



## Surveillance and Surveys

President George W. Bush's Emergency Plan for AIDS Relief is the largest commitment ever by any nation for an international health initiative dedicated to a single disease -- a five-year, \$15 billion, comprehensive approach to combating the disease around the world.

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To ensure quality and sustainability of its programs, the President's Emergency Plan for AIDS Relief (Emergency Plan/PEPFAR) is committed to the collection and use of strategic information for program accountability and improvement. Measuring the national burden of HIV is essential for developing effective prevention and care interventions.

Collecting and analyzing high-quality data in under-resourced settings is a critical challenge. Vital registration, routine census, and HIV case reporting are virtually unknown in most developing nations. To initiate and improve surveillance systems, PEPFAR is supporting countries' efforts to:

- Build capacity of national staff to develop and implement high-quality surveillance systems;
- Conduct HIV surveillance and surveys;
- Assess data and surveillance system quality;
- Analyze data and disseminate surveillance results.

### PEPFAR supports countries in collecting several types of surveillance information:

- HIV prevalence and recent infection rates through sentinel surveillance, including antenatal clinic and STI clinic attendees and high-risk populations in the community;
- HIV and behavioral prevalence in the general population through the Demographic and Health Survey (DHS) and the AIDS Indicator Surveys (AIS) with HIV testing;
- Behavioral prevalence among high-risk populations; and
- Transmission of drug resistant HIV strains.

Historically, the only data for estimating HIV rates in most countries were from "sentinel surveillance" – the results of HIV tests among selected groups in a population. These groups typically include pregnant women visiting antenatal care centers and, less frequently, people seeking treatment for sexually transmitted infections (STIs). Starting in 2001, another source of data became available: the USAID/PEPFAR-funded Demographic and Health Survey (DHS). DHS tests a representative sample of the population and links HIV infection status with other social and behavioral information, such as education or condom use, giving a more detailed picture of the epidemic.

Data from both DHS and the AIDS Indicator Surveys (AIS) are fundamental to understanding local epidemics. These data form the basis for program planning and are used to evaluate program efficacy (when used longitudinally). To date, 21 DHS and AIS surveys have been conducted in Latin America, sub-Saharan Africa and Asia. Similar surveys are underway in 12 more countries.

PEPFAR also supports development of new surveillance methods – e.g., for targeting hard-to-reach populations, monitoring antiretroviral drug (ARV) resistance, improving the quality of laboratory testing for HIV serologic surveys, assessing new laboratory methods to monitor recent infections among HIV surveillance and survey samples, measuring AIDS-related mortality, and, through the Service Provision Assessment (SPA) survey, tracking the availability and quality of antiretroviral treatment in health care services in developing countries. To date, SPA surveys including HIV have been carried out in two countries and are underway in three more.



## To improve the quality of data being collected, the U.S. Government (USG) has developed training materials and supports regional and national surveillance trainings and workshops on:

- Estimating HIV prevalence and incidence;
- Implementing basic HIV seroprevalence surveys;
- Using Epi Info software to analyze antenatal clinic HIV sentinel surveillance data;
- Sampling and estimating the size of hard-to-reach populations;
- Conducting behavioral surveillance;
- Implementing TB/HIV surveillance;
- HIV case reporting systems using the new WHO case definition;
- Performing sample vital registry with verbal autopsies; and
- Data use and reporting.

The USG also assists UNAIDS and the World Health Organization (WHO) to conduct regional workshops on HIV estimates and projections, and provides expert consultation on the modeling used to develop these estimates and projections.

## The Emergency Plan at Work

PEPFAR, along with other international partners and the governments of host nations, provides technical and financial support for national HIV surveillance efforts in the following ways:

- **In Mozambique**, PEPFAR is supporting the Mozambique Multisectoral Technical Group (MTG). MTG advises the government on interpreting sentinel surveillance data on HIV prevalence and on improving data collection. The MTG includes broad representation from government agencies and others, and analyzes sentinel surveys, recommends changes to the surveillance system, and produces HIV/AIDS impact projections with internationally-recognized techniques. MTG reports and analyses have been used as the most reliable sources of information about HIV prevalence and demographic impact. National advocacy groups and policy programs use MTG information for advocacy, resource mobilization, monitoring and evaluation, and for programmatic purposes such as estimating the number of people to be covered by specific interventions.
- **In Brazil**, the National AIDS Program piloted new sampling methods to perform behavioral surveillance among the most vulnerable, hard-to-reach populations at risk for HIV transmission. The National Program is preparing its first national behavioral surveillance round.
- **In Vietnam, Uganda and China**, PEPFAR is supporting Ministries of Health (MOH) in understanding the dynamics of their epidemics, by providing training in how to use and analyze the BED assay for measuring recent infection with HIV.
- **In Vietnam, Brazil, Honduras, India, Uzbekistan, Kazakhstan, China, Serbia and Montenegro, Tanzania, South Africa, Papua New Guinea, Albania and Russia**, MOH surveillance officers and survey administrators have learned to use Respondent Driven Sampling (RDS) to reach hidden populations at high risk for HIV transmission, including injection drug users, people in prostitution, high risk heterosexual men, and men who have sex with men.
- **PEPFAR supports** nations in building their capacity to use Sample Vital Registration with Verbal Autopsy (SAVVY), an established best practice for collecting sample vital registration information on national populations. PEPFAR has supported implementation of SAVVY in Mozambique, to better estimate levels and causes of HIV-related morbidity and mortality. SAVVY planning trips have been made to Ethiopia, Kenya, Vietnam and Zambia.
- **In Angola**, PEPFAR supported the MOH to implement and subsequently expand the first post-conflict antenatal clinic sentinel surveillance round.