

UGANDA POPULATION-BASED HIV IMPACT ASSESSMENT

UPHIA 2016-2017



The Uganda Population-Based HIV Impact Assessment (UPHIA), a household-based national survey, was conducted from August 2016 to March 2017 to assess the progress of Uganda's national HIV response.

UPHIA offered household-based HIV counseling and testing, with the return of results and referral to clinics for those who tested HIV positive, and collected information about the uptake of HIV prevention, care, and treatment services. The survey estimated HIV incidence, viral load suppression (VLS), and the prevalence of HIV, syphilis, and seroprevalence of hepatitis B surface antigen at a population level. This survey is the first in Uganda to measure population-level VLS. The results provide information on national and regional progress toward control of the HIV epidemic. HIV incidence results will be presented in later publications.

UPHIA was led by the government of Uganda and conducted by the Ministry of Health in collaboration with ICAP at Columbia University. Funding for the survey was provided by the US President's Emergency Plan for AIDS Relief (PEPFAR) with technical assistance provided by the US Centers for Disease Control and Prevention (CDC). Other collaborating partners included the Uganda Virus Research Institute, Uganda Bureau of Statistics, World Health Organization (WHO Uganda), and UNAIDS.

KEY FINDINGS

HIV INDICATOR	Female	95% CI	Male	95% CI	Total	95% CI
Prevalence (%)						
0-14 years	0.7	0.4-1.1	0.4	0.1-0.6	0.5	0.3-0.8
15-49 years	7.5	6.9-8.1	4.3	3.9-4.7	6.0	5.5-6.4
15-64 years	7.6	7.1-8.2	4.7	4.3-5.1	6.2	5.8-6.7
Urban areas	9.8	8.8-10.9	4.6	3.8-5.4	7.5	6.7-8.3
Rural areas	6.7	6.0-7.4	4.7	4.2-5.2	5.8	5.2-6.3
Viral load suppression (%)						
0-14 years	N/A	N/A	N/A	N/A	39.3	17.9-60.7
15-64 years	62.9	59.8-66.1	53.6	48.8-58.5	59.6	56.8-62.5

95% confidence interval (CI) indicates the interval within which the true population parameter is expected to fall 95% of the time. Viral load suppression refers to the proportion of HIV-positive persons with an HIV RNA <1,000 copies per milliliter of plasma.

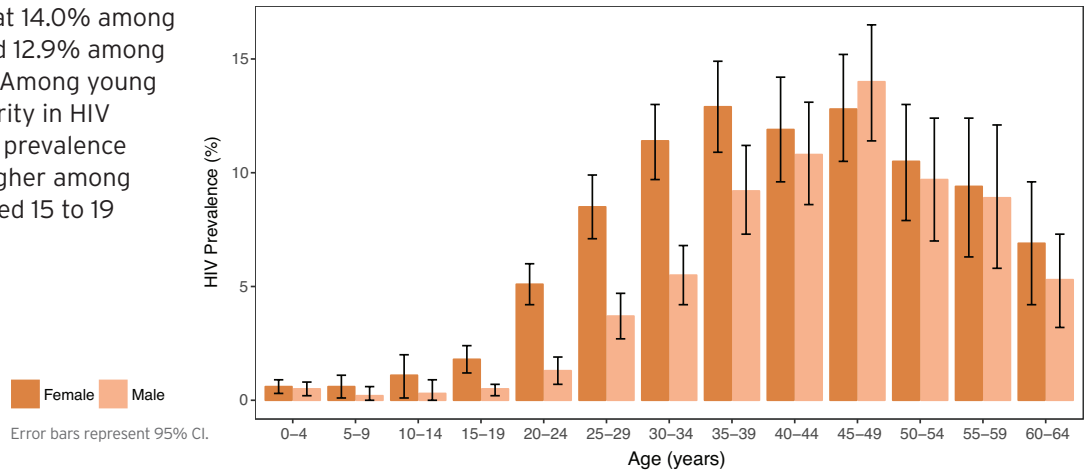
The prevalence of HIV among adults aged 15 to 64 in Uganda is 6.2%: 7.6% among females and 4.7% among males. This corresponds to approximately 1.2 million people aged 15 to 64 living with HIV in Uganda. HIV prevalence is higher among women living in urban areas (9.8%) than those in rural areas (6.7%).

The prevalence of HIV among children aged 0-14 is 0.5% which corresponds to approximately 96,000 children living with HIV in Uganda.

The prevalence of VLS among all HIV-positive adults aged 15 to 64 in Uganda is 59.6%: 62.9% among females and 53.6% among males. The prevalence of VLS in children aged 0-14 is 39.3%.

HIV PREVALENCE, BY AGE AND SEX

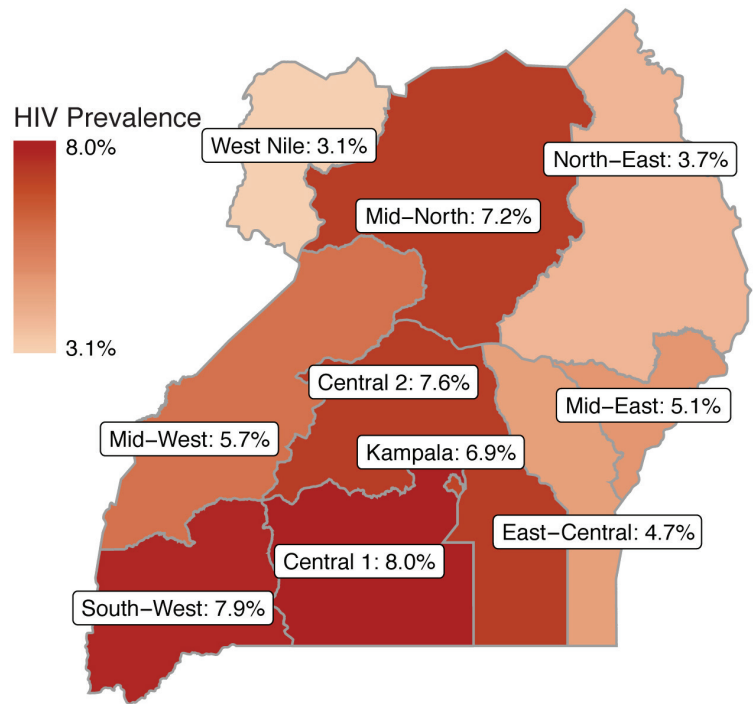
HIV prevalence peaks at 14.0% among men aged 45 to 49 and 12.9% among women aged 35 to 39. Among young adults, there is a disparity in HIV prevalence by sex. HIV prevalence is almost four times higher among females than males aged 15 to 19 and 20 to 24.



HIV PREVALENCE AMONG ADULTS, BY REGION

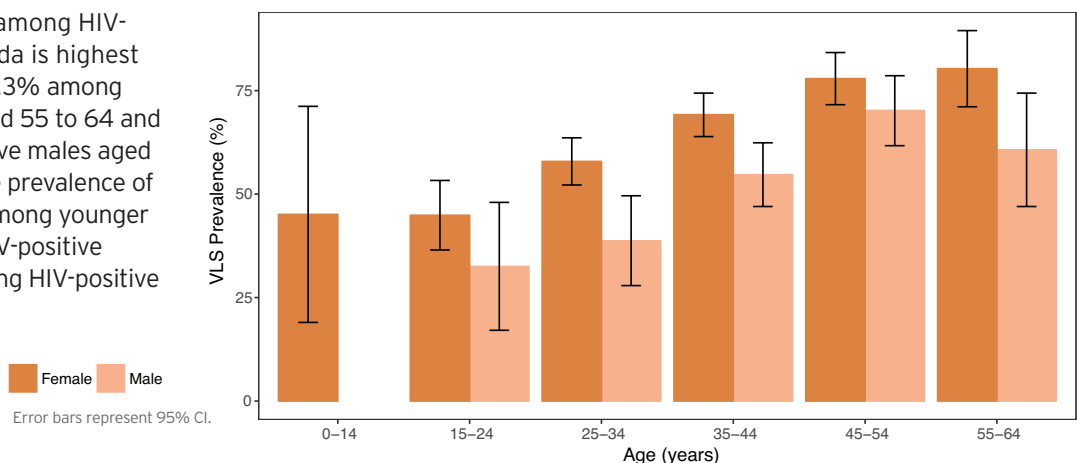
Among adults aged 15 to 64, the prevalence of HIV varies geographically across Uganda, ranging from 3.1% in West Nile region to 8.0% in Central 1 region.

Region	HIV Prevalence (%)	95% CI
Central 1	8.0	6.6-9.3
Central 2	7.6	6.1-9.0
Kampala	6.9	5.6-8.1
East-Central	4.7	4.0-5.4
Mid-East	5.1	4.0-6.2
North-East	3.7	3.0-4.4
West Nile	3.1	2.5-3.7
Mid-North	7.2	6.0-8.4
Mid-West	5.7	4.7-6.8
South-West	7.9	5.8-9.9
Total	6.2	5.8-6.7



VIRAL LOAD SUPPRESSION AMONG HIV-POSITIVE PEOPLE, BY AGE AND SEX

The prevalence of VLS among HIV-positive people in Uganda is highest among older adults: 80.3% among HIV-positive females aged 55 to 64 and 70.2% among HIV-positive males aged 45 to 54. In contrast, the prevalence of VLS is distinctly lower among younger adults: 44.9% among HIV-positive females and 32.5% among HIV-positive males aged 15 to 24¹.

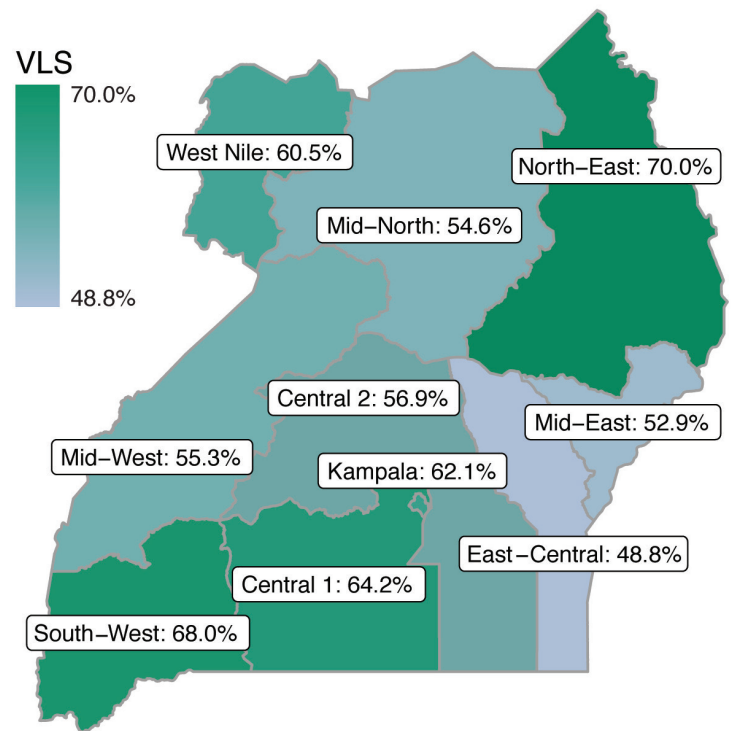


¹The estimate for males aged 0-14 has been suppressed because it is based on fewer than 25 unweighted cases. The estimates for females aged 0-14 and males aged 15-24 are based on 25-49 unweighted cases and therefore should be interpreted with caution.

VIRAL LOAD SUPPRESSION AMONG HIV-POSITIVE ADULTS, BY REGION

Among HIV-positive adults aged 15 to 64, prevalence of VLS varies geographically across the country, ranging from 48.8% in the East-Central region to 70.0% in the North-East region.

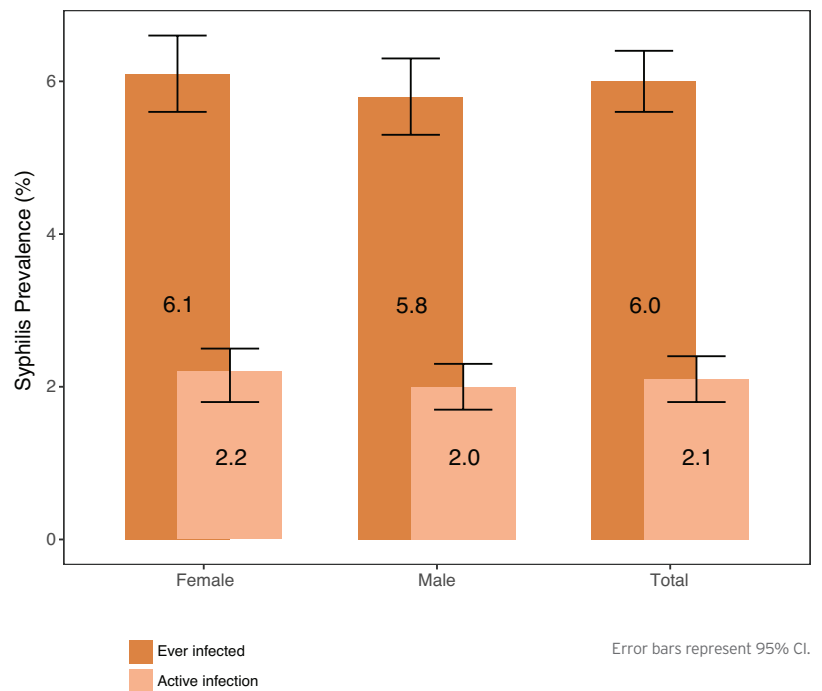
Region	VLS Prevalence (%)	95% CI
Central 1	64.2	55.7-72.7
Central 2	56.9	49.1-64.6
Kampala	62.1	53.5-70.7
East-Central	48.8	42.3-55.2
Mid-East	52.9	44.5-61.4
North-East	70.0	60.4-79.5
West Nile	60.5	50.5-70.6
Mid-North	54.6	45.5-63.7
Mid-West	55.3	46.2-64.5
South-West	68.0	60.3-75.8
Overall	59.6	56.8-62.5



SYPHILIS PREVALENCE AMONG ADULTS, BY SEX

Syphilis testing was conducted in each household using a serological dual non-treponemal and treponemal rapid diagnostic test.

Among adults aged 15 to 64 in the country, 6.1% of females and 5.8% of males have ever been infected with syphilis.² The prevalence of active syphilis infection is similar among men and women, at 2.2% among women and 2.0% among men aged 15 to 64.



² The percentage of adults ever infected with syphilis includes people with active infection. Participants whose test was reactive only to treponemal antibodies were considered ever infected. Participants whose test was reactive to both treponemal and non-treponemal antibodies were considered to have an active infection.

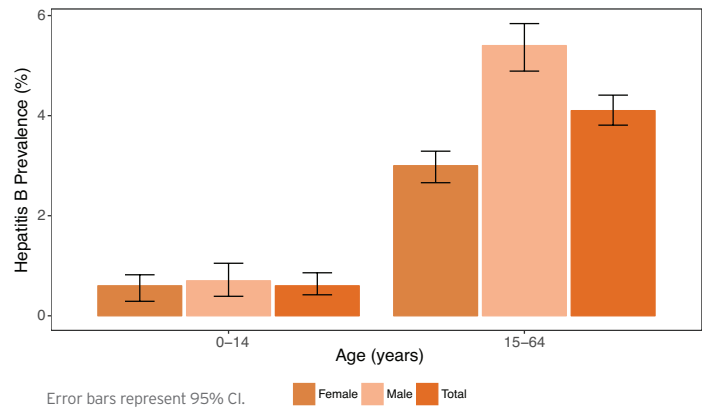
SEROPREVALENCE OF HEPATITIS B SURFACE ANTIGEN AMONG PERSONS AGED 0-64, BY REGION

Hepatitis B testing was conducted using a serological rapid diagnostic test for the hepatitis B surface antigen.³ The seroprevalence of hepatitis B surface antigen among persons aged 0-64 varies across Uganda, from 0.8% in

South-West region to 4.6% in Mid-North region.

The seroprevalence of hepatitis B surface antigen among adults aged 15 to 64 in Uganda is 4.1%. The prevalence is 5.4% and 3.0% in men and women aged 15-64, respectively. The prevalence is 0.7% and 0.6% in boys and girls, respectively, aged 0-14.

Region	Prevalence (%)	95% CI
Central 1	1.6	1.1-2.1
Central 2	2.0	1.5-2.6
Kampala	1.9	1.3-2.5
East-Central	2.7	2.1-3.4
Mid-East	2.1	1.7-2.5
North-East	4.4	3.6-5.3
West Nile	3.8	3.0-4.6
Mid-North	4.6	3.8-5.4
Mid-West	1.8	1.3-2.2
South-West	0.8	0.4-1.1



³ The majority of people who are seropositive for HBV sAg will turn out to have chronic HBV infection.

CONCLUSIONS

- The prevalence of VLS in Uganda of nearly 60% demonstrates that the national HIV program has made considerable progress in responding to its HIV epidemic.
- Gender, age, and regional variations in HIV prevalence, VLS, and prevalence of hepatitis B and syphilis infections should be utilized to further focus the national response.
- Subsequent reports will provide more data on progress toward achieving UNAIDS 90/90/90 goals, rate of the new infections, HIV-related behaviors, HIV testing and treatment, and other priority HIV program areas.

RESPONSE RATES AND HIV TESTING METHODS

Of 12,812 eligible households, 96.7% completed a household interview. Of 17,217 eligible women and 13,364 eligible men aged 15 to 64, 97.9% of women and 94% of men were interviewed. Response rates for blood test among women and men interviewed were 99.0% and 98.5% respectively. Of 10,793 eligible children aged 0 to 14, 87.5% were tested for HIV.

HIV testing was conducted in each household using a serological rapid diagnostic testing algorithm based on Uganda's national guidelines.

The PHIA Project is a multicountry project funded by PEPFAR to conduct national HIV-focused surveys that describe the status of the HIV epidemic. Results measure important national and regional HIV-related parameters, including progress toward 90-90-90 goals, and will guide policy and funding priorities. ICAP at Columbia University is implementing the PHIA Project in close collaboration with the CDC and other partners. See phia.icap.columbia.edu for more details.



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