

# MALAWI POPULATION-BASED HIV IMPACT ASSESSMENT MPHIA 2015-2016



The Malawi Population-Based HIV Impact Assessment (MPHIA), a household-based national survey, was conducted between November 2015 and August 2016 in order to

measure the status of Malawi's national HIV response. MPHIA offered HIV counseling and testing with return of results, and collected information about uptake of care and treatment services. This survey is the first in Malawi to measure national HIV incidence, pediatric HIV prevalence, and viral load suppression. The results provide information on national and subnational progress toward control of the HIV epidemic.

MPHIA was led by the Government of Malawi through the Ministry of Health (MOH), conducted with funding from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and technical assistance through the U.S. Centers for Disease Control and Prevention (CDC). The survey was implemented by ICAP at Columbia University in collaboration with local partners, including the Centre for Social Research (CSR) at the University of Malawi, the National Statistical Office (NSO), and the College of Medicine-Johns Hopkins Project (COM-JHP) at the University of Malawi.

## KEY FINDINGS

HIV Indicator	Female	95% CI	Male	95% CI	Total	95% CI
Annual incidence (%)						
15-49 years	0.44	0.16-0.72	0.22	0.02-0.42	0.33	0.17-0.49
15-64 years	0.50	0.20-0.79	0.23	0.04-0.43	0.37	0.20-0.54
Prevalence (%)						
15-49 years	12.1	11.2-13.1	7.8	7.0-8.5	10.0	9.3-10.7
15-64 years	12.5	11.6-13.4	8.5	7.8-9.2	10.6	9.9-11.2
0-14 years	1.5	0.9-2.1	1.5	1.1-2.0	1.5	1.1-1.9
Viral load suppression (%)						
15-64 years	73.1	70.3-75.8	60.9	56.8-65.0	68.3	66.0-70.7

95% CI (confidence interval) indicates the interval within which the true population parameter is expected to fall 95% of the time.  
Viral load suppression is defined as HIV RNA <1,000 copies per ml of plasma among HIV-positive adults.

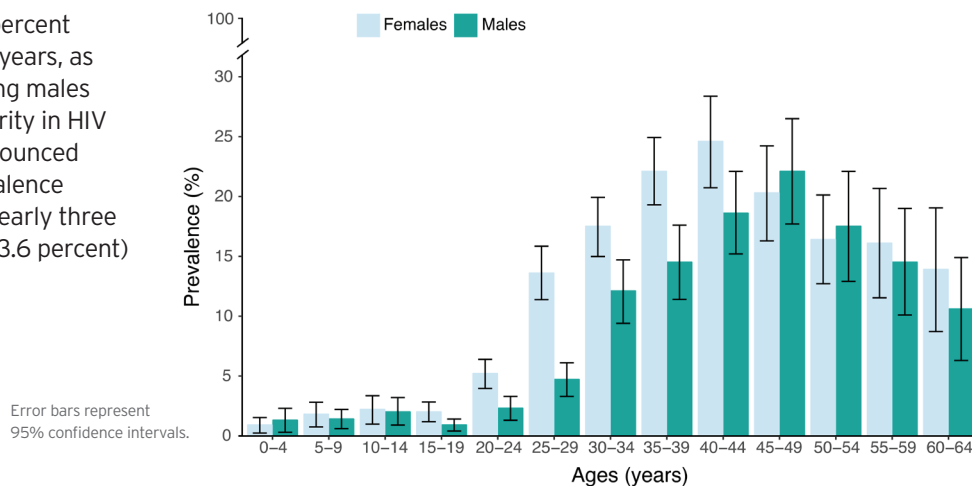
Annual incidence of HIV among adults ages 15 to 64 years in Malawi is 0.37 percent: 0.50 percent among females and 0.23 percent among males. This corresponds to approximately 28,000 new cases of HIV annually among adults ages 15 to 64 years in Malawi.

Prevalence of HIV among adults ages 15 to 64 years in Malawi is 10.6 percent: 12.5 percent among females and 8.5 percent among males. This corresponds to approximately 900,000 people living with HIV (PLHIV) ages 15 to 64 years in Malawi.

Prevalence of viral load suppression (VLS) among HIV-positive adults ages 15 to 64 years in Malawi is 68.3 percent: 73.1 percent among females and 60.9 percent among males.

## HIV PREVALENCE, BY AGE AND SEX

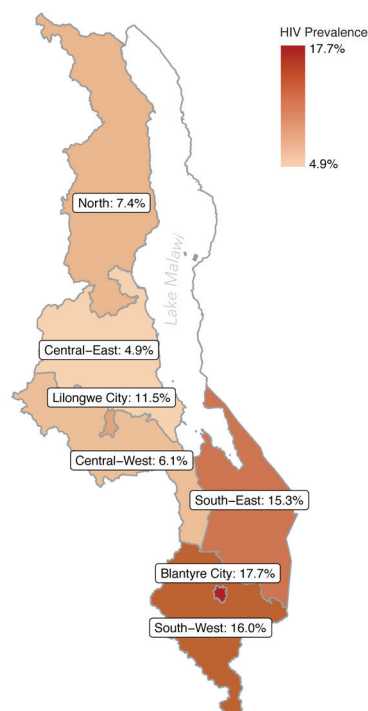
HIV prevalence peaks at 24.6 percent among females ages 40 to 44 years, as compared to 22.1 percent among males ages 45 to 49 years. The disparity in HIV prevalence by sex is most pronounced among young adults: HIV prevalence among 25- to 29-year-olds is nearly three times higher among females (13.6 percent) than males (4.7 percent).



## HIV PREVALENCE AMONG ADULTS, BY ZONE

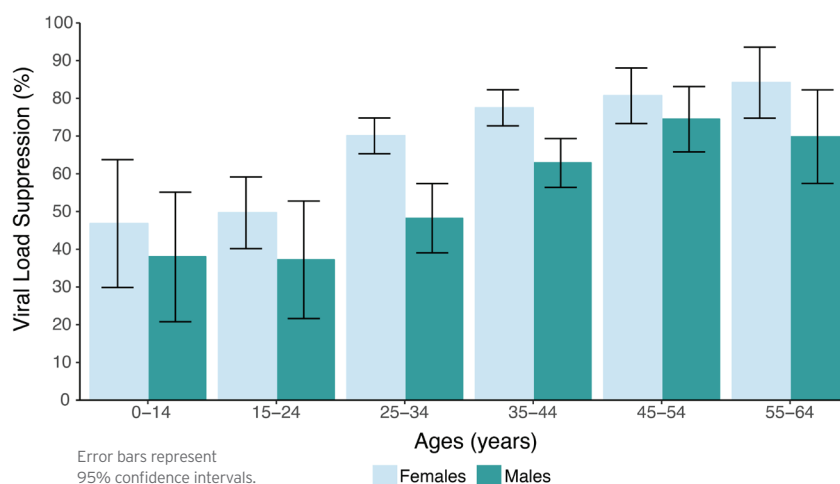
Among adults ages 15 to 64 years, prevalence of HIV varies geographically across Malawi, ranging from 4.9 percent in the Central East to 17.7 percent in Blantyre City.

Zone	HIV Prevalence	95% CI
North	7.4	5.8-8.9
Central East	4.9	3.8-6.1
Central West	6.1	5.0-7.1
Lilongwe City	11.5	10.1-12.8
South East	15.3	13.1-17.4
South West	16.0	14.1-18.0
Blantyre City	17.7	16.0-19.5



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

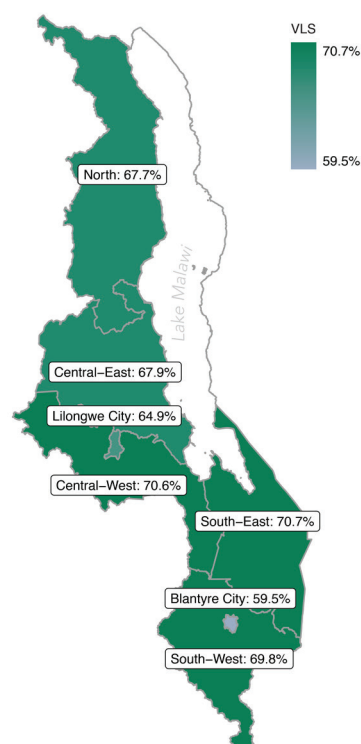
Prevalence of VLS among HIV-positive people in Malawi is highest among older adults: 84.2 percent among HIV-positive females ages 55 to 64 years and 74.5 percent among HIV-positive males age 45 to 54 years. In contrast, prevalence of VLS is distinctly lower among younger adults: 49.7 percent among HIV-positive females and 37.2 percent among HIV-positive males ages 15 to 24 years.



## VIRAL LOAD SUPPRESSION AMONG HIV-POSITIVE ADULTS, BY ZONE

Among HIV-positive adults ages 15 to 64 years, prevalence of VLS varies geographically across Malawi, ranging from 59.5 percent in Blantyre City to 70.7 percent in the South East and 70.6 percent in the Central West.

Zone	VLS Prevalence	95% CI
North	67.7	61.5-73.8
Central East	67.9	59.9-75.9
Central West	70.6	62.9-78.3
Lilongwe City	64.9	59.3-70.4
South East	70.7	65.4-76.1
South West	69.8	65.0-74.7
Blantyre City	59.5	53.9-65.0



## ACHIEVEMENT OF THE 90-90-90 GOALS AMONG HIV-POSITIVE ADULTS, BY SEX

### 90-90-90: an ambitious treatment target to help end the AIDS epidemic

By 2020, 90 percent of all PLHIV will know their HIV status; 90 percent of all people with diagnosed HIV infection will receive sustained antiretroviral therapy (ART); and 90 percent of all people receiving ART will have viral suppression.

#### Diagnosed

In Malawi, 76.8 percent of PLHIV ages 15 to 64 years are aware of their HIV status: 80.2 percent of HIV-positive females and 71.7 percent of HIV-positive males. Awareness was defined as self-reporting HIV positive and/ or having a detectable antiretroviral (ARV) in the blood.

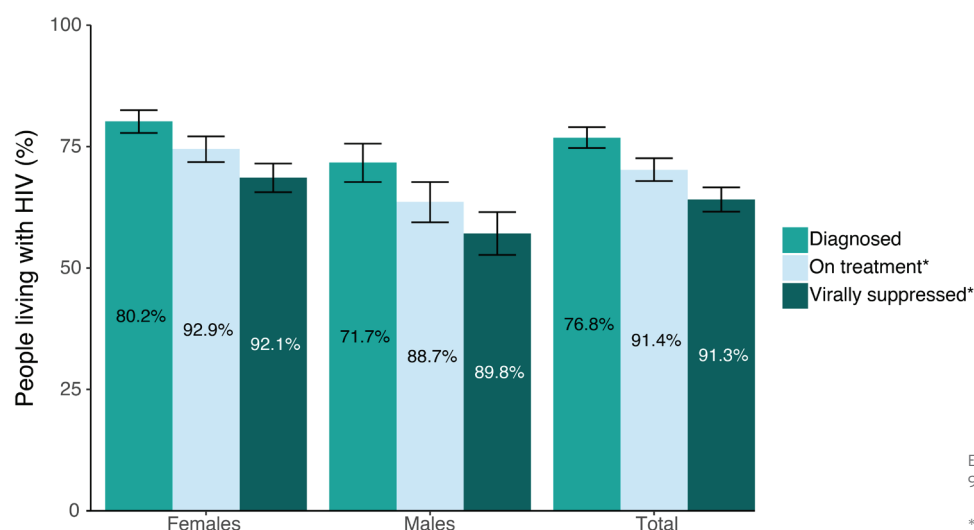
#### On Treatment

Among PLHIV ages 15 to 64 years who know their HIV status, 91.4 percent are on ART: 92.9 percent of females

and 88.7 percent of males. Being on ART was defined as self-reporting current use of ART and/or having a detectable ARV in the blood.

#### Virally Suppressed

Among PLHIV ages 15 to 64 years who self-report current use of ART and/or had a detectable ARV in their blood, 91.3 percent are virally suppressed: 92.1 percent of females and 89.8 percent of males.



Error bars represent 95% confidence intervals.

\*Inset numbers are conditional proportions. See text above.

## SELF-REPORTED HIV STATUS AMONG ADULTS WHO TESTED HIV POSITIVE IN MPHIA, BY SEX AND ZONE

Nearly three-quarters of adults living with HIV (72.9 percent) self-reported that they were HIV-positive. More women living with HIV self-reported their HIV-positive status (76.0 percent) than men (68.1 percent). The majority of PLHIV who did not self-report as HIV-positive reported that they tested HIV-negative. Only a small percentage, ranging from 6.2 percent in the North to 12.4 percent in Blantyre City, reported that they had never tested or received a result. Nearly twice as many men (12.6 percent) as women (6.4 percent) reported that they had never tested or received a result.

	Ever Tested		Self-reported never tested or never received result (%)
	Self-reported HIV positive (%)	Self-reported HIV negative (%)	
Sex			
Female	76.0	17.6	6.4
Male	68.1	19.3	12.6
Zone			
North	72.8	21.0	6.2
Central East	66.5	21.3	12.2
Central West	70.1	21.9	8.1
Lilongwe City	70.1	21.1	8.7
South East	75.4	16.2	8.4
South West	76.5	15.4	8.1
Blantyre City	67.5	20.1	12.4
Total	72.9	18.3	8.8

Row percentages may not add to 100 percent due to rounding.

## CONCLUSIONS

- Progress toward the 90-90-90 goals in Malawi demonstrates that the national HIV program has made great strides in responding to its HIV epidemic.
- MPHIA's estimate of national HIV incidence provides further evidence of an improving epidemic.
- The goal of ending the AIDS epidemic in Malawi by 2030 is within reach, provided there is continued expansion of HIV treatment programs and targeted HIV testing, especially for men and young women.

## RESPONSE RATES AND HIV TESTING METHODS

Of 12,731 eligible households, 88.6 percent completed a household interview. Of 12,235 eligible women and 10,170 eligible men ages 15 to 64 years, 81.6 percent of women and 70.9 percent of men were both interviewed and tested for HIV. Of 9,993 eligible children ages 0 to 14 years, 61.7 percent were tested for HIV.

HIV prevalence testing was conducted in each household using a serological rapid diagnostic testing algorithm based on Malawi's national guidelines, with laboratory confirmation using a supplemental assay. A laboratory-based incidence testing algorithm (HIV-1 LAg avidity plus viral load and ARV results) was used to distinguish recent from long-term infection, and 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, with time cutoff (T)=1.0 year and residual proportion false recent (PFR)=0.00. Survey weights are utilized for all estimates.

The PHIA Project is a multi-country project funded by PEPFAR to conduct national HIV-focused surveys that describe the status of the HIV epidemic. Results will 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 CDC and other partners.

See [phia.icap.columbia.edu](http://phia.icap.columbia.edu) for more details.



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