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Suggested Title: HIV testing in Europe

How can primary care contribute?

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Undiagnosed HIV infection is a major challenge in the quest to achieve an AIDS-free world. Undetected HIV and late diagnosis are associated with ill health, increased risk of death from HIV/AIDS, and onward viral transmission, constituting a substantial burden to public health budgets worldwide. Roughly half of the 2.2 million people with HIV in Europe are undiagnosed.¹ These figures are mirrored in the UK and USA, where almost one quarter of over 100,000 and one sixth of 1.1 million people with HIV remain undiagnosed respectively.^{2,3} Unacceptably high proportions (up to 53%) of patients are diagnosed late (CD4 cell count <350 cells per μL).¹ Expansion of HIV testing is therefore key to improving HIV outcomes.

Early diagnosis followed by immediate antiretroviral treatment reduces HIV-related illness and death. Recent data from both the START (Strategic Timing of AntiRetroviral Treatment) and TEMPRANO ANRS 12136 trials have unambiguously shown that these benefits also extend to patients diagnosed at CD4 of 500 per μL and above.^{4,5} Timely diagnosis and treatment have additionally been shown to reduce onward transmission at both individual and population levels, indicating that treatment and prevention are inextricably linked,⁶ and routine HIV testing is considered cost-effective even when combining one time HIV screening for the whole population with more frequent testing in subpopulations at risk.⁷

Given these facts, why is Europe (and indeed the USA) performing so poorly in terms of undiagnosed HIV and what can be done to tackle this situation?

General practice is an ideal place to offer HIV testing and diagnosis. For most patients, general practice is the initial point of access to care for routine health screening and management of their long-term conditions, and serves as a gateway for referral to specialist services. Nevertheless, uptake for HIV testing in primary care has remained

low and many opportunities of early diagnosis of HIV in primary care are being missed.⁸ In this edition, Joore et al used a case-control design elegantly to show that patients attended general practice more frequently during the year preceding diagnosis and had significantly more blood tests than a matched control group. Indicator conditions were also significantly more common in HIV patients compared to control in up to five years preceding diagnosis. The implications of this study for general practice could be profound as it strengthens the case for more testing in primary care: In addition to offering testing according to the known risk categories, general practice teams (general practitioners, nurses, and health care assistants) should be offering HIV testing to patients who start seeking care more frequently, and in particular to those who require a blood test for further investigation.

Given the mounting evidence of the benefits of testing in primary care, why aren't general practices testing more? Reasons for this lie at systemic, organisational, and personal levels. Variations in dynamics of national epidemics,⁶ in public health policy and organisation of health care systems,⁹ and shrinking health care budgets have hampered establishment of a uniform programme across Europe. The contribution of primary care to national testing also varies from playing a key role (e.g. Netherlands and France), to little involvement (e.g. the UK), to not doing any HIV testing at all (e.g. Slovakia and Italy).¹⁰ Primary care centres are diverse spaces with variations in skill mix of staff, organisational structure and management style, preventing integration of a uniform HIV testing guidance into clinical practice.¹¹ Furthermore, even in countries such as the Netherlands (where primary care is considered an equal partner in the national sexual health policy) and the UK (that has national guidelines promoting universal testing in primary care settings located in high prevalence areas), testing activity in practices has remained low.^{12 13} Factors such as anxiety and stigma, exceptionalism to testing, and lengthy pre-test counselling have been identified as barriers to testing amongst practitioners.^{11 12 14} However, this data is in stark contrast to the attitudes of patients who are likely to accept a test being offered.^{12 15}

So, what can be done to better promote testing in primary care? First of all, let's spread the good news: Recent advance in treatment and specialist care should encourage the general practice teams to confidentially offer HIV testing to their patients, opening windows for early diagnosis and timely treatment. For most patients, testing in primary care is an opportunity both to receive a clean bill of sexual health and key sex education

advice. More education and training for general practitioners (GPs) is needed to make clinicians aware of the large numbers of PLHIV that remain undiagnosed and are likely to be well when attending primary care services. As shown recently, HIV testing can easily be integrated into routine registration checks, increasing both numbers diagnosed and early diagnosis.¹⁵ GPs should seek every opportunity to offer HIV testing to those starting to attend more frequently or with indicator conditions. Last but not least, there is a stark contrast between evidence based, disease-focused discourse of specialists and the general practice narratives focusing around patient stories and individual care, hampering translation of specialist guidance into primary care.¹⁶ Therefore, any guidance should be adapted to the realities of primary care (e.g. by highlighting indicator conditions common in this setting), and training should focus on communication skills and reflect the narratives of the local population.

Primary care is well established in most of Europe and is likely to play a greater role in providing care for PLHIV in the future. Integration of routine HIV testing into primary care will invariably increase GP awareness and knowledge about HIV, and expand access to care for patients that have remained yet undiagnosed. For the majority of patients however testing in primary care is a great opportunity to learn about their own status and how to keep healthy, further contributing to the de-stigmatisation and normalisation of the infection.

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