

CAMEROON POPULATION-BASED HIV IMPACT ASSESSMENT CAMPHIA 2017



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CAMEROON POPULATION-BASED HIV IMPACT ASSESSMENT

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The Cameroon Population-based HIV Impact Assessment (CAMPHIA), a household-based national survey, was conducted between July 2017 and February 2018 in order to measure the status of Cameroon's national

HIV response. CAMPHIA offered HIV counseling and testing with return of results, and collected information about households and individuals' background, and uptake of HIV care and treatment services. This survey is the first in Cameroon to estimate national HIV incidence and viral load suppression. The results provide information on national and regional progress toward control of the HIV epidemic.

CAMPHIA was led by the Government of Cameroon under the Ministry of Health, Division of Health Operations Research (DROS) and National AIDS Control Commission (NACC), and through the National Institute of Statistics (INS). The survey was 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 INS and ICAP at Columbia University in collaboration with local partners, including the Centre Pasteur Cameroon (CPC), Global Health Systems Solutions (GHSS), National Early Infant Diagnosis Reference Laboratory, Mutengene, National Public Health Lab (NPHL) and Centre International de Référence Chantal Biya (CIRCB).

KEY FINDINGS

| HIV Indicator | Female | 95% CI | Male | 95% CI | Total | 95% CI | N |
|----------------------------|--------|-----------|------|-----------|-------|-----------|--------|
| Annual incidence (%) | | | | | | | |
| 15-49 years | 0.40 | 0.15-0.66 | 0.08 | 0.00-0.18 | 0.24 | 0.11-0.38 | 770 |
| 15-64 years | 0.39 | 0.16-0.61 | 0.09 | 0.00-0.19 | 0.24 | 0.11-0.37 | 960 |
| Prevalence (%) | | | | | | | |
| 15-49 years | 4.8 | 4.2-5.3 | 2.0 | 1.7-2.4 | 3.4 | 3.1-3.8 | 22,444 |
| 15-64 years | 5.0 | 4.5-5.5 | 2.3 | 2.0-2.7 | 3.7 | 3.3-4.0 | 26,031 |
| 0-14 years | 0.1 | 0.0-0.3 | 0.3 | 0.1-0.5 | 0.2 | 0.1-0.4 | 7,221 |
| Viral load suppression (%) | | | | | | | |
| 15-49 years | 42.1 | 37.6-46.5 | 38.0 | 29.1-47.0 | 40.9 | 36.5-45.3 | 792 |
| 15-64 years | 45.6 | 41.3-50.0 | 42.5 | 34.8-50.3 | 44.7 | 40.7-48.7 | 980 |

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; incidence measurement based on a mean duration of recent infection of 130 days. For incidence estimates, N denotes the number of individuals tested for recent infection to obtain incidence estimate. Although only HIV-positive individuals were tested for recency of infection, the annual incidence estimate is for the entire adult population of the sample. The "N" for the prevalence and viral load suppression categories reflect the number of people tested to obtain the estimates reported in the row.

Annual incidence of HIV among adults (defined as those aged 15-64 years)* in Cameroon was 0.24%: 0.39% among women and 0.09% among men.

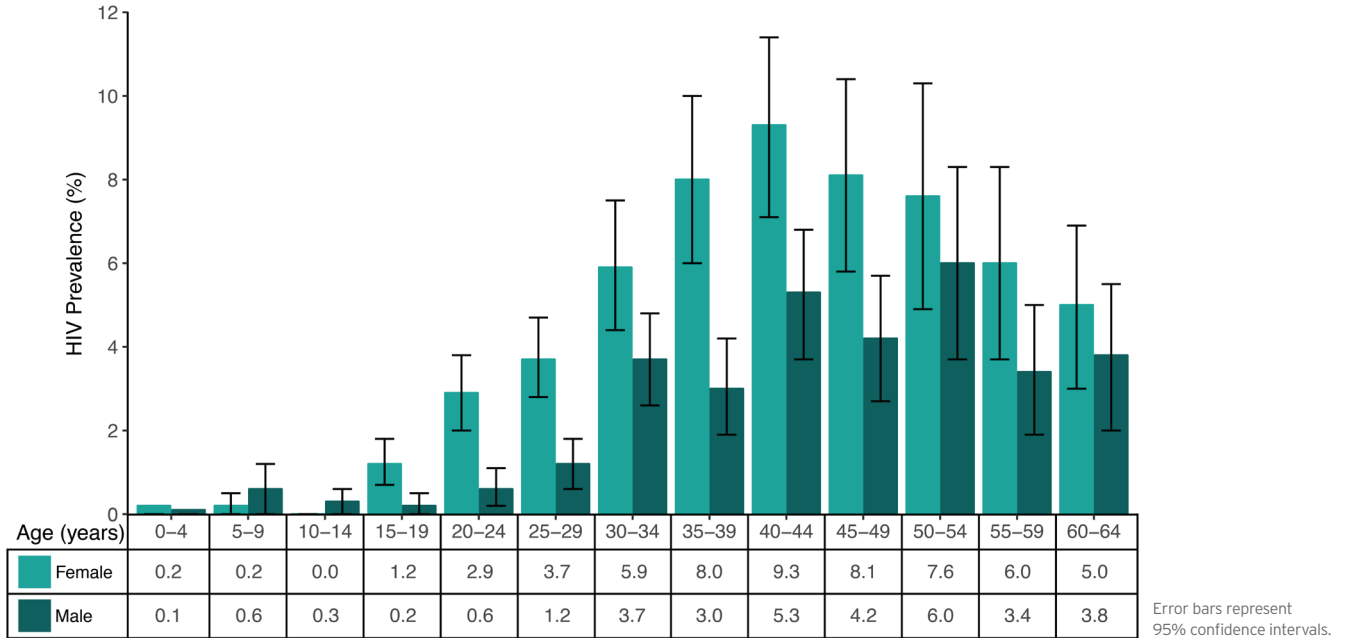
Prevalence of HIV among adults in Cameroon was 3.7%: 5.0% among women and 2.3% among men. This corresponds to approximately 500,000 adults living with HIV in Cameroon.

Prevalence of viral load suppression (VLS) among HIV-positive adults in Cameroon was 44.7%: 45.6% among women and 42.5% among men.

*Although the age of majority in Cameroon is 21 years, for standardized reporting across surveys, CAMPHIA defined adults as the population aged 15-64 years. Children are defined as the population aged 0-14 years. CAMPHIA also defines young people as ages 15-24 years which includes older adolescents (ages 15-19 years) and young adults (ages 20-24 years).

HIV PREVALENCE, BY AGE AND SEX

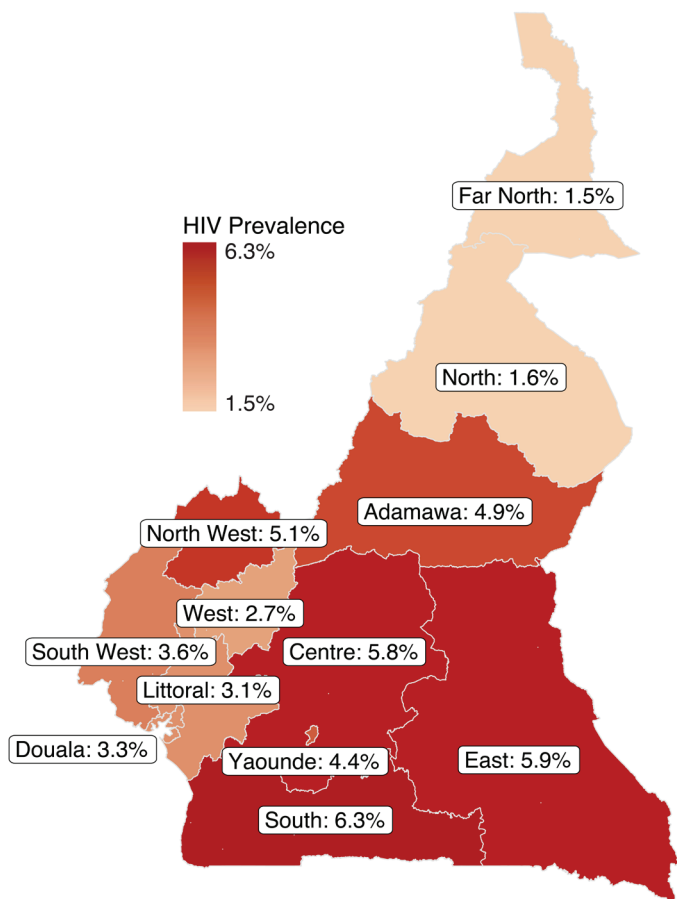
HIV prevalence peaked at 9.3% among women aged 40-44 years, as compared to a peak of 6.0% among men aged 50-54 years. Prevalence among young people (defined as ages 15-24 years) was 1.2%: 2.0% among older adolescent girls and young women and 0.4% among older adolescent boys and young men. The disparity in HIV prevalence by gender was most pronounced among those under the age of 30 years, with older adolescent girls, and women aged 20-24 years and 25-29 years all having prevalence at least triple that of older adolescent boys and men in the same age groups.



HIV PREVALENCE AMONG ADULTS, BY REGION

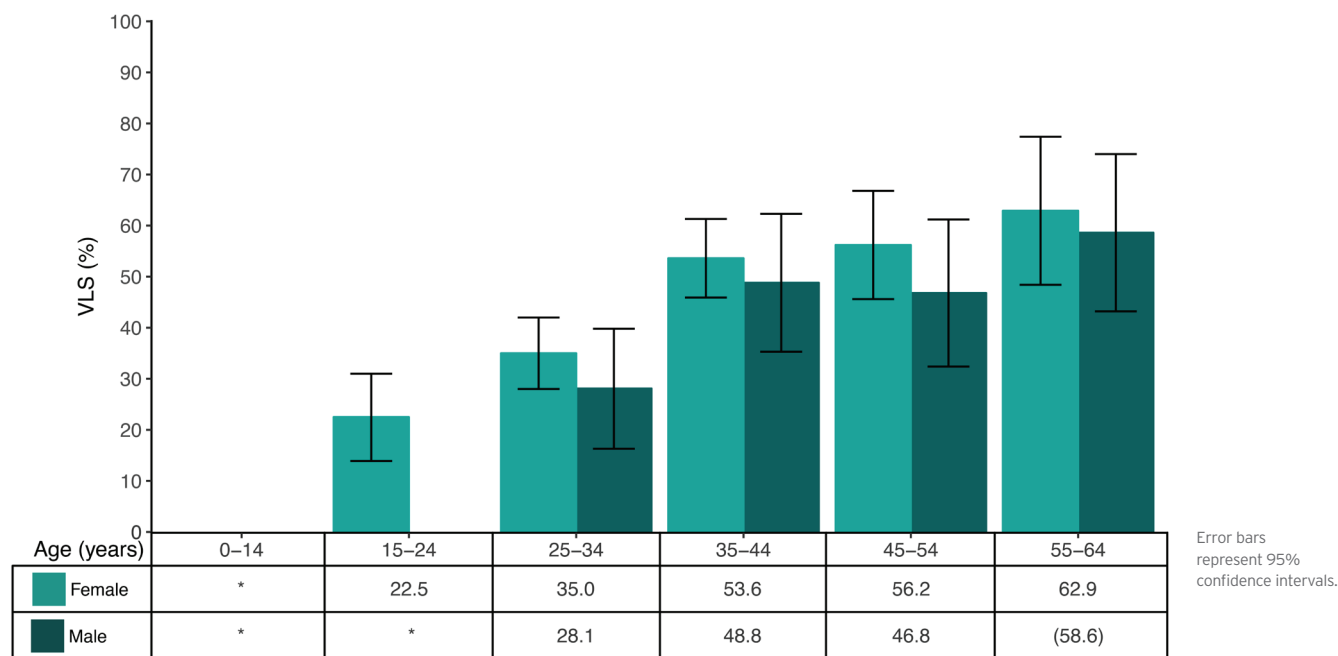
Among adults (ages 15-64 years), HIV prevalence varied by region, ranging from 6.3 percent in the South Region to 1.5 percent in the Far North Region.

| Region | HIV Prevalence (%) | 95% CI |
|------------|--------------------|---------|
| Adamawa | 4.9 | 3.1-6.7 |
| Centre | 5.8 | 4.8-6.8 |
| Douala | 3.3 | 2.5-4.0 |
| East | 5.9 | 4.5-7.3 |
| Far North | 1.5 | 1.0-2.1 |
| Littoral | 3.1 | 1.2-4.9 |
| North | 1.6 | 1.0-2.1 |
| North West | 5.1 | 3.4-6.7 |
| South | 6.3 | 5.4-7.3 |
| South West | 3.6 | 2.4-4.9 |
| West | 2.7 | 1.8-3.6 |
| Yaounde | 4.4 | 3.2-5.6 |



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

Viral load suppression (VLS) among HIV-positive individuals in Cameroon was highest among older adults, with 62.9% of women aged 55-64 years and 58.6% of men aged 55-64 years, achieving VLS. There was little gender disparity in VLS among adults.

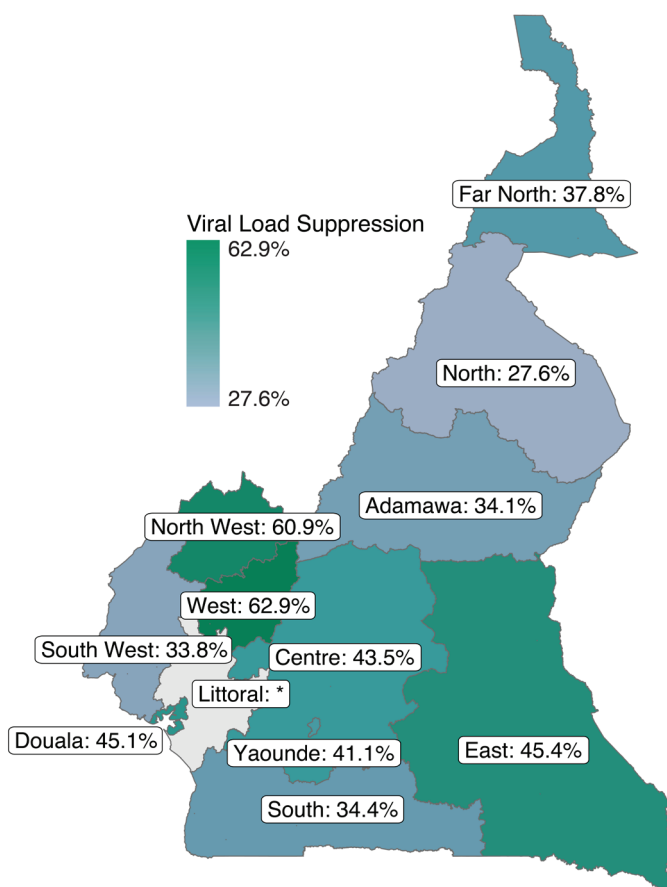


* Estimates for males and females ages 0-14, and males ages 15-24 are based on a very small number (less than 25) of unweighted cases and have been suppressed.
() Estimates in parentheses are based on a small number of unweighted cases (25-49) and should be interpreted with caution.

VIRAL LOAD SUPPRESSION AMONG HIV-POSITIVE ADULTS, BY REGION

Among HIV-positive adults (ages 15-64 years), VLS varied by region, ranging from a high of 62.9% in the West Region to a low of 27.6% in the North Region.

| Region | VLS Prevalence (%) | 95% CI |
|------------|--------------------|-----------|
| Adamawa | 34.1 | 19.5-48.6 |
| Centre | 43.5 | 34.7-52.3 |
| Douala | 45.1 | 30.9-59.4 |
| East | 45.4 | 32.9-57.9 |
| Far North | 37.8 | 23.2-52.4 |
| Littoral | * | * |
| North | 27.6 | 14.3-41.0 |
| North West | 60.9 | 51.2-70.7 |
| South | 34.4 | 18.4-50.5 |
| South West | 33.8 | 20.8-46.7 |
| West | 62.9 | 48.6-77.3 |
| Yaounde | 41.1 | 27.7-54.4 |



* Estimate for Littoral region is based on a very small number (less than 25) of unweighted cases and has been suppressed.

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% of all people living with HIV will know their HIV status; 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy (ART); and 90% of all people receiving ART will have viral suppression.

Diagnosed

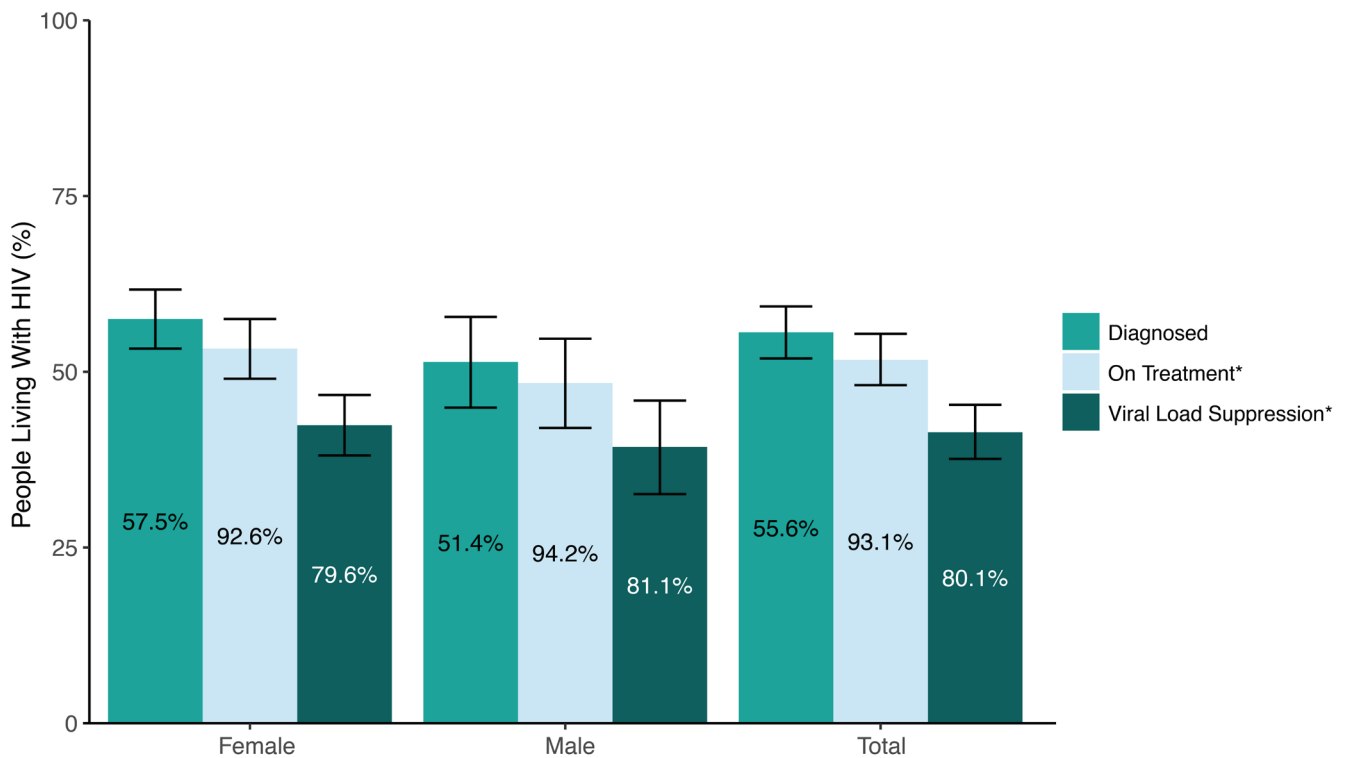
In Cameroon, 55.6% of adults living with HIV (those aged 15-64 years) knew their HIV status: 57.5% of HIV-positive women and 51.4% of HIV-positive men knew their HIV status. Awareness was defined as a self-reported HIV-positive status or having a detectable antiretroviral (ARV) in the blood following laboratory testing.

On Treatment

Among adults living with HIV who know their HIV status, 93.1% were on ART: 92.6% of HIV-positive women and 94.2% of HIV-positive men. Being on ART was defined as self-reported current use of ART or having a detectable ARV in the blood following laboratory testing.

Viral Load Suppression

Among adults living with HIV who reported current use of ART or had a detectable ARVs in their blood following laboratory testing, 80.1% had VLS: 79.6% of HIV-positive women and 81.1% of HIV-positive men.



Error bars represent 95% confidence intervals.

* Inset numbers are conditional proportions. For example, 55.6% of adults who tested positive for HIV in the survey reported they already knew their positive status or had detectable ARVs in their blood. Of those who knew their positive status, 93.1% were in treatment. Of those in treatment, 80.1% achieved viral load suppression.

PREVALENCE OF HEPATITIS B SURFACE ANTIGEN BY SEX, AGE AND HIV STATUS

CAMPHIA also tested a subset of participants for hepatitis B surface antigen (HBsAg) to obtain a national estimate of acute or chronic hepatitis B prevalence. Hepatitis B testing was conducted in each household using a serological rapid diagnostic test for HBsAg.* Among adults (those aged 15-64 years), seroprevalence of HBsAg was similar among HIV-positive (8.4%) and HIV-negative individuals (8.3%). Prevalence estimates HBsAg was significantly higher among men (11.2%) than women (5.5%).

| HIV Status and Age | Females | | Males | | Total | | N |
|---------------------|----------------------|----------|----------------------|----------|----------------------|----------|------|
| | HBsAg Seroprevalence | 95% CI | HBsAg Seroprevalence | 95% CI | HBsAg Seroprevalence | 95% CI | |
| HIV Positive | | | | | | | |
| 15-64 years | 7.9 | 5.4-10.4 | 9.5 | 5.8-13.3 | 8.4 | 6.5-10.4 | 972 |
| HIV Negative | | | | | | | |
| 15-64 years | 5.4 | 3.4-7.4 | 11.3 | 8.0-14.6 | 8.3 | 6.4-10.3 | 990 |
| Total | | | | | | | |
| 15-49 years | 6.0 | 3.8-8.3 | 12.4 | 8.8-16.0 | 9.2 | 7.1-11.2 | 1667 |
| 15-64 years | 5.5 | 3.6-7.5 | 11.2 | 8.0-14.4 | 8.3 | 6.5-10.2 | 1962 |

95% CI (confidence interval) indicates the interval within which the true population parameter is expected to fall 95% of the time.

Tests conducted on a representative subsample of 1962 adults ages 15-64 years.

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

CONCLUSIONS

- National HIV incidence was 0.24% among the adults aged 15-64 years. Four out of 5 new HIV infections were among women. Going forward, the national HIV program can focus efforts on reducing the rate of new infections, especially among women. Critical to this effort will be the earlier diagnosis and treatment of men who remain unaware of their HIV-positive status.
- Out of every 100 HIV-positive adults, 56 reported knowing their status. Among those who reported knowing their status, more than 90% reported being on treatment. Among those on treatment, 80% had VLS. Cameroon should intensify efforts to identify new cases while sustaining the success with treating the diagnosed.
- HIV prevalence for the populations aged 0-14, 15-49, 15-64 years was 0.2%, 3.4%, and 3.7%, respectively. The prevalence for children aged 0-14 years was the first direct measurement among that age group and merits more targeted research to better understand HIV epidemiology in children.

RESPONSE RATES AND HIV TESTING METHODS

Of 12,417 occupied households that were visited, 92.3% completed a household interview. Of 15,419 eligible women and 13,216 eligible men aged 15-64 years, approximately 95% of women and men were interviewed, and approximately 95% of those who were interviewed were tested for HIV. Overall adult response rate (which combines household, individual interview, and blood draw response rates) was approximately 84%. Of 8,018 eligible children, 92.0% were tested for HIV. A representative subsample of 1,962 adults were tested for HBsAg which indicates either acute or chronic hepatitis B infection.

HIV prevalence testing was conducted in each household using a serological rapid diagnostic testing algorithm based on Cameroon's national guidelines, with laboratory confirmation of seropositive samples using a supplemental assay. A laboratory-based incidence testing algorithm (HIV-1 limiting antigen avidity assay plus viral load and ARV detection) 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 =1.0 year and residual proportion false recent = 0.00. Survey weights are utilized for all estimates.

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 CDC and other partners.

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



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