1. Background

The scale up of ARV treatment has significant implications for surveillance of HIV/AIDS. Longitudinal community studies are in a special position to address some of these questions, and if such answers are addressed in a multi-site manner the results may have far reaching implications for surveillance and estimates.

WHO approached partner organizations to jointly develop a collaboration of longitudinal community and related studies to address a small set of priority questions on surveillance in the era of treatment. The collaboration has several linkages. The WHO-European Commission project on Second Generation Surveillance will support key analyses, implementation of studies and meetings and provides a platform for implementation of the results (focal points: Txema Calleja). The planned Collaborative Analysis project for Community-based Longitudinal HIV studies based at the London School of Hygiene and Tropical Medicine (focal point: Basia Zaba), for which support is being sought from the Wellcome Trust, will contribute to the analytical work. The link with the UNAIDS Reference Group on Estimates, Projections and Modelling (focal point: Geoff Garnett) and UNAIDS (focal point: Peter Ghys) implies that research questions are generated based on priority issues for estimates and will be a major user of the results. In addition, the Centers for Disease Control and Prevention (CDC), Atlanta, is a close partners with extensive experience and ongoing work in the field of surveillance and treatment. The initial phase of the collaboration is two years. WHO will be the secretariat of the collaboration.

2. Areas of Work

PMTCT and antenatal surveillance

Antenatal clinic-based surveillance is the mainstay of tracking the HIV prevalence in countries with generalized epidemics. Since many of the antenatal clinics (ANC) that have been participating in national HIV sentinel surveillance have started (or will soon start) providing PMTCT, this may affect the quality of ANC sentinel surveillance data. There are also concerns about continuing anonymous unlinked HIV surveillance in ANC settings. New methods are needed for measuring the effects of PMTCT availability on patterns of use of ANC and to assess the resulting impact on ANC-based HIV surveillance, including the likely changes in relationship between prevalence of HIV in the community and in ANC.
Priority research questions:
- What is the effect of PMTCT introduction on ANC based surveillance to capture population trends? Can PMTCT data be used instead of ANC data? If yes under what circumstances?
- Can ways be found to adjust for possible biases related to the introduction of PMTCT?
- Can prevalence trends among ANC clinics be used to approximate HIV incidence trends, with the introduction of ART?

Estimating the need for treatment

The estimation of the need for treatment is important for the estimating of coverage, projections and forecasting of need and supply. Currently, there is no method available to assess the need for treatment in communities. Improved AIDS case surveillance or universal access to HIV counselling and testing may help but will have its limitation for estimating need. At the global, regional and national levels modelling is used to assess the need for treatment, which is taken as equivalent to all those HIV infected people who are expected to die within 2 years (plus those already on treatment).

The longitudinal community studies have information on all HIV infected people in a population. A random sample of HIV infected people (or full sample) can provide information on the clinical picture and the immunological status - through CD4 cell counts - of this population. The proportion of all infected people who need treatment can then be estimated using different criteria, including the 2005 revision of the WHO case definition. The case definition is based on a combination of clinical signs and symptoms and biological data, including HIV antibody test and CD4 cell count. The information should lead to better methods to estimate needs from models based on HIV prevalence.

It will also be possible to obtain better insights about the CD4 cell distribution and its link with clinical presentation by comparing the population sample with clinical and CD4 cell count information among HIV positives who are in contact with health services, such as counselling and testing services and ART clinics.

Priority research questions
- How can the need for treatment be best estimated?
  a. What is the distribution of CD4 cell counts in a general population sample of HIV infected people?
  b. What is the clinical picture, including the AIDS case definition?
- Who seeks care, what are the dynamics of treatment access?

VCT and surveillance

During the next few years a vast amount of data on HIV prevalence will be generated by HIV testing and counselling sites. Problems with using voluntary counselling and HIV testing (VCT) data for surveillance include:
- not representative, but self selection of users will differ between countries, sites and even over time within sites
- context-specific: data collected in a drop in VCT centre will be different from those collected in a testing centre attached to a hospital and different again from those collected in a home based VCT service
- those using VCT will differ over time: initial users will differ from those who come forward only when ART availability is established, or those who respond to some campaign, and once there is a high proportion in the community who have been tested repeat testers will form a higher proportion of VCT users

Priority research Questions

- Can VCT data be used for surveillance purposes?
- VCT and community:
  - how does VCT prevalence (by sex, age, residence, marital status etc) relate to general population prevalence? does this change over time?
- VCT centres:
  - does the composition of those coming forward for testing by motive (marriage, illness, death of spouse etc.) change over time?
  - does VCT prevalence vary by motive for testing?
  - does socio-demographic & residential (how far) composition of users change?
  - what proportion of clients are repeat testers?
  - what proportion have partners who have been tested?
  - proportion not returning for results by socio-demographic background
  - what proportion of clients are repeat testers?
  - what proportion have partners who have been tested?
  - proportion not returning for results by socio-demographic background
  - (data should be classified by type of VCT service and rural urban location)

In the community
- socio-demographic profiles of ever/never had VCT, and repeat testers
- place where tested
- did they get results, were they counselled about repeat testing?
- HIV status of never / ever / repeat testers
- prospective testing behaviour
- disclosure within and outside the family (plus same questions as in VCT, where applicable)

Qualitative research may be needed on service quality issues and disclosure

Concentrated Epidemics.

Most of the countries in the world registered epidemics that affect mostly specific populations with high risk behaviour or are vulnerable to HIV infection. Furthermore the biggest proportionally increase of HIV infection in the last few years have been in countries with concentrated epidemics. The simplification of the epidemiological typologies hides however the complexity of spread of HIV and the interaction between populations with higher risk for HIV infection and other population groups. WHO/UNAIDS have recommended to conduct regularly HIV surveillance among those groups with higher risk for HIV infection. However given the nature of those population groups often are marginalised and are difficult to reach.
Priority research Questions

- How ART will impact in the biological behavioural surveillance surveys that are being implemented in countries?
- How ART impact on HIV prevalence?
- Does HAART availability modify behaviour risk HRG?
- Does HAART impact HIV incidence among those groups?
- What is the CD-4 spectrum among these populations and the need for ARV?

3. Procedure

Proposals should be submitted to WHO for each area of work ([callejaj@who.int](mailto:callejaj@who.int)) with the following content. The maximum limit for the proposals are 75 000USD and one year period.

- Proposal addressing research questions and objectives
- Methods and tools for data collection and analysis
- Questionnaires and forms used for data collection
- Budget; detail budget and justification for budget lines
- Ethical clearance of institutions or countries involved in the study
- Informed Consent Form in English and Local language
- CV of the Principal Investigator and collaborators

Proposals sent to WHO will be reviewed by two external experts and will have to go through clearance with the Ethical Review Committee (ERC) in WHO and they will be required to answer their queries or clarifications. A Technical Service Agreement (TSA) will be established once the ERC approved the proposal.