

SCALING UP EARLY DIAGNOSIS FOR HIV THROUGH EXPANDED IMPLEMENTATION OF PROVIDER-INITIATED HIV TESTING

Policy briefing

Overview

Achieving the global and country commitments to end the AIDS epidemic as a public health threat by 2030 requires a significant expansion of HIV testing and linkage to care interventions that address the needs of key affected populations.

Across the European region, over 2 million people are living with HIV, and one-third of them do not know their status. In Europe, the HIV epidemic is still mainly concentrated to key populations. Barriers to early HIV diagnosis across Europe, include institutional and health care provider level barriers (accessibility of testing facilities, laws and regulations, stigma and discrimination, reluctance to offer the test) as well as patient level barriers (such as perceived low risk or fear of positive result)¹.

Health facilities represent a key point of contact with people with HIV who need HIV prevention, treatment, care and support. However, evidence suggests that many opportunities to diagnose individuals at health facilities are being missed. To scale up early HIV diagnosis it is thus essential to strengthen the implementation of “Provider-initiated HIV testing and counselling” (PITC). Provider-initiated testing and counselling implies an HIV testing service that is routinely offered in a health facility. Overall, PITC seeks to increase HIV testing coverage, to provide diagnosis earlier for those attending health facilities, to normalize HIV testing and to remove the need for personal motivation to seek HIV testing.

Provider initiated HIV testing encompass the routine offer of HIV testing by health care providers to all persons who present with certain symptoms, infections and conditions that are frequently associated with underlying HIV infection (indicator conditions (ICs)). Furthermore, in countries with concentrated HIV epidemics, PITC is also recommended at certain health settings such as: STI clinics, hepatitis or TB services, drug dependency clinics, or other health services for key population (prison health settings, antenatal care settings for migrant women etc.).

This policy brief calls for increasing early HIV diagnosis by implementing Provider-initiated HIV testing when individuals with ICs present to health care settings and strengthening PITC in other health care settings for key populations. The policy brief first examines the policy context and then provides a summary of evidence on PITC.

A second policy brief examines the diversification of testing offers, via testing in non-medical setting, testing by lay-providers and self-testing.

¹ J Deblonde, et al. Barriers to HIV testing in Europe: a systematic review. Eur J Public Health 2010; 20 (4): 422-432

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1. The policy context

<i>Key policy recommendations</i>	<i>Relevant recommendations</i>
<i>UNAIDS/WHO Guidance on provider-initiated HIV testing and counselling in health facilities (2007)</i>	<ul style="list-style-type: none"> - Ensure an “opt-out” approach - Adapt provider-initiated testing to the national epidemic, whether low-level, concentrated or generalised - Ensure that a supportive social, policy and legal framework is in place - Offer HIV testing to all adults, adolescents and children who present to health facilities with signs and symptoms suggestive of underlying HIV infection, including tuberculosis; and to children known to have been perinatally exposed to HIV - Provider initiated HIV testing should be considered for malnutrition clinics, STI, hepatitis and TB services, ANC settings and health services for key populations. - Accompany provider-initiated HIV testing with a package of prevention, treatment, care and support services
<i>EACS Expert Committee Indicator disease-guided testing for HIV (2008)</i>	<ul style="list-style-type: none"> - Offer HIV testing to those presenting with certain conditions: TB, AIDS-defining diseases, STI, certain cancers and laboratory abnormalities (<i>about 25 conditions specifically identified for the first time in Europe</i>) - Adopt opt-out testing for pregnant women - Target general practitioners, dentists, dermatologists, gynaecologists, STD clinicians and emergency physicians
<i>ECDC HIV testing: increasing uptake and effectiveness in the EU (2010)</i>	<ul style="list-style-type: none"> - Include HIV testing in any national strategies for the prevention and treatment of HIV, other STIs, viral hepatitis, tuberculosis and other HIV indicator diseases - Routinely offer HIV testing to all who present with indicator diseases identified by EACS
<i>HIV in Europe HIV Indicator Conditions: Guidance for implementing HIV testing in adults in healthcare settings (2012)²</i>	<ul style="list-style-type: none"> - Include IC-guided HIV testing in comprehensive national HIV testing strategies - Offer HIV testing to any person presenting with a potentially AIDS defining event and not known to be HIV+; a condition associated with an undiagnosed HIV prevalence of >0.1%; or with a condition that expert opinion considers likely to have an HIV prevalence of >0.1% - Offer HIV testing as a safety measure prior to the initiation of iatrogenic immunosuppressive medication - Offer HIV testing in any healthcare setting to any person if they are or have sexual partners of individuals known to be HIV positive; men having sex with men; a history of injecting drug use; a history of sex work; from a country with high HIV prevalence; pregnant women; infants born to HIV-infected women; requesting an HIV test; a sexually transmitted infection; a needle stick or percutaneous exposure (if known or highly likely HIV positive source)
<i>WHO End TB Strategy (2014)</i>	<ul style="list-style-type: none"> - Expand collaboration with HIV programmes - Develop integrated tuberculosis and HIV service delivery
<i>WHO Consolidated Guidelines on HIV Testing Services (2015)</i>	<ul style="list-style-type: none"> - Offer testing to all children and adolescents presenting with indicator conditions or signs and symptoms that suggest HIV, including oral candidiasis, failure to thrive, chronic cough and skin conditions - Offer testing to people with specific clinical conditions associated with HIV, such as cervical or anal cancer, herpes zoster or unexplained fever

² <http://hiveurope.eu/Portals/0/Guidance.pdf>

2. Summary of evidence

Several reviews have identified missed opportunities for early HIV diagnosis in health care settings and have found that PITC is highly acceptable and has increased the uptake of HIV testing^{3,4}. HIV test uptake has been shown to increase in settings where it is presented as part of routine care, such as antenatal services and sexual health clinics.

In low level or concentrated HIV epidemics, routine universal screening among the general population has a poor cost-benefit ratio as a public health intervention due to expected low prevalence. Indicator condition based HIV testing on the contrary, as a specific and essential core of PITC, has been proven effective (and cost effective) through several studies. In 2012, Sogaard and others⁵ published a Danish population based control study identifying indicator diseases for HIV infection. The study identified several disease categories as having an elevated risk of HIV diagnosis, and provided some early robust evidence that targeted HIV testing of people presenting with certain indicator conditions could result in earlier treatment and reductions in morbidity, mortality, and HIV transmission.

Routine testing for conditions with an HIV prevalence of >0.1% has been reported to be cost-effective in US and France, and has the potential to increase earlier diagnosis of HIV, and thus lead to earlier opportunities for care and treatment.⁶

In 2013, the results of the HIV Indicator Diseases across Europe Study (HIDES 1) was published⁷. HIDES intended to determine the prevalence of previously undiagnosed HIV for different ICs across Europe. Missed opportunities for diagnosing HIV in the past 5 years were identified, and included cytopaenia, dermatitis, herpes zoster, mononucleosis-like illness, and oral candidiasis. This phase of HIDES concluded that IC targeted HIV testing is feasible and effective in identifying undiagnosed HIV. The study also noted that challenges exist, particularly engaging clinicians from other specialties and ensuring that roll out and guidelines address variations across Europe.

Additionally, in 2013, a case-control study using The Health Improvement Network (THIN) general practice database was published in the UK⁸. The results identified 12 ICs as significantly associated with HIV in general practice settings. The study concluded that general practitioners could offer HIV testing to those presenting with such ICs.

In 2015, another key general practice case-control study of ICs was published⁹. The study explored patient consultations in six general practices in the South-East of Amsterdam, and

³ Deblonde J., et al. Barriers to HIV testing in Europe: a systematic review. *Eur J Public Health* 2010; 20 (4): 422-432

⁴ Kennedy CE, et al. Provider-initiated HIV testing and counselling in low- and middle-income countries: a systematic review. *AIDS Behav.* 2013;17(5):1571-90.

⁵ Sogaard O.S. et al., *Morbidity and Risk of Subsequent Diagnosis of HIV: A Population Based Case Control Study Identifying Indicator Diseases for HIV Infection*, PLoS ONE, March 2012, Volume 7, Issue 3

⁶ Paltiel AD, Weinstein MC, Kimmel AD, Seage GR, Losina E, et al. (2005) Expanded screening for HIV in the United States – an analysis of cost–effectiveness. *N. Engl. J. Med.* 352(6): 586–595, Sanders GD, Bayoumi AM, Sundaram V, Bilir SP, Neukermans CP, et al. (2005) Cost-effectiveness of screening for HIV in the era of highly active antiretroviral therapy. *N. Engl. J. Med.* 352(6): 570–585; Yazdanpanah Y, Sloan CE, Charlois-Ou C, Le Vu S, Semaille C, et al. (2010) Routine HIV screening in France: clinical impact and cost-effectiveness. *PLoS ONE* 15(10): e13132

⁷ Sullivan, A et al. on behalf of the HIDES Study Group, Feasibility and Effectiveness of Indicator Condition – Guided Testing for HIV: Results from HIDES I (HIV Indicator Diseases across Europe study), *PLOS ONE* 8(1). 2013

⁸ Damery S. et al., Assessing the predictive value of HIV indicator conditions in general practice, *British Journal of General Practice*, June 2013.

⁹ Joore I.K. et al, *HIV indicator condition-guided testing to reduce the number of undiagnosed patients and prevent late presentation in a high-prevalence area: a case–control study in primary care*, *Sex Transm Infect*, 2015, 91:467–472.

the incidence of HIV ICs reported in their medical files prior to diagnosis. In the 5 years prior to HIV diagnosis, 58.8% of HIV cases had exhibited an HIV indicator condition, compared with 7.4% of controls. The study concluded that there were many opportunities for HIV IC-guided testing in primary care. The study also noted that there is an urgent need to identify the barriers and facilitators to implementing IC-guided testing by general practitioners.

In 2015, results of HIDES 2 became available¹⁰. This HIDES phase audited HIV testing behaviour in patients accessing care for a number of ICs. Participating centres reviewed the case notes of 7,037 patients presenting for each of the following ICs: tuberculosis, non-Hodgkin's lymphoma, anal and cervical cancer, hepatitis B and C, and oesophageal candidiasis. The study results show that persons presenting to healthcare settings with conditions widely accepted as ICs are not routinely HIV tested. Offer rates were higher in Southern Europe than in Northern Europe. The study identified that >100 HIV diagnoses were potentially missed (in a range either as low as 57 or as high as 226).

Implementation of Indicator condition guided HIV testing

The ECDC 2010 guidance highlights indicator condition (IC)-guided HIV testing as an important intervention, and a number of countries report that this is included in their national programmes; namely Belgium, Croatia, Estonia, Finland, France, Greece, Italy, Lithuania, Netherlands, Poland, Portugal, Romania and Spain. In the review of documents, 7 recommend IC-guided HIV testing (Croatia, Denmark, Greece, Italy, Latvia, Netherlands and the UK (five with reference to HIV in Europe guidance). Other studies however demonstrate poor implementation of this approach as HIV test offer rates in people presenting with ICs remain low across Europe, as shown in the HIDES study on auditing HIV testing. The offer rate for HIV testing among patients presenting with an IC was 86% overall (IQR 60–100%), with the lowest offer rate in Northern Europe (median 69%, IQR 33–70) and the highest in Eastern Europe (median 100%, IQR 97–100%).¹¹

An evaluation of HIV testing recommendations in specialty guidelines for the management of HIV indicator conditions in several European countries carried out as part of the project OptTEST found the majority of guidelines do not recommend testing. This means that clinicians managing ICs may be unaware of recommendations produced by HIV societies or the prevalence of undiagnosed HIV infection among these patients. For example, in Spain 104 guidelines were reviewed, and while the large majority 87.5% (91/104) discusses aspects HIV infection, only 36.5% (38/104) recommends HIV testing. In the UK 78 guidelines were reviewed, and HIV testing was recommended in six of 17 AIDS Defining Illness related guidelines (35%) and in 24 of 61 Indicator Condition relevant guidelines (39%).¹² An OptTEST study on the HIV IC based testing rates in Estonia concluded that they are low and have not improved in the last four years.¹³ Therefore, the OptTEST project developed and piloted a series of tools and methods to ensure that patients diagnosed with ICs are tested.¹⁴ Thus, one of the tools contributed to increased family physicians' (FP) willingness to increase quality of IC-guided HIV testing to reduce late diagnosis and linkage to care.¹⁵

¹⁰ Raben D. et al, *Auditing HIV Testing Rates across Europe: Results from the HIDES 2 Study*, PLoS ONE, November 2015, Volume 7, Issue 3.

¹¹ ECDC, *HIV Testing in Europe - Evaluation of the impact of the ECDC guidance on HIV testing*, 2017, p. 26.

¹² Lord E. et al. *Evaluation of HIV testing recommendations in specialty guidelines for the management of HIV indicator conditions*, HIV Medicine 2016, DOI: 10.1111/hiv.12430

¹³ Rütel K. & Lemsalu L. *Indicator condition-guided HIV testing in Estonia HepHIV 2017 Conference, Malta, January 2017;*

¹⁴ <http://www.opttest.eu/Tools>

¹⁵ R Lugo et al. *HIV Testing Improvement in Primary Care Through OptTEST's Indicator Condition-Guided Testing: The Tool-1 and Plan-Do-Study-Act Experience in Catalonia*, 2016

RECOMMENDATIONS

1. Include Provider-Initiated HIV testing in any national strategies for the prevention and treatment of HIV
2. Routinely offer HIV testing to anyone not known to be HIV positive and presenting with an IC, including bacterial pneumonia, dermatitis, diarrhoea, herpes zoster, lymphadenopathy, mononucleosis-type illness, oral candidiasis, peripheral neuropathy, pyrexia of unknown origin, sexually transmitted infection, TB, viral hepatitis, and weight loss.
3. Routinely offer HIV testing in health care settings for key populations (i.e. drug addiction centres, migrant health centres, prison health settings etc.)
4. Routinely offer HIV testing as a safety measure prior to the initiation of treatment using immunosuppressive medication.
5. Routinely offer HIV testing to infants born to HIV-positive women, Consider routine offer of HIV testing to all pregnant women.
6. Prioritise implementing IC-guided HIV testing among the following clinicians: general practitioners, gastroenterologists, haematologists, emergence and acute care physician, dentists, dermatologists, gynaecologists and STI clinicians.

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