UNDERSTANDING THE POPULATION-BASED HIV IMPACT ASSESSMENT

OVERVIEW

The UNAIDS target for HIV epidemic control is for 90 percent of persons living with HIV (PLHIV) to know their status, 90 percent of these to be on antiretroviral treatment, and 90 percent of these to have HIV virally suppressed (i.e., 73 percent of all PLHIV being virally suppressed). UNAIDS models predict that by achieving these 90-90-90 targets by 2020, HIV incidence will approach zero new infections by 2030. Since 2000, population-based household surveys have been an important surveillance tool to measure HIV prevalence. However, household surveys typically do not provide direct estimates of HIV viral load necessary to measure progress toward the 90-90-90 targets or HIV incidence estimates to measure the impact of HIV prevention and treatment programs.

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

CDC'S ROLE

The U.S. Centers for Disease Control and Prevention (CDC) works closely with partner national governments, other U.S. Government agencies, and implementing partner ICAP at Columbia University to provide expert epidemiologic and laboratory support in the planning, training, implementation, analysis, and dissemination of PHIA in PEPFAR-funded long-term strategy countries.

PHIA Objectives

1. Measure progress in achieving epidemic control by assessing the impact of national HIV programs, confidential HIV testing and counseling, prevention of mother-to-child transmission, and care and treatment of HIV, sexually transmitted infections, Tuberculosis (TB), and other opportunistic infections;
2. Help evaluate public health programs to inform, improve and target appropriate interventions, as related to the prevention, care and treatment of HIV and AIDS, and TB and other opportunistic infections; and
3. Strengthen the capacity of countries to collect and use surveillance data and manage national HIV programs by expanding HIV/STI/TB surveillance programs and strengthening laboratory support for surveillance, diagnosis, treatment, and disease monitoring.

PHIA will include electronic data entry and transmission to a central server location, blood collection for HIV, CD4 counts, and viral load testing, point-of-care HIV and CD4 testing and return of results, and referral for care of newly diagnosed persons.

The survey will assess key PEPFAR program indicators at a national (sub-national for some indicators) level, focusing on HIV known status, care and treatment cascades.

- HIV prevalence – The national and sub-national proportion and number of adults and children infected with HIV.
- HIV incidence – The national proportion and number of new HIV infections among adults using the LAg-Avidity EIA.
- HIV status knowledge – The percent of HIV-infected persons 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 – Self-reported uptake of HIV services among self-reported HIV-infected persons, including reporting having previously tested HIV-positive, linkage to and uptake of pre-ART care, and initiation of and retention in antiretroviral treatment (ART).
- Population-level viral load – Summary national and sub-national viral load among PLHIV, proportion of PLHIV with suppressed viral load (e.g., <1,000 copies/ml), and proportion of PLHIV on ART with suppressed/undetectable viral load.

- Prevention of mother-to-child HIV transmission program coverage – Percent of pregnant women who are tested for HIV and the percent of HIV-positive pregnant women who received ARV prophylaxis or ART to prevent vertical transmission.
- Male circumcision program coverage – Percent of men and boys who underwent medical male circumcision for the prevention of HIV acquisition.

ACCOMPLISHMENTS / RESULTS

PHIA surveys in Zimbabwe (ZIMPHIA), Malawi (MPHIA), and Zambia (ZAMPHIA) ended data collection in August 2016. Over 70,000 adults have been surveyed, and nearly 81,000 blood samples have been collected from adults and children. Summary sheets with HIV incidence, prevalence, and viral load suppression will be released on World AIDS Day 2016. Final reports for ZIMPHIA, MPHIA, and ZAMPHIA will be available in late 2017. Data collected will primarily be owned and utilized by the respective partner national governments. Final de-identified survey 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 and Tanzania in October 2016. Data collection begins in Lesotho in November 2016.

FUTURE EFFORTS

PHIA are large, complex, and resource intensive to implement. As such, PHIA 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 diagnosed PLHIV. PHIA surveys are also limited in their ability to monitor 90-90-90 targets among key populations (e.g., female sex workers, men who have sex with men, prisoners), and persons outside of households (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. The information will be used to focus national and international funding and activities to places that will have the greatest impact on epidemic control. The methods developed for the PHIA can be used in other countries as they conduct HIV-focused household surveys.