

PHIA SURVEYS: A NEW APPROACH TO HELP COUNTRIES CONTROL THEIR HIV EPIDEMICS

OVERVIEW

UNAIDS has set global HIV targets calling for 90 percent of persons living with HIV to know their status, 90 percent of these people to be on antiretroviral treatment, and 90 percent of them to have viral suppression. UNAIDS' models predict that we will approach zero new HIV infections by 2030 if we achieve these 90-90-90 targets by 2020.

Since 2000, population-based household surveys have been an important surveillance tool to measure HIV prevalence – the total number of people living with HIV. However, household surveys typically do not provide direct estimates of either HIV viral load – the amount of the virus in a person's body – which is necessary to measure progress toward the 90-90-90 targets, or HIV incidence – the number of new HIV infections – which helps assess the impact of HIV prevention and treatment programs.

The U.S. President's Emergency Plan for AIDS Relief (PEPFAR) is prioritizing population-based, HIV-focused household surveys as a means of monitoring HIV incidence and prevalence. The goal of the Population-based HIV Impact Assessments (PHIA) is to provide a better understanding of HIV trends at the national and regional level, as well as population-wide program achievements. PHIA surveys will be used to collect data on the uptake of care and treatment services for HIV and other infectious diseases, provide real-time home-based HIV counseling and testing, and estimate HIV incidence, CD4 T-cell counts (a measure of immune health), and viral load. For this reason, PHIA surveys will serve as the most comprehensive evaluation of HIV outcomes and impact that can be used by all stakeholders, including national HIV programs, PEPFAR, the Global Fund, and other donors and multilateral organizations, such as the World Health Organization (WHO) and UNAIDS. PHIA surveys follow UNAIDS' standard methods for conducting national household surveys. PHIA surveys are planned for Zimbabwe, Malawi, Zambia, Lesotho, Tanzania, Uganda, Swaziland, Namibia, Ethiopia, Cote d'Ivoire, Cameroon, Kenya, and Haiti.

PHIA Objectives

1. Measure progress in achieving epidemic control by assessing the impact of national HIV programs, including confidential HIV testing and counseling, prevention of mother-to-child transmission, and care and treatment; measure the impact of programs addressing , sexually transmitted infections, tuberculosis, and other opportunistic infections
2. Help evaluate public health programs to improve and better target interventions related to the prevention, care, and treatment of HIV and AIDS, along with TB and other opportunistic infections
3. Strengthen the capacity of countries to collect and use surveillance data for the management of national HIV programs and provide laboratory support for surveillance, diagnosis, treatment, and disease monitoring

Workers conducting PHIA surveys will gather electronic data and transmit it to a central server location; collect blood for CD4 counts and viral load testing; conduct point-of-care HIV and CD4 tests; return the results; and refer newly diagnosed people to care.

The survey will assess key PEPFAR program indicators at a national (and regional for some indicators) level, focusing on the HIV care continuum.

- **HIV prevalence** – The proportion and number of adults and children infected with HIV at the national and regional level
- **HIV incidence** – The proportion and number of new HIV infections among adults nationally, using dried blood spots
- **Knowledge of HIV status**– The percentage of HIV-infected people who know their HIV status. Self-reported HIV status is measured through survey questions, and actual HIV status is confirmed by diagnostic HIV testing at the time of the survey.
- **Continuum of care** –Uptake of HIV services among people with HIV. Includes people who have reported testing positive for HIV, receiving pre-treatment care, and continuing treatment.

CDC'S ROLE

Working side by side with Ministries of Health, non-governmental organizations, other USG agencies and our implementing partner, CDC provides expertise in epidemiology, laboratory science and infrastructure, survey design, training health workers and other technical assistance to help partners plan, implement, and evaluate Population-based HIV Impact Assessments in countries supported by PEPFAR

- **Population-level viral load** –Viral load among people living with HIV at the national and regional levels, including proportion of people with HIV – overall and specifically those on treatment – who have a suppressed viral load (e.g., <1,000 copies/ml).
- **Prevention of mother-to-child HIV transmission**– Percentage of pregnant women who have been tested for HIV and the percentage of HIV-positive pregnant women who received antiretroviral treatment to prevent passing the virus on to their child
- **Male circumcision program coverage** – Percentage of men and boys who underwent voluntary medical circumcision to prevent HIV

ACCOMPLISHMENTS / RESULTS

In August 2016, PHIA surveys were completed in Zimbabwe (ZIMPHIA), Malawi (MPHIA), and Zambia (ZAMPHIA). Over 70,000 adults have been surveyed, and nearly 81,000 blood samples have been collected from adults and children. Key findings on HIV incidence, prevalence, and viral load suppression are slated for release in December 2016. Final reports for ZIMPHIA, MPHIA, and ZAMPHIA will be available in late 2017. The data collected will be owned and used primarily by the respective national governments. Final anonymous household, individual, and biomarker datasets will be made available to the public on a secure website. Data collection began in Uganda and Swaziland in August 2016, Tanzania in October 2016, and Lesotho in November 2016.

FUTURE EFFORTS

PHIA surveys are large, complex, and resource intensive to implement. As such, PHIA surveys are generally conducted on a 3-5 year cycle. Strengthening HIV surveillance systems, including case-based surveillance, will provide routine data to monitor program coverage and viral load suppression among people diagnosed with HIV. PHIA surveys are also limited in their ability to monitor progress toward 90-90-90 targets among key populations (e.g., female sex workers, men who have sex with men, prisoners, young women and girls), and people living outside of a household (e.g., military populations and university students). Alternative surveillance strategies are needed for these populations.

BENEFITS OF OUR WORK

The PHIA surveys provide better information on the state of the HIV epidemic in some of the countries most affected by HIV than previous household surveys. The information will be used to direct national and international funding to and focus programs in places that will have the greatest impact on epidemic control. The methods developed for the PHIA surveys can be used in other countries as they conduct HIV-focused household surveys. The most comprehensive evaluations to-date of the HIV epidemic in specific sub-Saharan African countries, these surveys will provide critical information on progress toward control of HIV, and help us better target our efforts to reach the right people in the right places.