

# Researchers seek best methods for screening and counting HIV in the hospital

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The fight against HIV remains a top priority for physicians across the country—and includes questions on how best to understand its prevalence and when to test patients for the virus.

University of Cincinnati researchers presented results of two studies on HIV at this year's Society for Academic Emergency Medicine annual conference, held May 13-17 in Dallas. Both were led by assistant professor of emergency medicine Michael Lyons, MD, MPH, who focuses his research on HIV screening in emergency departments and directs UC's HIV Early Intervention Program.

## Selective Screening Works

In the first study, Lyons and collaborators found that more limited screening by trained testing counselors in the emergency department (ED) was just as effective at identifying new cases as was a more large-scale and broad-based screening effort.

While universal HIV screening is recommended, many are still uncertain about the best criteria for patient selection or the best way to conduct screening programs.

"It would be helpful to understand how to conduct screening in the most effective and least costly way," says the study's first author, Lucia Derks, MD, a first-year resident in emergency medicine, "but the most efficient

methods to identify undetected cases of HIV remain unknown."

In their review, researchers focused on three distinct time periods within the counseling and HIV testing program at University of Cincinnati Medical Center.

Each time period used identical program methods, but differed in the level of available staff. For the first and third time periods, there was a single testing counselor for the entire emergency department. For the second period, staffing was sufficient to approach all at-risk patients for HIV screening.

Reviewing the records, the team found that a greater proportion of screened patients tested positive for HIV during the first and third time periods.

"When we attempted to implement the screening fully," says Lyons, "we found that the number of cases detected fell dramatically. This suggests that screening may perform better when it's implemented on a selected basis, and that provider judgment should be further studied as a way to increase the number of patients diagnosed with HIV while decreasing the number who need to be tested."

## **Estimating Prevalence Two Ways**

In another study also presented at SAEM, researchers investigated the best way to estimate prevalence of HIV in a community, using either blood tests in the [emergency department](#) or unused laboratory samples.

"It's important to know how many people have a disease (prevalence) in a given setting, as that guides many types of planning and intervention efforts," says the study's first author, Joshua Denney, MD, a second-year resident in [emergency medicine](#). "Just knowing how many cases are

diagnosed isn't sufficient, because often many cases aren't diagnosed."

He says it is possible to estimate HIV prevalence by obtaining unidentified blood samples from the hospital laboratory—a convenient method, but one that excludes patients who did not get blood tests as part of their treatment. Another option is to obtain samples directly from patients during their ED care.

Though laboratory samples may provide a reasonable estimate of how many people are affected by a disease, he says it may not be sufficient because 1) less than half of ED [patients](#) have blood drawn as part of their care and, 2) many people who do not have blood drawn have an undiagnosed disease.

In a comparison of both methods, researchers found an almost equal number of positive cases among both.

"In the case of HIV, this means that [screening](#) programs that only test people who are already having blood drawn are missing approximately half of the undiagnosed cases," says Lyons.

**More information:** "Yield Of Screening In The ED: Effectiveness Versus Efficacy," Kimberly Hart, Andrew Ruffner, MPH, D.B. Wayne, Christopher Lindsell, PhD, Matthew Sperling, Alexander Trott and Carl Fichtenbaum, MD.

"Differences in Prevalence Assessment Using Prospective Enrollment Versus Collection of Discarded Laboratory Remnants," Joshua Denney, Kimberly Hart, Matthew Sperling, Andrew Ruffner, MPH, D.B. Wayne, Alexander Trott, Christopher Lindsell, PhD, and Carl Fichtenbaum, MD.

Provided by University of Cincinnati

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