Favoring ARVs for HIV Subgroups May Better Thwart Epidemic

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In the absence of universal antiretroviral (ARV) treatment, prioritizing HIV meds for specific high-risk subgroups may have a greater effect on curbing the epidemic, aidsmap reports. Grounded in the fact that successful HIV treatment greatly lowers, and perhaps eliminates, the likelihood of transmitting the virus, this theory is derived from a new approach to identifying central drivers of the epidemic. Brian Williams, of the South African Centre for Epidemiological Modeling and Analysis, presented his epidemiological model at the 2014 Treatment as Prevention Workshop in Vancouver.

Williams and his team developed this model from HIV surveillance data about Can Tho, a south Vietnam province. His theory is based on a novel approach to analyzing the risk of HIV transmission: determining the number of people to whom an HIV-positive person may transmit the virus during his or her lifespan or time living with the virus. If this reproduction number, or R0, is smaller than 1 the epidemic will contract; if it is greater than 1, the epidemic will expand.

The researchers analyzed data on various subgroups of the 5,000 people living with HIV in Can Tho and determined that their average R0 was a relatively staggering 22. (Sub-Saharan Africa's average R0 is only about 5.) Consequently, at least 96 percent of the population would have to be on ARVs with a fully suppressed viral load in order for the treatment as prevention (TasP) tactic to end the local HIV epidemic.

The respective R0's for subgroups are as follows: female sex workers who inject drugs, 99; female sex workers, 77; men who have sex with men (MSM) who inject drugs, 27.4; non-MSM injection drug users, 21.5; non-injection drug using MSM, 6.1; clients of female sex workers, 0.061; low-risk women, negligible.

While prioritizing treatment specifically for the group with the highest R0, female sex workers who inject drugs, might seem logical, in fact it is the injection drug users in general who are at the core of the transmission network. These individuals are the most likely to serve as conduits of the virus, both acquiring the virus from and transmitting to others with high R0 scores.

Williams concluded that TasP would have the greatest effect on the future scope of the HIV epidemic in this area if ARVs were prioritized for those who inject drugs as well as for female sex workers.

To read the aidsmap story, click here.

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