SUMMARY SHEET | AUGUST 2022

UGANDA
POPULATION-BASED HIV IMPACT ASSESSMENT
UPHIA 2020-2021

UPHIA 2020
Uganda Population-based HIV Impact Assessment

The Uganda Population-based HIV Impact Assessment (UPHIA 2020-2021) was a national household-based survey among adults (defined as individuals aged 15 years and older) to measure the impact of the national HIV response. Conducted from February 2020 through March 2021 (with a pause from March 2020 until October 2020 due to the COVID-19 pandemic), UPHIA 2020-2021 offered HIV counseling and testing with return of results and collected information about uptake of HIV care and treatment services. This was the second survey in Uganda to estimate national HIV incidence, national and subnational prevalence of HIV and viral load suppression (VLS), defined as HIV RNA <1,000 copies per milliliter (mL). The first UPHIA, which defined adults as those aged 15-64 years, was conducted from August 2016 through March 2017. The results of these surveys provide critical information on national and subnational progress toward HIV epidemic control.

UPHIA 2020-2021 was led by the Government of Uganda through the Ministry of Health (MOH). The survey was conducted with funding from the United States (US) President's Emergency Plan for AIDS Relief (PEPFAR) and through technical assistance and partnership with the US Centers for Disease Control and Prevention (CDC). UPHIA 2020-2021 was implemented by ICAP at Columbia University and MOH in collaboration with other Government of Uganda entities including the Uganda Virus Research Institute (UVRI) and the Uganda Bureau of Statistics (UBOS) as well as regional referral hospitals and local government authorities.

The Government of Uganda and international development partners participated in the Steering Committee and Technical Working Group to provide input on survey planning and implementation.

KEY FINDINGS

HIV Indicator	Women	95% CI	Men	95% CI	Total	95% CI
Annual incidence (%)						
15-24 years	0.62	0.26-0.97	0.00	0.00-0.23	0.31	0.13-0.49
15-49 years	0.42	0.22-0.62	0.21	0.03-0.38	0.32	0.18-0.45
15-64 years	0.40	0.21-0.58	0.20	0.04-0.36	0.30	0.18-0.43
15 years and older	0.38	0.20-0.55	0.20	0.05-0.35	0.29	0.17-0.41
Prevalence (%)						
15-24 years	2.9	2.3-3.4	0.8	0.5-1.1	1.8	1.5-2.2
15-49 years	7.1	6.4-7.8	3.8	3.3-4.2	5.5	5.0-6.0
15-64 years	7.4	6.8-8.1	4.3	3.8-4.7	5.9	5.4-6.4
15 years and older	7.2	6.6-7.8	4.3	3.8-4.7	5.8	5.3-6.3
Viral load suppression (%)						
15-24 years	57.8	48.0-67.6	(43.5)	24.0-63.1	54.7	45.9-63.6
15-49 years	76.1	72.9-79.3	64.9	59.4-70.4	72.5	69.3-75.6
15-64 years	77.9	75.0-80.8	69.2	64.4-73.9	74.9	72.1-77.7
15 years and older	78.3	75.5-81.1	69.8	65.1-74.5	75.4	72.6-78.1

Viral load suppression is defined as HIV RNA <1,000 copies per milliliter among all HIV-positive adults.
Estimates based on a denominator between 25 and 49 are indicated by a parenthesis and should be interpreted with caution.

Annual incidence of HIV among adults (defined as those aged 15 years and older) in Uganda was 0.29%: 0.38% among women and 0.20% among men.

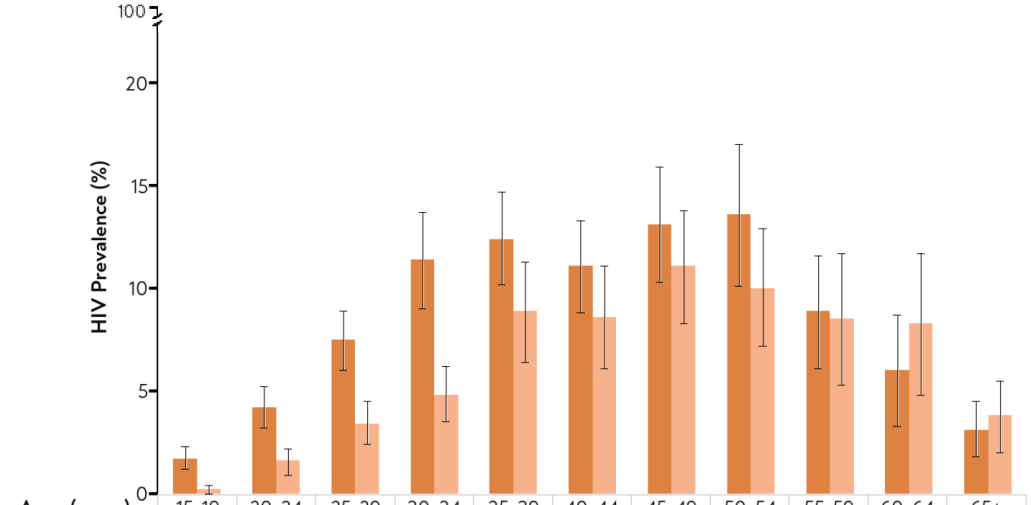
Prevalence of HIV among adults in Uganda was 5.8%. HIV prevalence was higher among women (7.2%) than among men (4.3%).

The prevalence of VLS among adults living with HIV in Uganda was 75.4%: 78.3% among women and 69.8% among men. Note, these estimates of VLS are among all adults living with HIV regardless of their knowledge of HIV status or use of antiretroviral therapy (ART).

See phia.icap.columbia.edu for more details.

This project is supported by the US President's Emergency Plan for AIDS Relief (PEPFAR) through CDC under the terms of cooperative agreement #U2GGH002173. The findings and conclusions are those of the authors and do not necessarily represent the official position of the funding agencies. The results presented here should be considered preliminary and are subject to change.

HIV PREVALENCE AMONG ADULTS



Ages (years)	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+
Women	1.7%	4.2%	7.5%	11.4%	12.4%	11.1%	13.1%	13.6%	8.9%	6.0%	3.1%
Men	0.2%	1.6%	3.4%	4.8%	8.9%	8.6%	11.1%	10.0%	8.5%	8.3%	3.8%

Error bars represent 95% CIs.

HIV PREVALENCE, by AGE and SEX

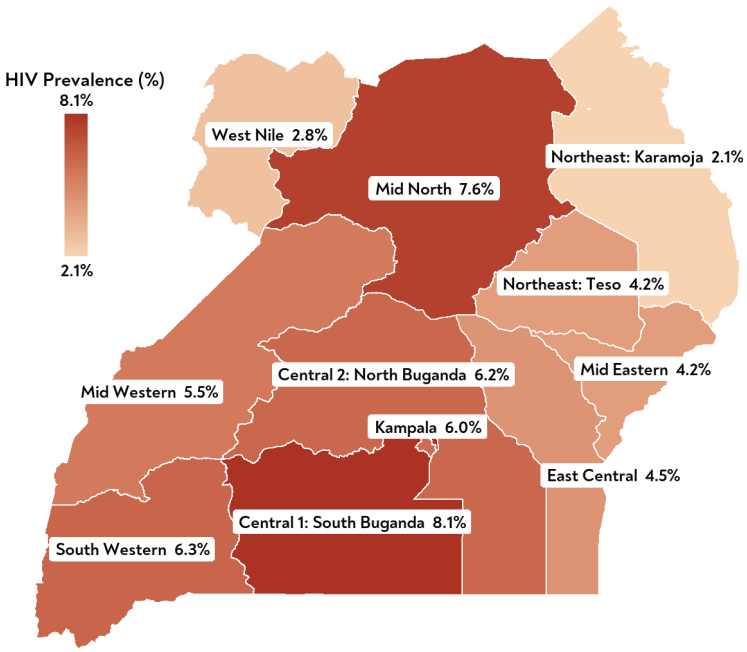
Among adults (ages 15 years and older), HIV prevalence ranged from 1.7% among older adolescent girls aged 15-19 years to 13.6% among women aged 50-54 years, and from 0.2% among older adolescent boys aged 15-19 years to 11.1% among men aged 45-49 years. HIV prevalence was more than twice as high among women than among men in each 5-year age group from ages 15-19 years through 30-34 years.

HIV prevalence increased markedly in early adulthood, particularly among women from ages 15-19 to 30-34 years and to a lesser extent among men, from ages 15-19 to 35-39 years.

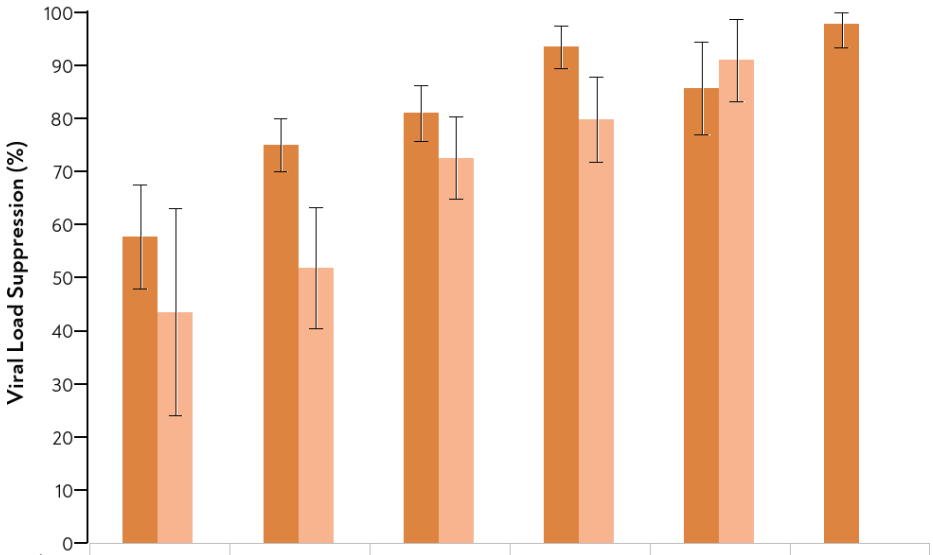
HIV PREVALENCE, by REGION

Among adults aged 15 years and older, HIV prevalence varied geographically across Uganda, ranging from 2.1% in Northeast: Karamoja region to 8.1% in Central 1: South Buganda region.

Region	HIV Prevalence (%)	95% CI
Central 1: South Buganda	8.1	6.7-9.6
Central 2: North Buganda	6.2	5.4-6.9
East Central	4.5	3.6-5.3
Kampala	6.0	5.2-6.8
Mid Eastern	4.2	2.8-5.6
Mid North	7.6	5.7-9.6
Mid Western	5.5	4.3-6.7
Northeast: Karamoja	2.1	1.3-2.8
Northeast: Teso	4.2	2.5-6.0
South Western	6.3	4.5-8.1
West Nile	2.8	1.3-4.3



VIRAL LOAD SUPPRESSION AMONG ADULTS LIVING WITH HIV



Ages (years)	15-24	25-34	35-44	45-54	55-64	65+
Women	57.8%	75.0%	81.1%	93.5%	85.7%	(97.9%)
Men	(43.5%)	51.9%	72.6%	79.8%	91.0%	*

Viral load suppression is defined as HIV RNA < 1,000 copies per mL among all HIV-positive adults.
Estimates based on a denominator between 25 and 49 are indicated by a parenthesis and should be interpreted with caution.
Estimates based on a denominator less than 25 have been suppressed with an asterisk.
Error bars represent 95% CIs.

VIRAL LOAD SUPPRESSION, by AGE and SEX

The prevalence of VLS among adults (ages 15 years and older) living with HIV in Uganda was 75.4%: 78.3% among women and 69.8% among men. The proportion of those with suppressed viral loads ranged from 57.8% among adolescent girls and young women (AGYW) aged 15-24 years to 97.9% among women aged 65 years and older and from 43.5%[1] among adolescent boys and young men (ABYM) aged 15-24 years to 91.0% among men aged 55-64 years. VLS was achieved in a substantially higher proportion of women than among men at ages 25-34 and 45-54 years. AGYW and ABYM aged 15-24 years generally had lower rates of VLS than older women and men, except for men aged 25-34 years, only about half of whom had suppressed viral loads.

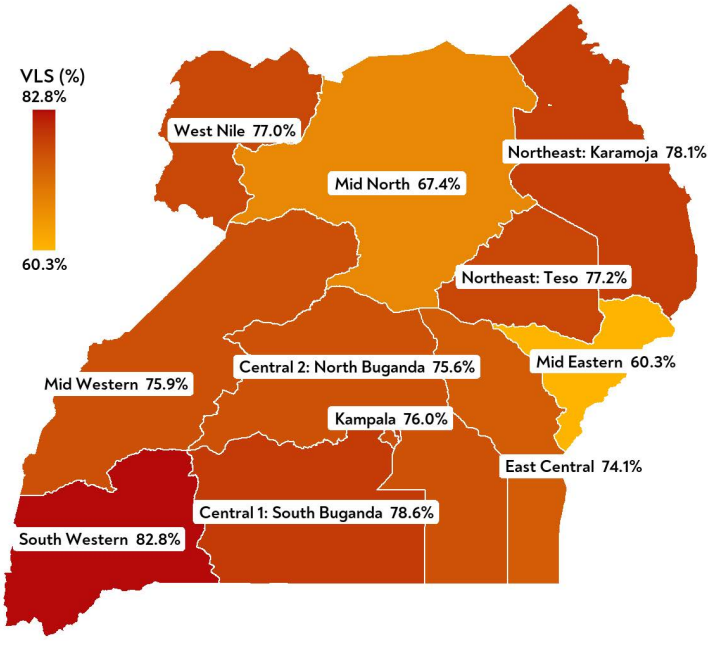
[1] Note this estimate was based on a denominator between 25 and 49 and should be interpreted with caution.

VIRAL LOAD SUPPRESSION AMONG ADULTS LIVING WITH HIV, by REGION

Among HIV-positive adults aged 15 years and older, the prevalence of VLS ranged from 60.3% in Mid Eastern region to 82.8% in South Western region. The estimate in Mid Eastern was markedly lower than in Central 1: South Buganda (78.6%), Northeast: Teso (77.2%) and South Western.

Region	VLS Prevalence (%)	95% CI
Central 1: South Buganda	78.6	73.7-83.6
Central 2: North Buganda	75.6	67.3-83.9
East Central	74.1	61.2-87.1
Kampala	76.0	68.8-83.3
Mid Eastern	60.3	50.3-70.3
Mid North	67.4	58.3-76.5
Mid Western	75.9	66.7-85.0
Northeast: Karamoja	78.1	68.6-87.6
Northeast: Teso	77.2	71.8-82.6
South Western	82.8	76.0-89.6
West Nile	77.0	66.4-87.6

VLS=Viral load suppression.

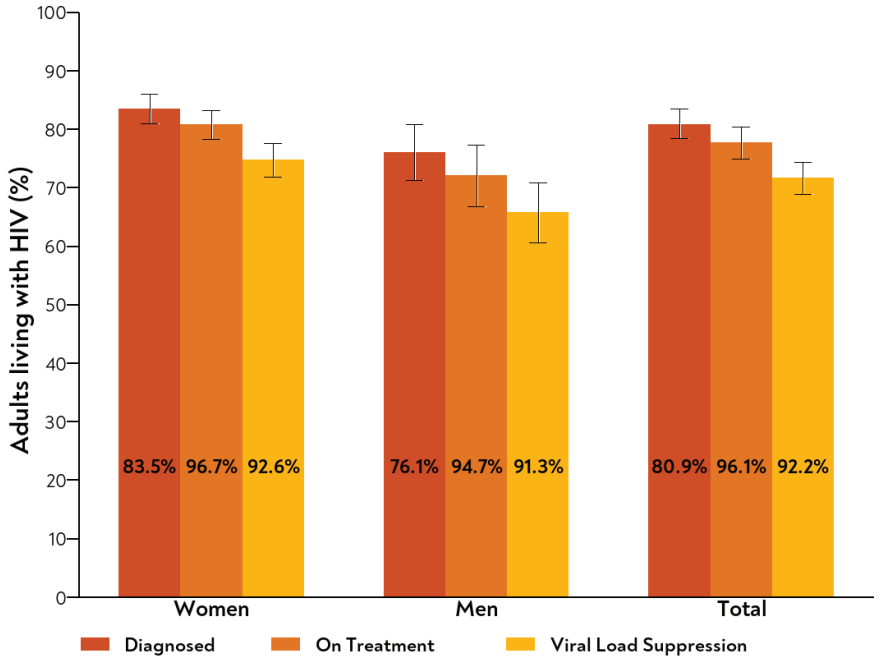


ACHIEVEMENT OF THE 95-95-95 TARGETS AMONG ADULTS LIVING WITH HIV

95-95-95: Treatment targets to help end the HIV epidemic

The Joint United Nations Programme on HIV/AIDS (UNAIDS) set the 95-95-95 targets with the aim that by 2025, 95% of all people living with HIV will know their HIV status; 95% of all people with diagnosed HIV infection will receive sustained ART; and 95% of all people receiving ART will have VLS.

ACHIEVEMENT OF THE 95-95-95 TARGETS, by SEX



Percentages shown in the graph refer to the conditional 95-95-95 targets described in the text above and to the right. The heights of the bars represent the unconditional percentages for each indicator among all people living with HIV Error bars represent 95% CIs.

Diagnosed: In Uganda, 80.9% of adults living with HIV (aged 15 years and older) were aware of their HIV-positive status: 83.5% of women and 76.1% of men. Individuals were classified as aware if they reported their HIV-positive status or had a detectable antiretroviral (ARV) in their blood.

On Treatment: Among adults living with HIV who were aware of their status, 96.1% were on ART: 96.7% of women and 94.7% of men. Individuals were classified as being on ART if they reported current ART use or had a detectable ARV in their blood.

Viral Load Suppression: Among adults on ART, 92.2% had VLS: 92.6% of women and 91.3% of men.

CONCLUSIONS

- Uganda has met the second 95-95-95 target, over 95% of adults living with HIV who were aware of their status were on ART, well in advance of the 2025 target date, and among those on ART, the country is approaching the third 95 target for the prevalence of VLS.
- However, progress towards the achievement of the first 95, awareness of HIV status among adults living with HIV remains below 90% (the UNAIDS target for 2020), so there is a pronounced need to refine case finding strategies to address gaps in the first 95. Strategies that engage young people in HIV prevention and case finding efforts are needed.
- Women continue to bear a higher burden of HIV than men. This suggests a continued need for interventions to prevent infection in girls and women, as well as robust PMTCT services, and other services to support the health and welfare of women living with HIV and their families.
- There are regional differences in the prevalence of HIV and VLS that may warrant regionalized interventions. A differentiated service delivery approach to providing HIV services, tailored to meet the needs of men and women of different ages, lifestyles, and communities may also help address variation gaps in VLS.
- If Uganda can improve HIV awareness, the country should be well-positioned to reach the UNAIDS 95-95-95 targets by 2025. The country can reach these targets by implementing strategies that deliver HIV diagnostic services and access to lifesaving ART to the underserved. To move closer to the UNAIDS goal of ending the AIDS epidemic by 2030, there should be an emphasis on ongoing surveillance to detect new HIV infections, coupled with the timely the provision of treatment and combination prevention services to interrupt further transmission.

RESPONSE RATES AND HIV TESTING METHODS

Of 10,527 eligible households, 95.7% completed a household interview. Among 27,635 eligible adults, (15,801 women and 11,834 men), a total of 26,071 adults participated in the individual interview: interview response rates were 96.4% for women and 91.6% for men. Among those interviewed, 25,479 (14,903 women and 10,576 men) also had their blood drawn and were tested for HIV: 97.8% of women and 97.6% of men. The overall response rate for adults was 88.2%: 90.2% for women and 85.5% for men.

HIV testing was conducted in each household using a serological rapid diagnostic testing algorithm based on Uganda's national guidelines, with laboratory confirmation of seropositive samples using a supplemental assay. For confirmed HIV-positive samples, laboratory-based testing was conducted for quantitative evaluation of viral load and qualitative detection of ARVs (efavirenz, dolutegravir, atazanavir, and lopinavir). A laboratory-based incidence testing algorithm (HIV-1 limiting antigen-avidity assay with correction for viral load and detectable ARVs) was used to distinguish recent from long-term infection. Incidence estimates were obtained using the formula recommended by the World Health Organization Incidence Working Group and Consortium for Evaluation and Performance of Incidence Assays. Survey weights were utilized for all estimates.