# HIV May Be Evolving Into a Weaker Virus

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As HIV has evolves to evade the particulars of humans' immune systems, it may be becoming less virulent, at least in Botswana, NPR reports. Publishing their findings in the Proceedings of the National Academy of Sciences, researchers sequenced viral genes from about 2,000 women in Botswana and South Africa to compare how the ever-mutating virus evolved over time. Because the HIV epidemic began about a decade earlier in Botswana than in South Africa, this difference permitted the researchers to make inferences about how the passage of time is affecting the virus's evolution.

The researchers found that the HIV in the women from Botswana replicated about 10 percent more slowly than the HIV in the South African women. This difference likely shifts the average time that untreated HIV would take to progress to AIDS from 10 years to 12.5 years.

Previous research has suggested that various selective pressures, including varieties in the presence of human leukocyte antigen (HLA) genes, the order by which people with HIV are prioritized for antiretroviral (ARV) treatment, and the lifespan of people living with untreated HIV, may be causing HIV to lose its virulence over time. This is the first study to show such effects on a population level.

The findings may prove helpful in the search for new ARVs or an HIV vaccine, by giving researchers an idea of which parts of the virus they should target to bring the pathogen to heel.

To read the NPR story, click here.

To read the study abstract, click here.

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