the World Health Organisation (WHO) European Region and published before June 2015.
- A grey literature search was performed to find relevant conference proceedings and reports.

RESULTS

- Overall, >1,000 titles/abstracts were reviewed and 22 studies included, from Belgium, Denmark, France, Georgia, Greece, Italy, the Netherlands, Poland, Russia, Spain, Ukraine and the United Kingdom.
- Seven studies defined linkage to care as the time between HIV diagnosis and first CD4 count and/or viral load, with prompt linkage defined as a measurement taken 1-45 months after diagnosis (Table 1).
- Delayed linkage was defined by Ndiaye et al as presentation to care with advanced HIV disease and HIV diagnosis >6 months before initiation of care (cohort data from Belgium (Brussels) and Northern France (Nord Pas-de-Calais) 1997-2007: 16.7% (n=96)).[5]
- The studies used registration or enrolment at an HIV clinic as a marker of being linked to care; three studies, attendance to an HIV specialist appointment; two, first HIV consultation; and one, an HIV unit referral. Two studies presented the proportion receiving HIV care (Table 1).
- Van Sighem et al provided an estimate without defining linkage to care (Belgium 90.3% (n=3646)); surveillance data 2007-2010).[6]
- The majority of measurements relied on HIV surveillance data (n=11), with five studies presenting sub-national data from a variety of settings, such as hospitals in a particular area or city; in four studies, data were collected from a single clinic (Table 1).

Table 1: Definitions of linkage to care presented in the literature: WHO European region, June 2015

CONCLUSIONS

- There are many definitions of linkage to care following HIV diagnosis that have been applied in the literature from Europe.
- The majority of studies rely on laboratory data which, despite being relatively reliable, may not always accurately reflect the date when a patient is integrated into HIV specialist care.
- The variety of settings, time periods, populations and definitions utilised, makes it difficult to compare measurements between countries and studies.
- A standard working definition of linkage to care is necessary to ensure consistent monitoring of the quality of HIV care and patient clinical outcomes.

REFERENCES

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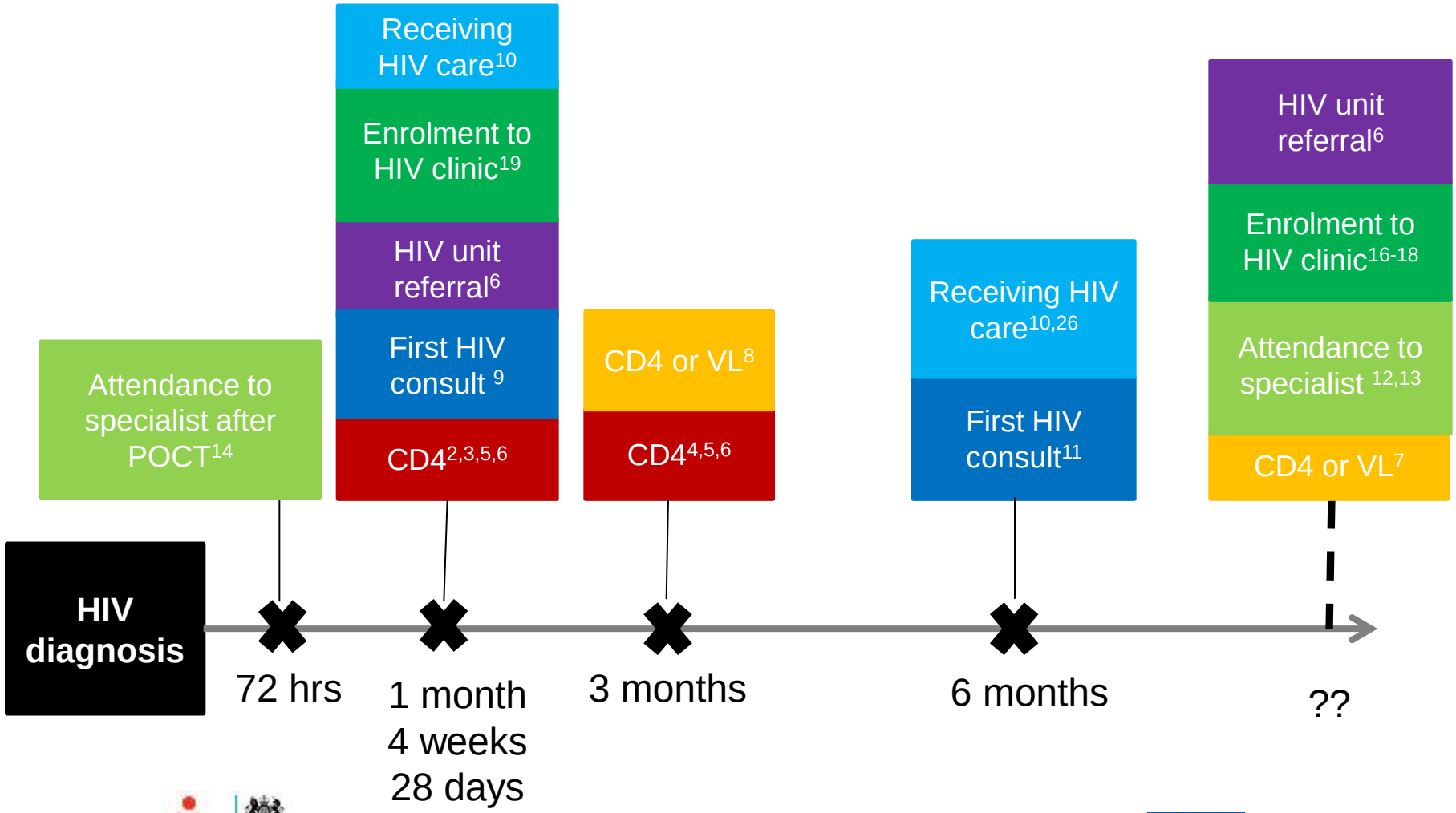
Definitions of linkage to care in the literature



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Agreed working definitions for monitoring linkage to care

- ECDC expert meeting on the Continuum of Care – Stockholm, Sweden, September 2015
- Attended by representatives from the HIV European Surveillance Network, key European HIV clinical cohorts, World Health Organization, OptTEST partners
- OptTEST session on linkage to care
- Linkage to care: the proportion of patients seen for HIV care (measured by first CD4 count and/or viral load and/or attendance date and/or treatment start date)
- Prompt linkage: linkage within 3 months of diagnosis

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Definition application – systematic review

- Linkage to HIV care following diagnosis in the WHO European Region: systematic review and metadata analysis, 2006-2017
- Embase, Medline, Pubmed, Cochrane, Wellcome, PsycINFO + grey literature up to the end of Feb 2017
- Inclusion criteria:
  - ≥50 people (aged ≥15)
  - WHO European Region
  - Published 2006-2017
  - English language

Systematic review and meta-analysis

- Total number of records: **4,716**
- Number of studies included: **24** – linkage to care estimates: **22** factors for poor linkage: **7**
- Data from 19 countries; 89,006 people
- Ability to compare estimates of linkage to care between studies was limited by the varied populations, settings and methodologies
- Meta-analysis of 12 studies measuring linkage at three months: 85% (95% CI: 75%-93%); heterogeneity high
- Factors for poor linkage: HIV acquisition heterosexual contact/ injecting drug use, younger age, lower education, feeling well and diagnosis outside an STI clinic

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Definition application – linkage to care as a national quality of care indicator

- **Aim:** to pilot the agreed surveillance definition at national-level using existing surveillance dataset
- **Data source:** new HIV diagnoses from 33 European countries reported to the European Centre for Disease Prevention and Control (ECDC) in 2015
- **Inclusion:** adults (aged ≥15 years) diagnosed from 2010-2014
- **Exclusion:** individuals previously diagnosed/in care, died within 3 months of diagnosis and/or missing diagnosis/CD4 data
- **Delayed linkage to care:** patient seen for HIV care (CD4 count taken) more than 3 months (>91 days) after diagnosis

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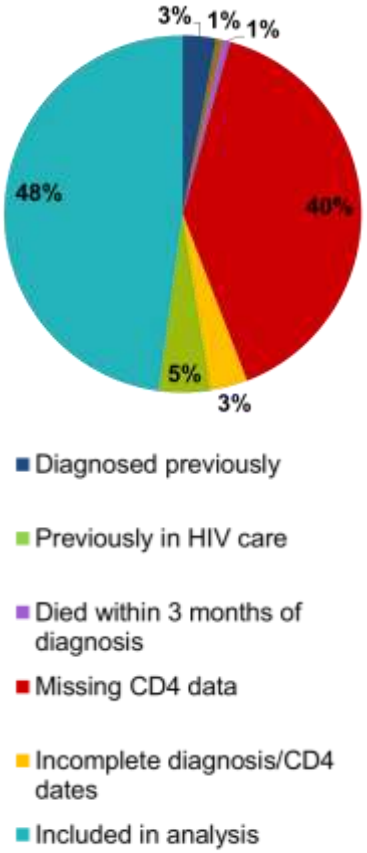
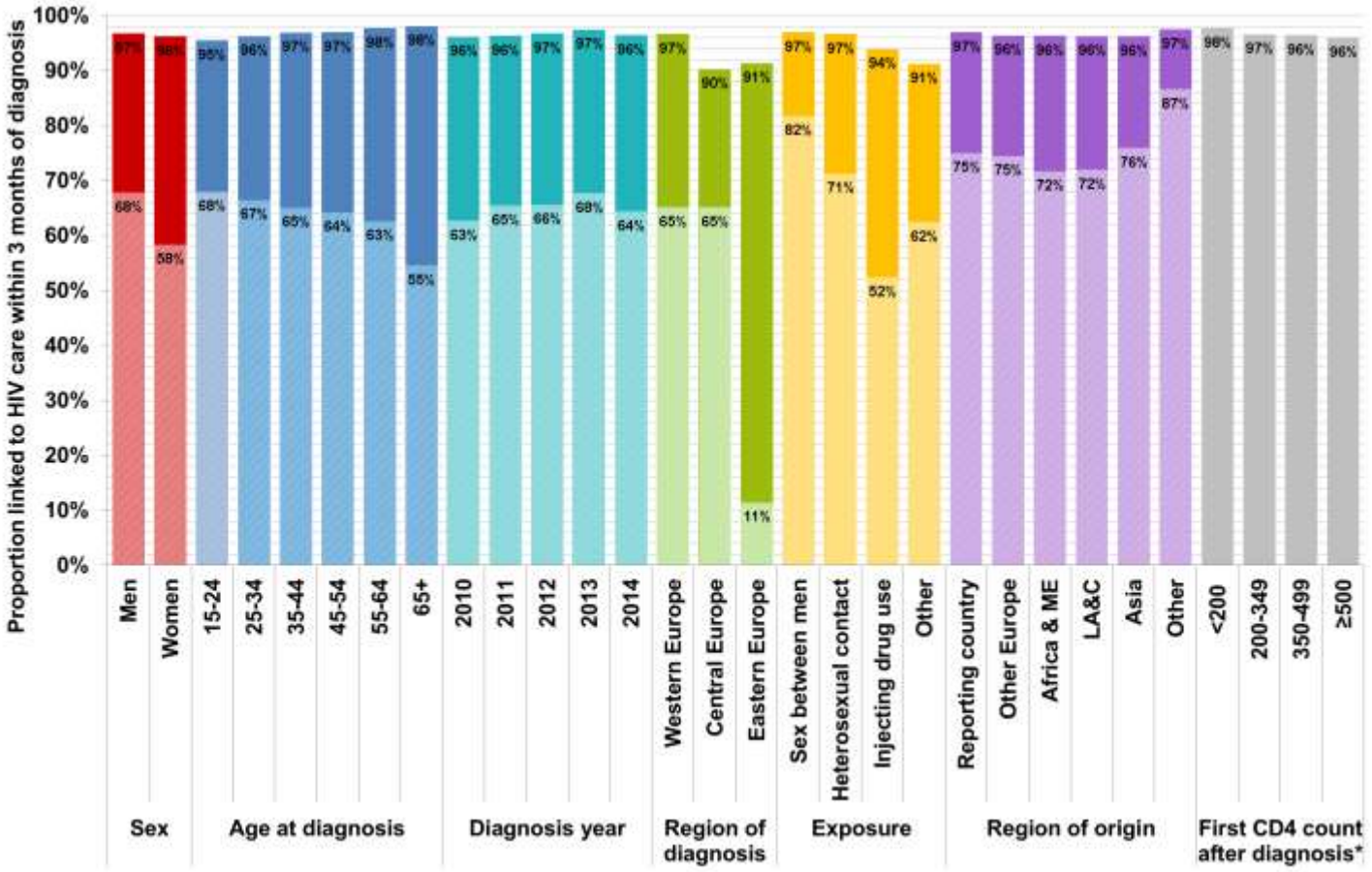
Linkage to care in Europe

Criteria applied to calculate linkage to care (N=125,665)



Prompt linkage to HIV care following diagnosis in Europe: 2010-2014



*Sensitivity analysis not possible as CD4 required for breakdown

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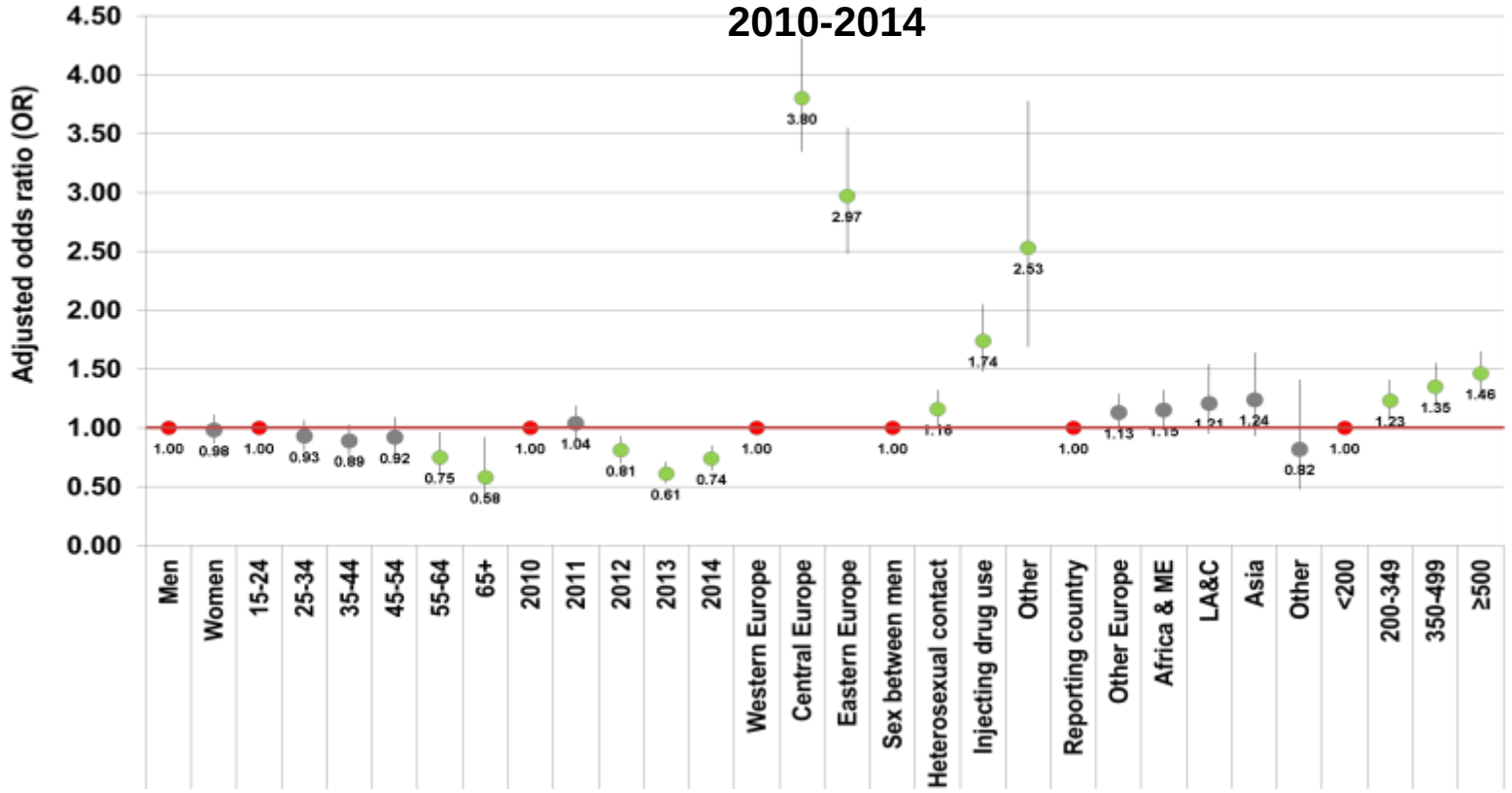
Multivariable analysis of factors for delayed linkage to care in Europe: 2010-2014



- Among people who make it into HIV care, the timeliness is prompt (52%-96% linked within 3 months)
- However, high proportion of missing CD4 data – not known whether data not collected/ reported or whether those people are not linked to care.
- Improvements are needed to ensure people acquiring HIV through heterosexual contact and injecting drug use and those with high CD4 counts at diagnosis are promptly linked to care and treatment.

Understanding the context of linkage to care

- Questionnaire to collect national data on linkage to care and information on the context within which linkage to care occurs from EU/EEA surveillance leads (Sept 2016)
  - *Where can people be tested for HIV?*
  - *In what setting is HIV clinical care provided and how many services offer HIV care?*
  - *Current data collection mechanisms, guidelines on linkage to care?*
  - *Which marker of entry, CD4 count, viral load, clinic attendance date or treatment start date, is most appropriate to measure linkage to care?*
  - *Are there any difficulties capturing data to measure linkage to care?*
- 24/30 respondents - *Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Spain, UK*

Questionnaire on linkage to care context

- 16 countries able to provide information for at least one marker of care after diagnosis
- Linkage to care was able to be calculated using the time difference between diagnosis date and:
  - *CD4 date: 14*
  - *Viral load date: 9*
  - *Care attendance date: 6*
  - *Treatment initiation: 5*
- Consensus that CD4 count most appropriate measure of entry into care - compared to other variables, data are reported centrally, collected routinely and are readily available

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Understanding linkage to care at a local level

- Country meetings in Greece (Sept 2016), Poland (Oct 2016), UK (Apr 2017), Portugal (June 2017) and Spain (Sept 2017)
- Relevant stakeholders identified and invited by local partners

- Bringing people together to better understand country experiences of linking patients to care
- Discussions around available data for monitoring, barriers and approaches to improve linkage to care

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Key messages and achievements

- Prompt linkage to specialist care following diagnosis with HIV is a crucial step in the patient pathway.
- Through OptTEST, there is now an expert-agreed definition of linkage to care, which can be used for public health monitoring.
- Existing European surveillance data (TESSy) can be used to produce routine standardised estimates across countries, using diagnosis and CD4 data.
- Data collection mechanisms and national HIV surveillance systems need to be strengthened and data quality improved.

Key messages and achievements

- Where data were available, a number of key risk groups for delaying access to care were identified.
- Improvements are needed to ensure people acquiring HIV through heterosexual contact and injecting drug use and those diagnosed in Eastern and Central Europe are promptly linked to care and treatment.
- Monitoring linkage to care is particularly important given the expansion of HIV testing outside of traditional settings.

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