REUE | Editorial

Nonurgent HIV serology in the Emergency Department: the dejatuhuella 2.0 project

Proyecto dejatuhuella 2.0

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HIV infection is a pandemic that has now been with us for 40 years. Since the beginning of the epidemic, more than 70 million people have acquired the infection and approximately 35 million have died.[1] Each year, nearly one million people die from this cause.[1]

Two years ago, the Spanish Society of Emergency Medicine (SEMES) launched the *dejatuhuella* project, establishing recommendations for ordering non-urgent HIV serology for patients presenting to emergency departments (EDs) with conditions associated with a higher prevalence of HIV infection and frequently treated in these settings: sexually transmitted infections (STIs), HIV post-exposure prophylaxis, herpes zoster, chemsex practice, community-acquired pneumonia, and mononucleosis-like syndrome.[2]

Several reasons motivated this decision. First, it is estimated that 13% of HIV infection in Spain remains undiagnosed,[3] contributing to ongoing transmission. The R_0 (the average number of secondary cases generated by an infected individual) for HIV ranges from 2 to 4.[4] Second, nearly 50% of patients are diagnosed late—when they present with fewer than 350 CD4 lymphocytes/µL—which results in poorer prognosis, reduced quality of life, and increased resource use. Third, former studies demonstrate the effectiveness of screening in EDs, with a prevalence of undiagnosed HIV infection of 0.6%.[5] Evidence indicates that HIV testing is cost-effective when the prevalence of undiagnosed HIV exceeds 0.1%.[6,7] Fourth, it has been observed that newly diagnosed HIV patients have, on average, 2 ED visits in the 3 years prior to diagnosis,[8] representing missed opportunities for HIV detection. Finally, ED-based screening opens the door to diagnosing patient profiles who do not typically engage with other health care levels, often because they are young and without comorbidities.

During this period, SEMES has implemented various strategies to support these recommendations, including research studies,[9-11] multiple training activities—among them a continuing education course—and the creation of a dedicated website compiling all educational and research materials generated to date (https://dejatuhuella.semes.org).

However, EDs are high-demand care settings where implementing new clinical practice guidelines or protocols with high adherence is challenging—particularly when requesting a test whose result will not affect immediate discharge decisions or treatment. In general, across all care levels, adherence to clinical guidelines in real practice is low.[12] Numerous barriers hinder both implementation and long-term maintenance.[13] A systematic review[14] showed that effective strategies often involve multiple components, and that single-strategy approaches, such as purely educational interventions, are less effective.

Therefore, SEMES has decided to move one step further. The new *dejatuhuella* 2.0 strategy is part of a broader strategic plan of the Society, built on 4 key pillars: education, research, communication, and management. The Society's commitment was formalized in Madrid on March 31st, 2022, when the presidents of the various regional delegations—or their representatives—signed their adherence to the strategic plan. Perhaps the most innovative aspect of the new plan lies in its management strategies, based on four fundamental points. First, the creation of an HIV Hospital Network adhering to screening recommendations, with an emergency physician in each region leading the project to recruit as many local hospitals as possible. Second, establishing follow-up indicators to allow near real-time assessment of outcomes. Third, defining quality criteria that can be incorporated into the SEMES accreditation process for EDs. Fourth—and arguably the most important—automation of the process.

Once the need to address hidden and late HIV diagnosis is established, and given the unique opportunity presented in EDs, we must consider how to overcome the barriers to maintaining the program in a complex environment such as the ED. Automation could improve adherence to recommendations, especially over

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time, and expand screening to all conditions associated with increased HIV risk—not only those included in the initial SEMES recommendations. Of note, the Spanish Ministry of Health's Guidelines for Early HIV Diagnosis in Health care Settings recommend serology in up to 30 clinical conditions.[15]

It is difficult for an emergency physician, during routine clinical work, to keep all these conditions in mind—especially those seen infrequently. However, automated algorithms integrated into ED information systems may help ensure that no patient goes unnoticed and that all clinical situations associated with increased HIV risk are included. On the other hand, although large epidemiological studies are lacking to determine HIV prevalence in migrant populations, a Spanish study identified an incidence of 1.7% among asymptomatic immigrants, rising to 3.8% in sub-Saharan populations[7]. Available evidence suggests that universal screening may be justified in these groups, particularly those from high-prevalence regions. Although Spain's healthcare organization complicates nationwide automation, coordinated leadership through the HIV Hospital Network may help achieve this goal.

Through automation, ED information systems could automatically recommend ordering non-urgent HIV serology in various scenarios: (1) if any of the 30 HIV-associated conditions are present in the patient's past medical history and no prior serology exists; (2) based on demographic data indicating origin from high-prevalence countries; (3) based on triage complaints suggestive of STIs; (4) when certain laboratory tests are ordered, such as urethral, vaginal, or anal swabs, serology, urine antigen tests, toxicology, or Paul-Bunnell testing; (5) when specific treatments—such as intramuscular ceftriaxone—are prescribed, often following an STI diagnosis; and (6) when ED diagnoses match any of the 30 conditions described in the Ministry's guidelines.[15] An additional strategy would be creating specific laboratory panels that include HIV serology for certain processes commonly treated in EDs.

In conclusion, we must avoid missed diagnostic opportunities. There is clear and compelling evidence supporting HIV screening programs, and EDs could play a significant role in improving current rates of hidden infection and late diagnosis. Beyond education and research, automation—while facilitating emergency physicians' workflow—is key to achieving the best results and sustaining them over time.

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