Test-and-Treat Success

Reduction in community-level viral load predicts HIV transmission decline

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When programs rapidly scale up widespread HIV testing and immediate antiretroviral treatment for those who test positive, this helps lower HIV transmission, which in turn contributes to curbing the epidemic.

A new study led by Maya Petersen, MD, PhD, of the University of California, Berkeley, School of Public Health, analyzed four papers published in 2019 that were based on randomized studies of HIV test-and-treat programs conducted in recent years in various sub-Saharan African nations.

All told, these studies were conducted in 105 communities that had an HIV prevalence (the proportion of the community living with the virus) of between 2% and 40%. The programs drove substantial increases in the proportion of people living with HIV who had a fully suppressed viral load.

Altogether, about a quarter of a million people were tested for the virus. Based on a sample of 40,000 people with HIV, the study authors found that between 3% and 70% of these individuals, depending on the community, did not have a fully suppressed viral load.

Both a higher percentage of HIV-positive people with detectable virus and a larger proportion of the overall community with unsuppressed virus were each associated with an increase in the HIV transmission rate.

The trials, Petersen says, “support the potential for universal testing approaches to reduce HIV transmission and improve community health. These results should galvanize us to take next steps, including optimizing testing and care for vulnerable populations and integrating population-based prevention, to work toward ending the epidemic.”

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