

# 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                | 0.44   | 0.18-0.69 | 0.08 | 0.00-0.18 | 0.26  | 0.12-0.40 | 770    |
| 15-64 years                | 0.45   | 0.20-0.69 | 0.09 | 0.00-0.19 | 0.27  | 0.14-0.41 | 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 MDRI 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.

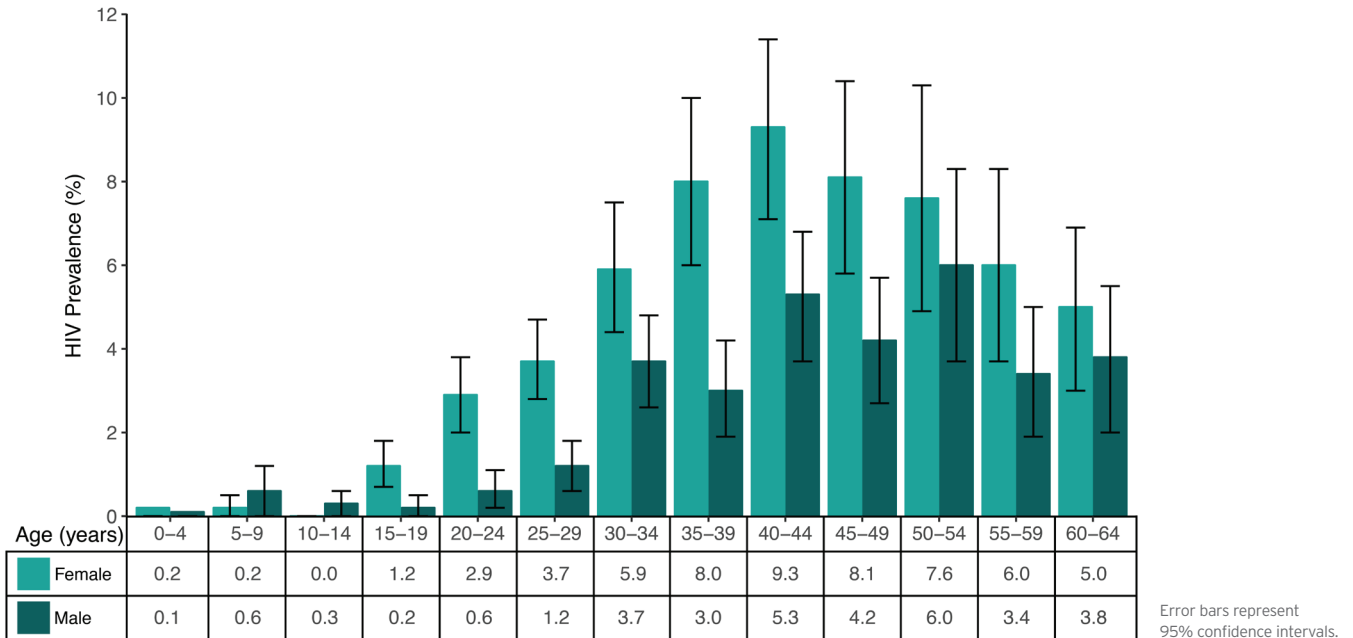
Annual incidence of HIV among adults ages 15-64 years in Cameroon is 0.27%: 0.45% among females and 0.09% among males.

Prevalence of HIV among adults ages 15-64 years in Cameroon is 3.7%: 5.0% among females and 2.3% among males. This corresponds to approximately 500,000 people living with HIV (PLHIV) ages 15-64 years in Cameroon.

Prevalence of viral load suppression (VLS) among HIV-positive adults ages 15-64 years in Cameroon is 44.7%: 45.6% among females and 42.5% among males.

## HIV PREVALENCE, BY AGE AND SEX

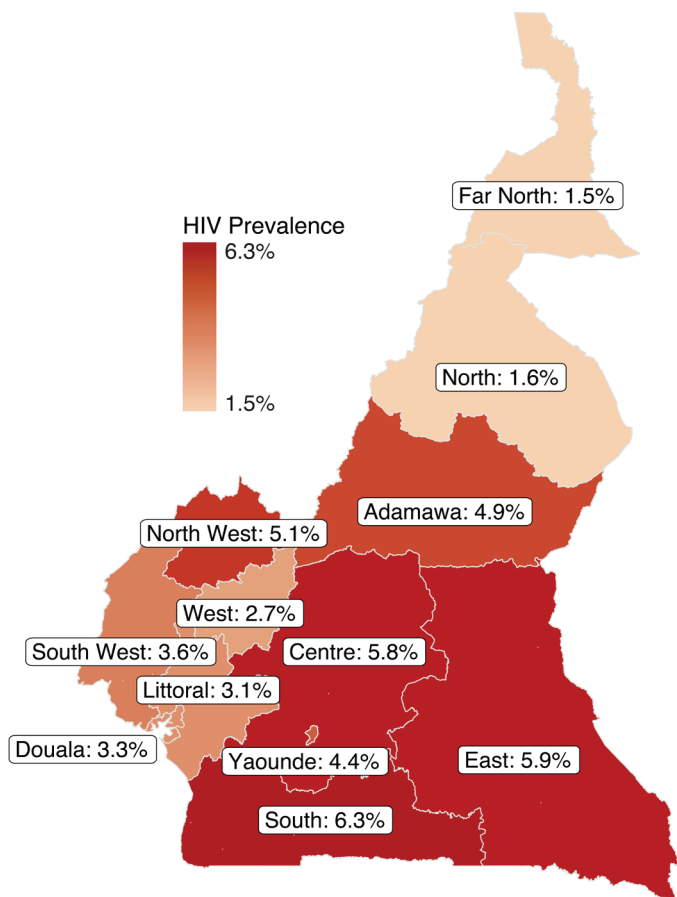
HIV prevalence peaks at 9.3% among females ages 40-44, as compared to a peak of 6.0% among males ages 50-54. Prevalence among 15-24 year olds is 1.2%: 2.0% among females and 0.4% among males. The disparity in HIV prevalence between males and females is most pronounced among younger adults, with women in age groups 15-19, 20-24 and 25-29 all having prevalence at least triple that of males in the same age groups.



## HIV PREVALENCE AMONG ADULTS, BY REGION

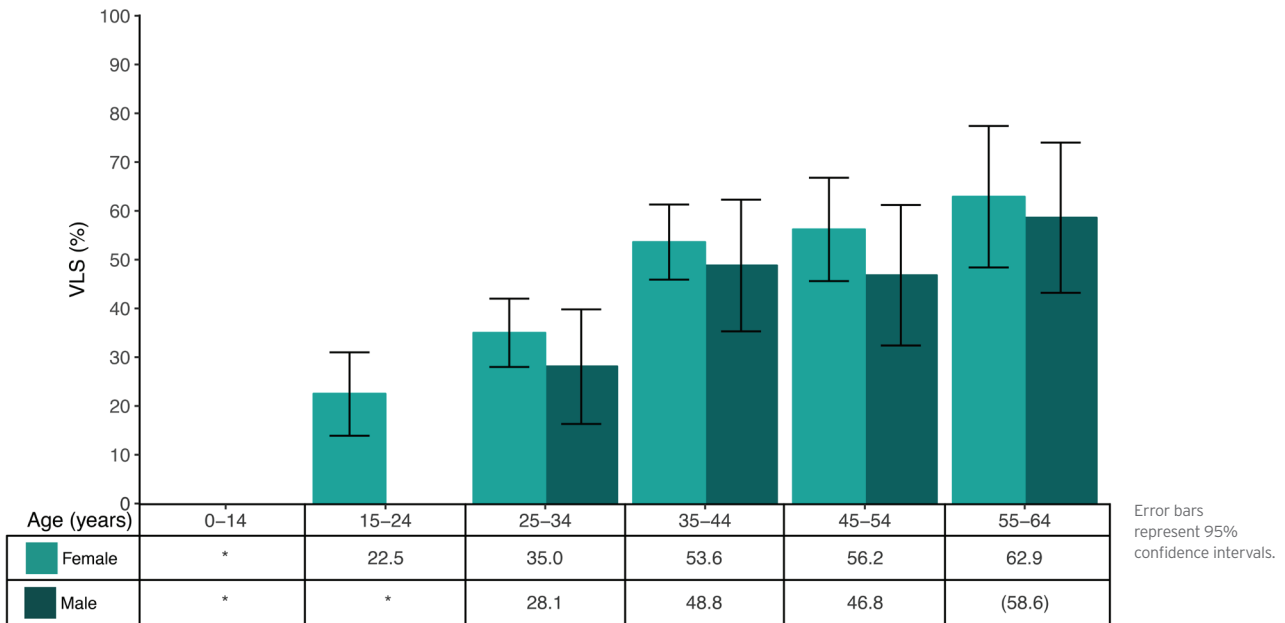
Among adults ages 15-64 years, HIV prevalence among adults varies by region, ranging from 6.3 percent in the South Region to 1.5 percent in the Far North Region.

| 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 among HIV positive individuals in Cameroon is highest among older adults, with 63% of females ages 55-64 virally suppressed, and 59% of males ages 55-64 virally suppressed. There is little gender disparity in viral load suppression among adults, with 56% of females ages 45-54 virally suppressed and 47% of men in the same age group virally suppressed.

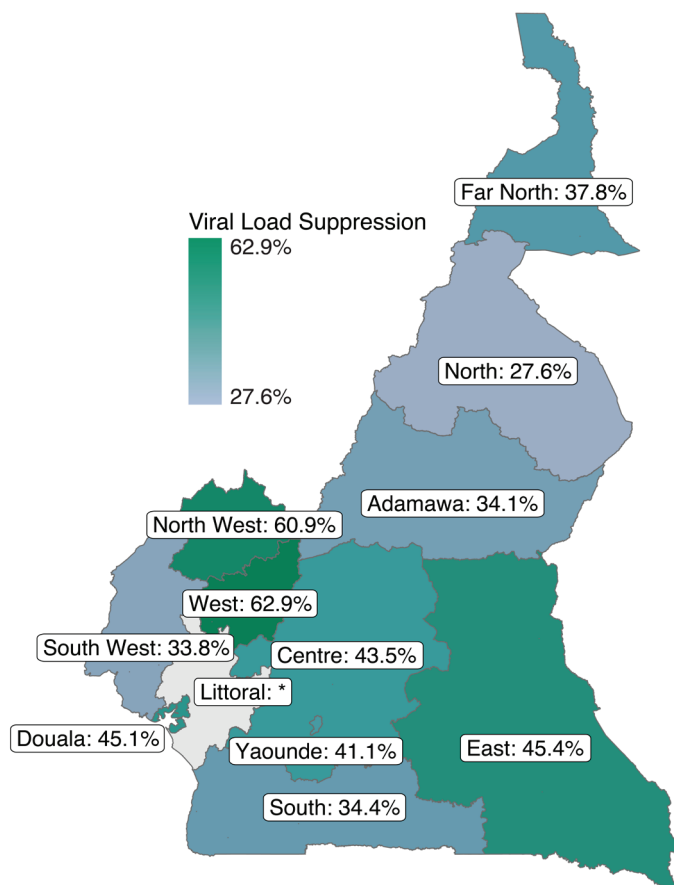


\* Estimates for males and females ages 0-14, and males ages 15-24 are based on a very small number (less than 25) of unweighted cases and have been suppressed. Estimates in parentheses are based on a small number of unweighted cases (25-49) and should be interpreted with caution.

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

Among HIV positive adults ages 15-64 years, VLS varies by region, ranging from a high of 63% in the West Region to a low of 28% 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 PLHIV 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

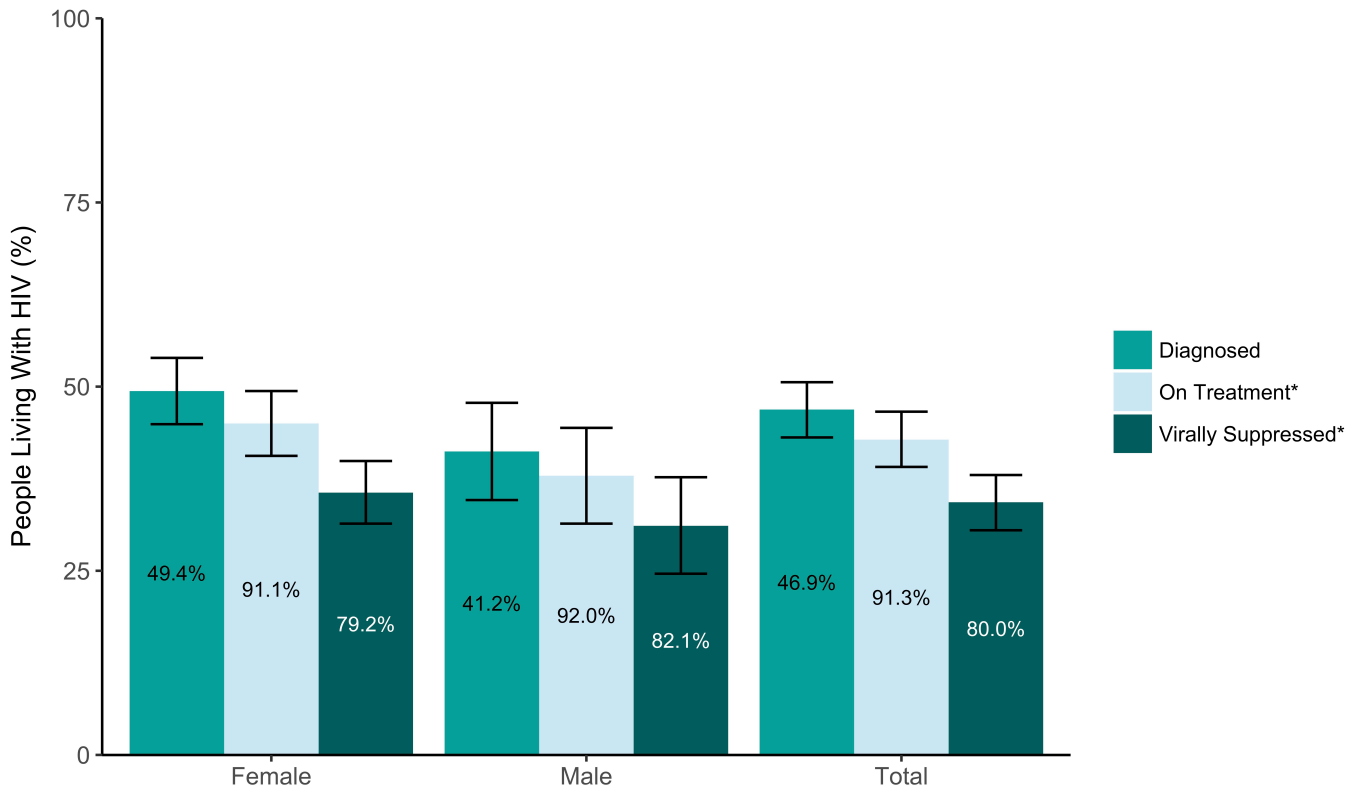
In Cameroon, 46.9% of PLHIV ages 15-64 years report knowing their HIV status: 49.4% of HIV-positive females and 41.2% of HIV-positive males know their HIV status.

#### On Treatment

Among PLHIV ages 15-64 years who know their HIV status, 91.3% self-report current use of ART: 91.1% of HIV-positive females and 92.0% of HIV-positive males who know their HIV status self-report current use of ART.

#### Virally Suppressed

Among PLHIV ages 15-64 years who self-report current use of ART, 80.0% are virally suppressed: 79.2% of HIV-positive females and 82.1% of HIV-positive males who self-report current use of ART are virally suppressed.



Error bars represent 95% confidence intervals.

\* Inset numbers are conditional proportions. For example, 46.9% of people who tested positive for HIV in the survey reported they already knew their positive status. Of those who knew their positive status, 91.3% were in treatment. Of those in treatment, 80% were virally suppressed.

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

CAMPHIA also tested a subset of participants for hepatitis to obtain a national estimate of hepatitis B (HBV) prevalence. Hepatitis B testing was conducted in each household using a serological rapid diagnostic test for hepatitis B surface antigen (HBsAg).<sup>\*</sup> Among adults ages 15-64, seroprevalence of the HBsAg hepatitis B surface antigen is similar among HIV positive (8.4%) and HIV negative individuals (8.3%). Prevalence estimates of HBsAg hepatitis B surface antigen are significantly higher among men (11.2%) than women (5.5%) among the 15-64 year old age group.

| 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  |
| <b>Total</b>       |                      |          |                      |          |                      |          |      |
| 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 |

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

<sup>\*</sup>The majority of people who are seropositive for HBsAg will turn out to have chronic HBV infection.

## CONCLUSIONS

- National HIV incidence is 0.27% among the population ages 15-64. Four out of 5 new HIV infections are among women ages 15-64. Going forward, the national HIV program can focus efforts on reducing the rate of new infections, especially among women.
- Out of every 100 HIV positive people, 47 report knowing their status. Among those who report knowing their status, more than 90% report being on treatment. Among those on treatment, 80% are virally suppressed. Cameroon should intensify efforts to identify new cases while sustaining the success with treating the diagnosed.
- HIV prevalence for the populations ages 0-14, 15-49, 15-64 are 0.2%, 3.4% and 3.7%, respectively. The prevalence for 0-14 years is 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% completed a household interview. Of 15,419 eligible women and 13,216 eligible men ages 15-64 years, 95% of women and men were interviewed and tested for HIV. Overall adult response rate (which combines household, individual interview, and blood draw response rates) was 84%. Of 8,018 eligible children ages 0-14 years, 90% were tested for HIV. A representative subsample of 1,962 adults ages 15-64 were tested for hepatitis B surface antigen.

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 LAg avidity plus viral load) was used to distinguish recent from term infection, and incidence estimates were obtained using the formula recommended by the WHO 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 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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This project is supported by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) through CDC under the terms of cooperative agreement #U2GGH001226. The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the funding agencies.