



HIV Testing Strategies in Europe

S. Desai¹, L. Tavoschi², L. Combs³, S. Finne Jakobsen³, A. Sullivan⁴, D. Raben³, V. Delpech¹, S. Croxford¹

¹ Centre for Infectious Disease Surveillance and Control, Public Health England, London, UK

² European Centre for Disease Prevention and Control, Stockholm, Sweden

³ CHIP, Rigshospitalet, University of Copenhagen, Copenhagen, Denmark

⁴ Chelsea and Westminster Hospital NHS Foundation Trust, London, UK

Sarika Desai
Public Health England
Sarika.Desai@phe.gov.uk

INTRODUCTION

- In 2010, the European Centre for Disease Prevention and Control (ECDC) published HIV testing guidance to inform the development, monitoring and evaluation of national HIV testing strategies and programmes in the countries of the European Union (EU) and European Economic Area (EEA).¹
- In 2015, ECDC commissioned an evaluation, which found widespread use of the guidance to develop policies, guidelines, programmes and strategies in the EU/EEA.
- The evaluation also identified a need to update the guidance, particularly given the emergence of new technologies and approaches to the implementation of HIV testing.
- The objective of this systematic review was to critically appraise and synthesise the body of recent evidence on strategies/approaches aimed at increasing the uptake and coverage of HIV testing in Europe to inform the ECDC testing guidance.

METHODS

The following steps were undertaken:

- Searched databases: Embase, Medline, PsycINFO, Cochrane Library and Scopus
- Searched conference abstracts (2014-2017): CROI, AIDS, IAS, EACS, HIV Drug Therapy, HEPHIV
- Search terms covered: HIV, HIV testing, barriers to testing and Europe
- Searched of testing guidance reference lists: WHO and HIV in Europe
- Two independent reviewers undertook title/abstract screening, full-text review, data extraction and quality assessment using NICE/AXIS checklists.^{2,3}
- Authors of conference abstracts without available full-texts were contacted for poster copies or oral presentation slides
- Analyses were performed to describe testing approaches including by setting of testing

Inclusion criteria:

- Studies set in the EU/EEA (30 countries)
- Studies published January 2010 – March 2017
- Adults (aged ≥15 years) tested for or diagnosed with HIV
- Studies set in non-occupational settings
- All languages

RESULTS

- There were 368 articles identified through the systematic review (Fig 1):
 - Approaches to HIV testing
 - Economic evaluations
 - Barriers to testing
- Two-thirds of studies were peer-reviewed.
- A number of approaches to increase HIV testing:
 - HIV testing implementation (n=156)
 - Campaigns (n=16)
 - Education interventions (n=16)
 - Communication technologies (n=8)
 - Clinical decision making tools (n=8)
 - Audits to identify gaps in testing (n=81)
- 18 EU/EEA countries reported an approach to improve testing (Fig 2), with the majority from Northern Europe (n=102)
- 89% of studies from Northern Europe were from the UK.
- No studies were from Eastern Europe
- 10 studies from multiple countries

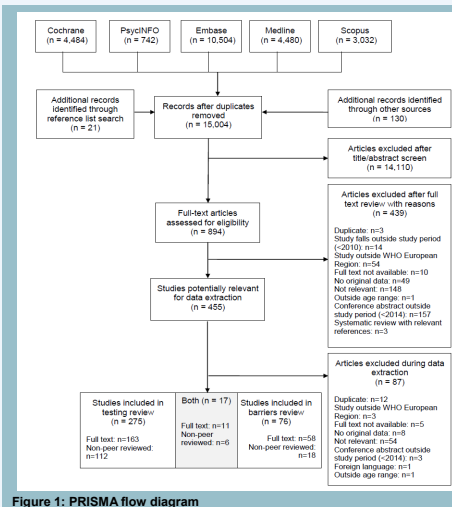


Figure 1: PRISMA flow diagram

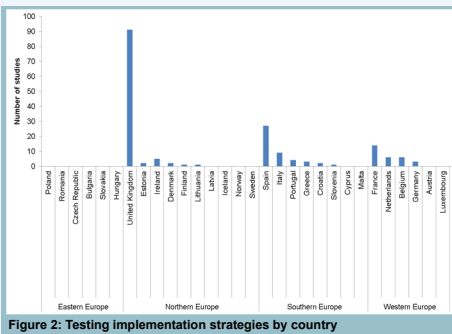


Figure 2: Testing implementation strategies by country

- Testing rates and positivity varied by:
 - HIV testing implementation strategy (Table 1) (e.g. risk group testing among key populations achieved high positivity)

Implementation strategy	Number of studies	Testing rates	Positivity
Testing in non-traditional settings	134	3.9%-100%	0.0%-16%
Integrated testing	54	10%-100%	0.0%-6.7%
Risk group targeting	63	10%-100%	0.0%-32%
Indicator condition testing	13	11%-91%	0.0%-5.4%
Universal testing	30	3.9%-85%	0.0%-1.8%
Novel testing	89		
Rapid testing	70	4%-100%	0.0%-32%
Self-sampling	13	10%-78%	0.0%-6.7%
Self-testing	5	-	0.3%-1.9%

Table 1: Testing rates and positivity by strategy

- Test setting (Table 2) (e.g. coverage and positivity lower in emergency departments than other departments)

Setting of HIV testing	Number of studies	Testing rates	Positivity
Emergency department	13	3.9%-66%	0.0%-1.2%
Other hospital departments	23	23%-99%	0.0%-5.3%
Sexual health (SH) clinic	14	19%-86%	0.1%-5.3%
General practice (GP)	29	3.7%-94%	0.0%-6.3%
Prisons	4	51%-67%	0.1%-3.9%
Pharmacy	4	45%	0.9%
Community-based sites	24	16%-74%	0.9%-7.1%
Outreach	22	51%-92%	0.0%-11%

Table 2: Testing rates and positivity by setting

- Other strategies used novel technologies including apps, text messages and social media (Table 3).
- 48 studies presented before and after intervention data; testing rates increased from 4%-72% to 8%-91%.

Strategy to increase testing	Descriptions	Testing rates (positivity, where available)	Other indicators
Campaign	National/European testing week campaigns Local campaigns	1.7%-56%	Leaflets distributed Website visits Number of tweets Numbers trained Partners tested
Education	Teaching sessions to increase awareness/provide skills (Medical staff: 15, patients: 4)	0.2%-92% (21% (partners))	Partners tested Tests requested Numbers re-tested
Communication technology	Online partner notification HIV pre and post test counselling videos Testing apps Text message recall	Test acceptance: 90%-94% (0.2%-9.5%)	Partners tested Tests requested Numbers re-tested
Clinical decision making tool	Automatic test ordering Computer testing prompt to clinician Patient-completed risk assessment	1.7%-87% (0.0%-3.0%)	Triggered prompts leading to test order
Audit	Routine testing with indicator conditions (IC) Routine testing in high prevalence areas Universal testing Partner notification practice Knowledge of testing guidelines	Inpatient: 0.0%-90% SH clinic: 58%-100% TB services: 63%-100% Antenatal screening: 63%-88% GP: 4.0%-31%	Missed opportunities for earlier diagnosis among patients with IC (22%-64%)

Table 3: Other strategies to improve testing rates

- 13 cost-effectiveness studies:
 - Biannual testing of MSM is unlikely to be cost-effective in Spain, France and Estonia.
 - Testing of MSM in community testing services is possible at acceptable cost.
 - Expanded testing at medical admission is more cost-efficient compared to expanded testing within general practice in the UK.
 - Routine testing is less cost efficient than targeted testing in Spain.

- 93 studies described barriers to HIV testing at three levels (Table 4):

Individual barriers
Lack of risk perception Low education and/or awareness Fear of disclosure and concerns surrounding confidentiality • Related to stigma, discrimination, immigration, deportation, job loss, social exclusion Fear of test result Fear of disease Knowledge on where to test Knowledge of healthcare system (for migrants) Cultures and values including religion and language barriers Self-testing fears included perceived inability to perform self-test, cost of kits, ability to interpret outcome, complexity of written instructions
Healthcare provider barriers
Lack of time Additional cost of HIV testing Lack of HIV related knowledge and training to perform test Lack of awareness of testing guidelines and policies Professional resistance Discrimination and stigma from providers Worry about patient acceptability
Institutional barriers
Lack of resources Lack of training of staff Lack of clear care pathway for those testing positive Lack of advocacy and promotion Migrant unfriendly services Policies, laws and regulations that prevent HIV testing

Table 4: Barriers to HIV testing in Europe

DISCUSSION

- This systematic review found several promising strategies to achieve high HIV testing coverage across a variety of settings in Europe.
- Audits showed considerable missed opportunities for earlier HIV diagnosis.
- There are a number of barriers to HIV testing at individual, provider and structural levels, similar to barriers reported in an earlier review⁴.
- Few intervention studies reported before/after data, making it difficult to evaluate the improvement in test coverage.
- The majority of testing interventions were implemented in the UK, with none from Eastern Europe.

ACKNOWLEDGEMENTS

We thank colleagues at Public Health England and the University of Copenhagen for their assistance in carrying out the systematic review screening, quality assessment and data extraction.

We would also like to thank ECDC for their support, including in translating the non-English articles.

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