EDITORIAL

Hitting the right target: Diagnosing undiagnosed HIV patients in the Netherlands

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In the post-2014 era of the HIV epidemic, the Joint United Nations Program on HIV/AIDS (UNAIDS) has set the 90-90-90 target with the ambitious goal of ending the AIDS epidemic by 2030.[1] The aim is that by 2020, 90% of people who are HIV infected will be diagnosed, 90% of those who are diagnosed will be receiving antiretroviral treatment (ART), and 90% of those on ART will be virally suppressed. Once undetectable, forward transmission stops. Nonetheless, in the Netherlands, fewer than 90% of HIV-infected patients knew their status by the end of 2015.[2] Comparable with other Western countries, the HIV epidemic in the Netherlands is concentrated in key populations such as men who have sex with men and individuals from HIV-endemic countries.[2] Successful interventions have mainly targeted pregnant women and gay men. Implementing effective strategies focusing on migrant populations proves to be harder, not in the least due to stigma. However, also outside these key populations, a considerable number of HIV-infected people remain undiagnosed.

How can we best trace those individuals, both inside and outside key populations, who are unaware of their status? In this issue of the Netherlands Journal of Medicine, Luiken and colleagues present a cross-sectional study in which they investigated the effect of non-targeted HIV testing at emergency departments in Amsterdam and Rotterdam.[3] If anywhere, undiagnosed individuals are among the people living in these known hot spots of the Dutch HIV epidemic. In their study, Luiken et al. intended to approach over 7500 patients regardless of their reasons for visiting, and found only two new HIV diagnoses. Importantly, both of these two heterosexual male migrants already had clues in their histories suggestive of HIV. The characteristics of the non-participating patients remain unknown, but the study also reports insightful results regarding anonymously tested patients in this group. This did not result in a single positive test. With this low yield of newly diagnosed HIV infections, non-targeted HIV testing at Dutch emergency departments was not considered cost-effective.

Evidently, every new HIV diagnosis is one that counts. Yet the observed rate is strikingly low considering the known prevalence in the participating cities. The inclusion of a relatively low number of persons from high-risk groups partly accounted for this. This fact in turn helps to calibrate interventions to reach the 90-90-90 target. The results suggest that we can identify people at risk for HIV, even outside known key populations and at emergency departments. This also corresponds with national and European guidelines that recommend HIV testing in individuals presenting to any healthcare setting with risk factors known as HIV indicator conditions.[4-6]

Two factors are vital to perform successful targeted screening: first, to identify people at risk both inside and outside key populations by recognising HIV indicator conditions, and second, to use the right diagnostic tests. To start with the first, HIV indicator conditions should always trigger HIV testing regardless of a patient's background. HIV indicator conditions are generally associated with an HIV prevalence of at least 0.1%.[6] HIV testing is cost-effective above this prevalence threshold.[6-9] They can indicate advanced HIV infection associated with decreased cellular immunity which include obvious cases such as tuberculosis, but also involve patients presenting with herpes zoster, seborrhoeic eczema or atypical psoriasis. Unfortunately, even in the case of well-established HIV indicator conditions, the testing frequency remains low.[10] It is important to consider that population-wide screening of patients with these HIV indicator conditions is clearly cost-effective, despite the fact that the majority of tests ordered by an individual clinician will be negative.[8,9] Mononucleosis-like illness associated with acute retroviral syndrome during primary HIV infection (PHI) is also regarded as an HIV indicator condition. In a large European-wide study, the HIV prevalence in individuals presenting with a mononucleosis-like illness approaches 4%.[6] Diagnosing HIV during PHI provides an important opportunity for counselling and ART initiation, and can interrupt

forward HIV transmission early as well as prevent future HIV indicator conditions associated with advanced HIV infection. In recent years, research stressing the importance of early diagnosis and immediate treatment of PHI has accumulated.[11-14] Cases have been reported where immediate treatment of PHI likely helped to control HIV after subsequent ART interruption.[15] While an estimated 50 to 90% of patients with a recently acquired HIV experience an acute retroviral syndrome and frequently contact healthcare facilities, the diagnosis is often not considered.[16,17] At present, algorithms to diagnose PHI in specific risk groups are being developed.[18] Second, regarding diagnostics, an ELISA Combotest is suitable to test patients who are suspected of having advanced HIV infection because of associated HIV indicator conditions. When PHI is considered, patients can benefit from screening with newer PCR techniques instead of ELISA to decrease false-negative results,[19,20] a testing strategy that was not, however, used in the present study.

Unfortunately, despite adequate testing facilities, testing based on clinical symptoms suggestive of PHI or a more progressed HIV infection remains difficult.[10,17,21,22] Clinicians should be aware of the possibility of HIV in those patients presenting with HIV indicator conditions, especially if they are from high-risk groups including gay men, heterosexual individuals with multiple sex partners, and migrants from HIV-endemic areas. This warrants targeted, pro-active, and repeated HIV testing by clinicians. Moreover, strategies such as self-testing and online algorithms suggesting an HIV test upon indication could prove useful to expand coverage. An ongoing Dutch initiative in this field is the HIV Transmission Elimination AMsterdam (H-Team) which includes the Netherlands Cohort Study on Acute HIV Infection (NOVA), focusing on PHI.[23] Key populations are increasingly reached by these efforts. In Dutch emergency departments, the implementation of a simple screening algorithm could help identify those at risk for HIV infection, and could also help to target those who are currently not reached within key populations or who do not belong to known key populations.

Currently, the 90% target is not reached in the Netherlands. In line with the suggestion by Luiken et al. targeted HIV testing based on risk factors is an alternative approach to decrease the number of undiagnosed people living with HIV in all populations. Awareness among clinicians of HIV indicator conditions and PHI, and subsequent adequate and repeated HIV testing merit our attention. HIV detection is a joint effort by clinicians across disciplines. If together we can improve the cascade of HIV care, a 90-90-90 future lies ahead.

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