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EVALUATION OF "SURVEILLANCE ON HIV/AIDS
PROJECT EC FUNDED", IMPLEMENTATION OF
2ND GENERATION SURVEILLANCE ON HIV/AIDS
IN EIGHT SELECTED COUNTRIES EXECUTED
BY UNAIDS/WHO

Final Report

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1 EXECUTIVE SUMMARY

The 5-year project to implement 2nd generation surveillance in eight countries (Tanzania, Burkina Faso, Nigeria, Mozambique, Mexico, Dominican Republic, Vietnam and Myanmar) is conducted by UNAIDS/WHO and financed by the European Commission. This project is developed in three phases: 1) assessment of national existing surveillance activities in the selected countries, 2) preparation of the pilot surveillance package for its implementation, consensus with NACP and collaborating international and national partners, 3) implementation and follow up of surveillance activities.

This report presents the external evaluation of the project. The **evaluation questions** were:

1. To what extent did assessment of the existing situation result in a relevant project of implementation of 2nd generation surveillance in the selected countries?
2. To what extent were the activities foreseen in phase 1 and 2 completed?
3. In this process, what were the main elements for success and what were the main barriers (country-specific or in general)?
4. To what extent is the implementation of a 2nd generation surveillance system taking place as foreseen? What good experiences have been made, what difficulties encountered, and what changes undertaken?
5. Is there evidence of elements for sustainability within the planned system?
6. To what extent and how can this experience be useful to other countries?

The **methodology** used in the evaluation included: desk review of documents (phase 1); 10-12 days country visit in three of the eight countries (Tanzania, Dominican Republic, Myanmar), including interviews of key persons, site visits, review of documents, final meeting with the main stakeholders to report on the visit; phone or face to face structured interviews were conducted with a key person of the project in the remaining countries; four team workshops took place to prepare the instruments for evaluation, review the progress of the evaluation and formulate conclusions and recommendations. The evaluation was conducted by an international team set up and directed by the University Institute for Social and Preventive Medicine, Lausanne, Switzerland.

The **conclusions** of the evaluation are the following:

The assessments of the existing situation related to HIV/AIDS surveillance conducted in the countries were of good quality. The consensus workshops that took place as a consequence of this first step were attended by the major stakeholders in the countries and were very fruitful and appreciated. In each country this process resulted in the set up of protocols for both components (biological and behavioural) of second generation surveillance (SGS). These protocols were unequal in quality, but in most cases good. As of June 2003, two countries had completed the first cycle in the implementation of SGS (up to final reporting for both components); in these countries, the added value of such a process was acknowledged, especially in regards to planning of prevention activities. It is foreseen that all countries will have completed this final phase by the end of 2003. The feasibility of implementing the first foundations of SGS has been demonstrated. Some difficulties have been encountered in the countries during this process. They concerned mainly the behavioural component of SGS, where methodological questions have still to be tackled, especially regarding sampling methods, reproducibility of surveys, and compatibility between the two components of SGS. These questions need particularly attention in the case of concentrated epidemics and hard to reach populations.

The concept of SGS was insufficiently embodied from the beginning and throughout the project: in most of the cases the two components of SGS ran separately and in no case, triangulation and synthesis of data from the two components were performed. Coordination with other parties participating in surveillance was not always sufficient nor was supervision of the whole process.

In some countries, there seems to be a potential for sustainability of SGS while in others (mainly in countries with concentrated epidemics), sustainability is more uncertain, due to financial resources. Furthermore, methodological considerations on a reliable behavioural surveillance system, as well as linkage with biological surveillance have been very limited at this stage.

Overall it is concluded that valuable experience has been gained and that the project should continue, with the **recommended adjustments**.

In order to better establish the foundations of SGS in the selected countries, it would be favourable to continue for another 3-4 years, in order to complete two cycles. In the future it will be necessary to better integrate the two components since the beginning and throughout the project, at each level of implementation. This implies:

- a better collaboration between the two subsystems,
- a reinforcement of the coordination at the country level (specific person in charge),
- increased technical support from UNAIDS/WHO,
- increased advocacy role of UNAIDS/WHO to mobilise other national/international actors who can contribute to the system.

Mechanism of supervision should be improved (nationally and UNAIDS/WHO). Regular monitoring of the project and technical support should be more systematic. (A) person(s) in charge of SGS at country level should be identified (role clarification) and adequately supported.

An adequate dissemination of the results of the project should be planned with advocacy and capacity building aims.

More generally, the project has certainly contributed to the wider recognition and importance of SGS through a large range of activities and products. There is a clear need to continue to develop and implement SGS in more countries in taking the necessary steps for improvement suggested in this evaluation.

2 INTRODUCTION

2.1 UNAIDS/WHO/EC PROJECT FOR IMPLEMENTATION OF 2ND GENERATION SURVEILLANCE IN EIGHT COUNTRIES

The European Commission is currently financing a 5-year (1999-2003) project for implementation of 2nd generation surveillance. This project is conducted by UNAIDS in collaboration with the National AIDS Programmes (NAPs) in eight countries: Tanzania, Burkina Faso, Nigeria, Mozambique, Mexico, Dominican Republic, Vietnam and Myanmar. It was initiated in 2000 and will extend to the end of 2003. These countries are in different HIV/AIDS epidemic states (concentrated and/or generalized)^a.

The objective of the project is to develop a system to improve the sustained production, collection, analysis, interpretation, and dissemination of biological and risk behaviour data on HIV/STI/AIDS epidemiological surveillance in the sense of second generation surveillance.

The project is developed in three phases:

Phase 1 – assessment of national existing surveillance activities in selected countries.

Phase 2 – preparation of the pilot surveillance package for its implementation, consensus with NACP and collaborating international and national partners. Adaptation of the second generation surveillance principles to specific countries. Preparation of a comprehensive project by each country and obtainment of a consensus on the project, its objectives, methods and expected outcomes via national workshops. Development of surveillance protocols.

Phase 3 – implementation and follow-up of surveillance activities:

- development of methodologies and procedures to follow up the programme
- implementation of surveillance protocols
- national and international evaluation
- feedback of information to the providers and partners
- technical and financial monitoring
- workshops at regional level with international and national experts to make recommendations for the extension of the programme.

2.2 EVALUATION OF THE PROJECT

The evaluation of the project has been commissioned to the University Institute for Social and Preventive Medicine (IUMSP) in Lausanne, Switzerland.

^a UNAIDS. Background information for the M&E framework for the EC project (26.04.2001).

UNAIDS. Terms of reference for the Monitoring and Evaluation (M&E) of the European Commission/UNAIDS *Surveillance on HIV/AIDS* project in 8 Developing Countries (Oct. 2001).

WHO/UNAIDS. Guidelines for Second Generation Surveillance. Geneva, 2000.

This document is the evaluation final report. It is complemented by three country reports resulting from the visits to Tanzania^b, Dominican Republic^c, Myanmar^d.

2.2.1 Specified purpose of Monitoring and Evaluation (M&E) of 2nd generation surveillance

The purpose of the M&E is to review the overall implementation of the 2nd Generation Surveillance in relation to its objective and different phases in order to improve existing national efforts and allow the replication and scaling-up in the various sub-regions.

The evaluation has to provide a general M&E framework for the overall project implementation taking into account the different phases of the project.

This framework should provide the basic elements that can be used in the national evaluation of the HIV/AIDS/STI and behavioural surveillance systems.

^b J-P. Gervasoni, F. Hamers. Evaluation of the European Union funded project of second generation surveillance: Tanzania case study. IUMSP, Lausanne, Switzerland. July 2003.

^c F. Perez, F. Dabis. Evaluation of the European Union funded project of second generation surveillance: Dominican Republic case study. Institut de Santé Publique, Epidémiologie et Développement (ISPED), Université Victor Segalen, Bordeaux (France). April 2003.

^d J-P. Gervasoni, F. Hamers. Evaluation of the European Union funded project of second generation surveillance: Myanmar case study. IUMSP, Lausanne, Switzerland. August 2003.

3 METHODS

3.1 EVALUATION STAFF AND ORGANISATION

A team of six experts^e (surveillance and evaluation experts) was set up and directed by Françoise Dubois-Arber, Head of Evaluation Unit, IUMSP Lausanne. This team convened in four workshops^f at different stages of the evaluation. In these meetings, evaluation instruments were reviewed, data collection organised, analysis and reporting discussed. The UNAIDS/WHO project leaders participated in the first three meetings: procedures and intermediate results were presented in these occasions.

3.2 EVALUATION CONCEPT

The evaluation is utilisation-focused^g, participative and taking into account the needs of different stakeholders (participating countries, UNAIDS/EC).

3.3 GENERAL PROCEDURE

Evaluation proceeded in three stages:

An evaluation procedure for the phases 1-3 was developed (in early 2002) and field-tested in Tanzania, the country where the project was first initiated. The visit to Tanzania took place between the 2-14 of May 2002 and was performed by Dr. Jean-Pierre Gervasoni and Dr. Françoise Hamers. A country visit report was produced;

Two additional countries were visited (early 2003):

Myanmar from 3 February 2003 to 13 February 2003 by Dr. F. Hamers and Dr. J-P. Gervasoni.

The Dominican Republic from 3 February 2003 to 14 February 2003 by Dr. Freddy Perez and Pr François Dabis.

c) Follow-up and documentation of the lessons learned in the other countries were undertaken through a rapid assessment of the situation. For this, phone or face to face interviews with key persons in each country^h based on a structured questionnaire were carried out (see Annex 2),

The three visited countries were selected according to different criteria:

- one country from each region represented in the project (Africa, South America, Asia),
- countries with different epidemic states (generalized or concentrated),
- countries of different size.

^e See Annex 1: list of members of the evaluation team.

^f Workshop 1: 25-26 March 2002, Chexbres
Workshop 2: 21-22 June 2002, Lausanne
Workshop 3: 27-28 March 2003, Lausanne
Workshop 4: 30 June to 1 July 2003, Lausanne

^g Patton MQ: *Utilization-focused evaluation, 2nd ed.* Newbury Park: Sage Publications; 1987.

^h Despite many attempts, it was not possible to obtain the participation of the responsible persons for the project in Mozambique.

The choice of visited countries has been discussed with UNAIDS-HQ in Geneva and NAPs of the countries represented in the project.

3.3.1 Evaluation of phase 1 and 2 of the project

Evaluation questions

1. To what extent did the assessment of the existing situation result in a relevant project of implementation of 2nd generation surveillance in the selected countries?
2. To what extent were the activities foreseen in phase one and two completed?
3. In this process, what were the main elements for success and what were the main barriers (country-specific or in general)?

Three steps have been considered:

1. **First analysis of the situation (assessment)** – the dimensions considered for evaluation are: completeness, quality of diagnosis, usefulness (relevance of recommendations), and participation of country.
2. **Consensus building** – Dimensions evaluated were: representativeness of actors, quality of final document including clearly stated objectives, presence of a detailed action plan including the definition of roles and responsibilities.
3. **Protocol development** – dimensions considered were:
 - For behavioural surveillance: sampling, instrument design, training, pilot testing, data collection, ethical issues, data processing and analysis (including plans for triangulation of data), organisation, coordination, supervision, use of data, budget and supplies, sustainability.
 - For biological surveillance (HIV serosurveillance): site selection and sampling, capacity building, laboratory methods and quality control, data registration, flow of data and of biological samples, ethical issues, data processing and analysis (including plans for triangulation of data), organisation, coordination, supervision, use of data, budget and supplies, sustainability.

These dimensions were assessed by **desk review** of documents.

Interviews were conducted with key actors involved in the process (managers of the project at UNAIDS-HQ and at country level) to complete the information collected from the review of documents, mainly by focussing retrospectively on strengths and weaknesses of this process, and on appreciation of the feasibility of the project, as acknowledged by the actors.

3.3.2 Evaluation of phase 3 of the project

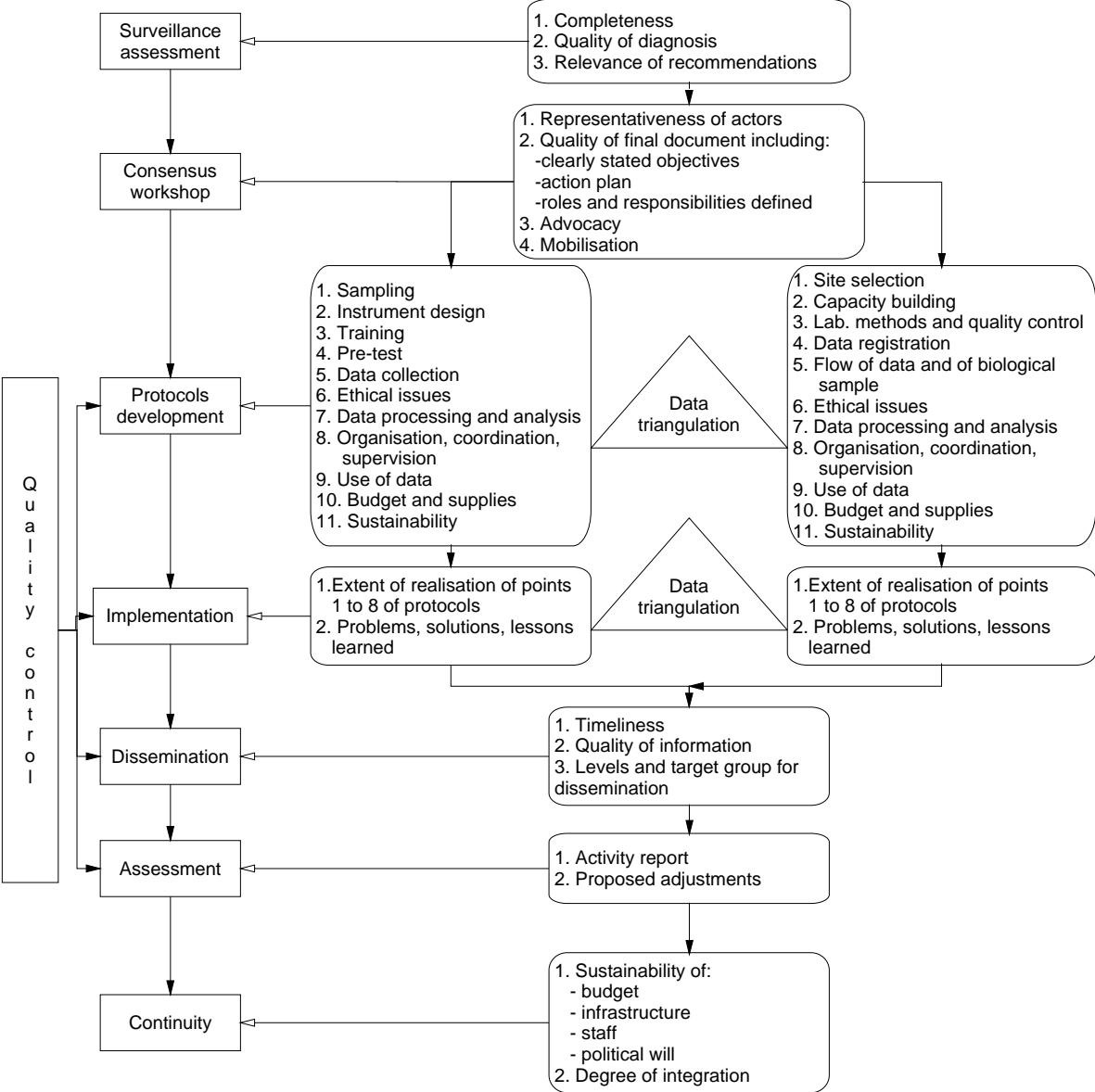
Evaluation questions

1. To what extent is the implementation of a 2nd generation surveillance system taking place as foreseen? What good experiences have been made, what difficulties encountered, and what changes made?
2. Is there evidence of elements for sustainability within the planned system?
3. How and to what extent and how can this experience be useful to other countries?

The evaluation of this phase was performed during **site visits** to three selected countries by a team of two persons with expertise in evaluation and surveillance. Additional information was sought during the phone interviews with key persons from the other countries.

In each selected country, two levels of implementation were visited and assessed, i.e. national and regional.

Figure 1 Flowchart for the quality control of SGS



During **group sessions, individual interviews**, and by on-site **review of documents**, different lines of assessment were followed:

Review of the inputs of the project and the degree of achievement of the different steps of the implementation of the protocol in the two subsystems (HIV serosurveillance/behavioural surveillance).

Identification with the actors at different levels of the strengths and weaknesses of the implementation.

Review – at different levels – of indicators of the quality and possible sustainability of the system.

For each line of assessment (see Figure 1), checklists and interview guides were produced (see Annex 3).

The persons interviewed at country level included:

- representatives of Ministry of Health,
- head of NAP and (if different) head of the 2nd generation surveillance project in the country,
- CPA and relevant persons pertaining to UN co-sponsorship, or representatives of other international partners at country level (NGOs, representatives of main donors, etc.),
- epidemiologists, social scientists, field personnel and technicians involved at different levels in the two subsystems (HIV/STIs biological surveillance and behavioural surveillance),
- representatives of NGOs/communities involved at national or regional level.

The list was established in collaboration with NAPs managers and project leaders in UNAIDS/WHO.

4 EVALUATION OF PHASE 1 AND 2 OF THE PROJECT

Phase 1 – assessment of national existing surveillance activities in selected countries (situation analysis).

Phase 2 – preparation of the pilot surveillance package for its implementation, consensus with NACP and collaborating international and national partners. Adaptation of the second generation surveillance principles to specific countries. Preparation of a comprehensive project by each country and obtainment of a consensus on the project, its objectives, methods and expected outcomes via national workshops. Development of surveillance protocols.

4.1 RESULTS

In each of the eight countries selected the assessment took place and was followed by a consensus workshop and a project of implementation.

At the end of March 2003, six countries were still in the implementation phase (in different phases) while two (Burkina Faso and Tanzania) had already completed the first wave of second generation surveillance (SGS) with the production of a final report (see. Table 1).

Table 1 Status of the project phases, first trimester 2003 (UNAIDS/WHO data)

Country	Phase 1	Phase 2	Phase 2	Phase 3
	Assessment	Consensus workshop	Protocol Development	Implementation
Mexico	Completed 1999	Implemented 2000	Prepared 2000	2001
Dominican Republic	Completed 1999	Implemented 2000	Prepared 2000	2001-2003
Burkina Faso	Completed 1999	Implemented 2000	Prepared 2000	2001-2002
Tanzania	Completed 1999	Implemented 2000	Prepared 2001	2001-2002
Nigeria	Completed 2000	Implemented 2000	Prepared 2001	2001-2003
Mozambique	Completed 2001	Implemented 2002	Implemented 2002	2002
Vietnam	Completed 2000	Implemented 2001	Prepared 2001	2001-2003
Myanmar	Completed 2001	Implemented 2001	Prepared 2002	2002-2003

4.1.1 Analysis of the situation assessment

Comprehensiveness – the assessment report gives generally a comprehensive view of the epidemiological situation regarding biological surveillance. Most countries assessed had had previous experience in sentinel surveillance in antenatal clinics and therefore had a good data management biological surveillance. The situation is different in regards to the assessment of behavioural data. In this case, countries have more limited control on behavioural surveillance/surveys (less centralized information, limited coverage, many actors involved in behavioural surveillance, etc.) In certain cases, the assessment of this component of the

surveillance was done after the biological component (e.g. Tanzania). In other cases the documents were not available by the time of the visit or the data was not described in the report although their existence was mentioned. The assessment reports most of the time contain limited information on behaviour, leading to the recommendation to collect this information on a next step (but often not sufficiently followed up: during the evaluation visit it was still difficult to have access to all appropriate documents.). A description of the existing data, even if patchy and with insufficient coverage, as well as identification of research groups in this field may be useful.

The reports did not analyse sufficiently the context in which surveillance takes place (financial, participation of international agencies and bilateral donors in surveillance or surveys, strengths and weaknesses of the National AIDS Programme regarding surveillance, managerial and administrative capacities, political interest in surveillance, etc.).

Quality – overall, the quality of the reports was good, and the recommendations evidence-based.

Utility – reports included clear and relevant general recommendations. They were unanimously welcomed and appreciated.

Cooperation – the assessment was generally conducted by a team, always including an epidemiologist (one of the project leaders) and often a behavioural scientist (the other member of the project team), with sometimes another international public health specialist. In several cases the assessment team included an expert from the country visited (who sometimes co-signed the report), in other situations country representatives participated in site visits.

Conclusions and recommendations for the country assessment

Conclusions	Recommendations
<ul style="list-style-type: none"> ■ Overall good quality of the situation analysis (evidence-based). ■ Assessments welcomed and appreciated by the national teams. ■ The comprehensiveness of the assessment was more developed for the biological than for the behavioural surveillance one, generally due to a real difference in the state of development of behavioural surveillance in the countries. ■ Most of the time the context was insufficiently taken into account in the country assessment recommendations, reports were rather technical with limited appreciation of the political and organisational management context. 	<ul style="list-style-type: none"> ⇒ In order to overcome the "unbalanced" weight of biological versus behavioural surveillance and to open the way to SGS ("show the good example of SGS from the beginning"): <ul style="list-style-type: none"> ■ the assessment team should systematically include expertise in both epidemiology and behaviour sciences, as well as local staff, ■ the country assessment should include a better search for and presentation of data from previous behavioural studies even if not representative. ⇒ The assessment should be better contextualised. This may be done during the consensus building process and appear in a later version of the report as an appendix after the consensus workshop.

4.1.2 Consensus building process

Comprehensive documents did not exist for every country regarding the consensus workshop and the resulting decisions. In particular information on roles and responsibilities for the preparation of the protocols as well their implementation was not always available.

A person in charge of the project, capable of coordinating the two components of SGS at country level was not always designated. An example of good practice was the case of Myanmar where a person from the MOH was specially named as responsible for the project and located within the UNAIDS premises. It was therefore easier for this person to be identified in this function and to be dedicated to the project without being overwhelmed by other tasks.

More generally, there is a lack of an outline of what an appropriate system of SGS should tend to in the specific situation of the country – taken into account existing surveillance system(s) or surveillance elements and planned improvements. The whole picture of the future SGS framework, including the other contributing actors to the system (e.g. the surveys conducted by the different international/bilateral agencies operating in the country) may though be a very useful product of the consensus workshop.

The **representativeness of actors** involved in this process was good. Generally the interviewees acknowledged the **importance and usefulness** of this procedure to gain interest and participation in SGS.

Conclusions and recommendations for consensus workshop

Conclusions	Recommendations
<ul style="list-style-type: none"> ■ Generally good representativeness of actors. 	⇒ To maintain this important step.
<ul style="list-style-type: none"> ■ Perceived as being very useful by the country participants. 	⇒ To insure the participation of governmental agencies, NAP, NGOs, international agencies (especially those conducting HIV serological surveillance, STI surveillance, behavioural surveys, and other HIV related surveys in the country), public health professionals, experts in epidemiology and behavioural sciences.
<ul style="list-style-type: none"> ■ In most countries, no outline of a specific and appropriate future for the SGS system. 	⇒ To draft the main elements that the country would like or need to have as an SGS system within the next 10 years.
<ul style="list-style-type: none"> ■ Insufficient action plan and definition of roles and responsibilities of the main actors involved in SGS. 	⇒ To develop an action plan including the additional needs and the roles and responsibilities of the main actors (national and international). ⇒ To assign one person in charge of the project at country level.

4.1.3 Protocol development

At the stage of protocol development the project followed different lines according to the situation of the country.

For instance,

- In Burkina Faso, a protocol including both the behavioural surveillance and the biological surveillance was prepared. This protocol included almost all the aspects relevant to SGS, including discussion of issues such as triangulation of data, use, and sustainability.
- In Mexico, the project, along with the consecutive protocol, only included behavioural surveys in specific populations (men who have sex with men [MSM], migrants, injecting drug users [IDU], sex

workers [SW], young people) without biological measures – Mexico having besides an HIV case reporting system. No planning for the triangulation of data was devised.

In the other countries, protocols for behavioural surveys and biological surveillance were generally developed separately with different coverage of specific populations in the countries with mainly concentrated epidemics. For instance, in Vietnam, only one specific population (MSM) was retained for the behavioural component of the project, the others having been surveyed in another context.

The length of the procedure for protocol development was unequal for the two components; biological surveillance protocols were presented earlier than behavioural surveillance protocols. In some cases, it took more than one year to get a final protocol (especially behavioural surveillance protocols). Two main causes for delay have been identified: difficulty in finding/mobilising expertise in the country (behavioural surveillance) and delays in the transfer of funding from UNAIDS/WHO to the country and in the country from the MOH to the final beneficiaries.

The organisation of the supervision (clear steps to arrive to a definitive approval, role definition in this process and time devoted to supervision by the project leaders who had to manage the development in several countries concomitantly) was also not optimal. For instance, during visits in the countries, it was sometimes not easy to trace the different versions of the protocol and to understand the modifications introduced in the subsequent versions.

Overall the protocols were of unequal quality, some of them being too general (e.g. behavioural component in Myanmar, Mozambique). Generally, protocols for biological surveillance were more comprehensive than protocols for the behavioural component. In several countries there was insufficient expertise in behavioural studies in the MOH or the NAP. This led to the search of appropriate external help through UNAIDS and to various types of partnerships (Burkina Faso with the private agency BASP, Tanzania via Department of Sociology from the University of Dar es Salaam, private consultant in Dominican Republic, etc.).

Additionally, in several countries, bilateral or international agencies were supportive in the whole process (e.g. Italian development cooperation and CDC in Tanzania).

In regards to **completeness of the protocols**:

In several protocols, especially the protocols for the behavioural component of the surveillance, the following elements were absent or insufficiently described:

- plans for the analysis of data,
- plans for triangulation of data, including checking of the compatibility between the two instruments (for biological and behavioural surveillance). For instance, in one case the socio-demographic variables in the two instruments were not identical,
- explicit links to prevention indicators or M&E indicators,
- reflection on sustainability issues (for instance no mentioning of the expected frequency of survey repetition or conditions necessary for repetition). This should include a methodological discussion about repeatability of behavioural surveys, stability of samples, ability to measure trends, etc.,
- cooperation between staff working on each component,
- ethical issues, including a review by a national ethics committee,
- description of feedback information strategy to favour adequate use of data.

As a result of the preceding, it appears that in some countries, the very nature of second generation surveillance (the triangulation of the two surveillance components - behavioural and biological -, the resulting necessity of continuity of the process, i.e. the ability of measuring trends), was not sufficiently

apparent, not included in the protocols. In terms of advocacy for SGS, this may be considered a weakness in the process (particularly as a learning element). The strength is the fact that the process was actually conducted in the two components of the system and the persons interviewed about this process generally acknowledged that it was a good experience.

The guide produced by UNAIDS in August 2002ⁱ represents an important progress towards an easier implementation process for the protocols. Nevertheless a more detailed appendix containing a template for the protocols with a description of all necessary items to be included would be essential complementary information for countries wishing to embark in SGS.

The link between M&E and SGS is still not fully conceptualised by UNAIDS/WHO. There is some overlapping between surveillance and evaluation activities, and discussions in the countries visited showed that notably regarding roles and responsibilities of different actors in these fields as well as funding issues, there is a lot of uncertainty.

Conclusions and recommendations for protocol development

Conclusions	Recommendations
<ul style="list-style-type: none"> ■ In each country^j, protocols were developed for both components of SGS. ■ Unequal quality of protocols (biological surveillance protocols generally better than behavioural surveillance ones). ■ Plans for analysis, triangulation, sustainability of the system, generally lacking or insufficient. ■ Difficult/long process/lack of continuity/ lack of expertise at national level. 	<ul style="list-style-type: none"> ⇒ Continuous back-up/support from project leaders or other experts is needed (supervision and training), as well as clear role clarification in this process. ⇒ In order to firmly inscribe the idea of SGS, protocols should include (at least): <ul style="list-style-type: none"> ▪ a clear plan of analysis including the link with the M&E indicators and triangulation elements, ▪ a methodological discussion on requirements for trend analysis, particularly in behavioural surveillance, ▪ a reflection on the way to ensure the sustainability of both components of the system, and the steps to be completed, ▪ ethical issues (confidentiality, steps taken to inform an ethical committee). ⇒ The protocols should define a communication plan including the feedback to the participating regions in the surveillance system in addition to national communication strategy. ⇒ The process should be better documented. ⇒ The funding line should be improved. ⇒ A detailed template (included in the guidelines document of UNAIDS) should be provided.

ⁱ Initiating second generation HIV surveillance systems: practical guidelines. UNAIDS/02.45E, Geneva, August 2003.

^j Except for Mexico, where it was not planned.

4.2 CONCLUSIONS AND RECOMMENDATIONS REGARDING PHASE 1 AND 2 WITH RESPECT TO THE EVALUATION QUESTIONS

Conclusions	Recommendations
<ul style="list-style-type: none"> ■ The assessment of the existing situation resulted in a relevant project of implementation of 2nd generation surveillance in the selected countries ■ In each country the activities of phase one and two were completed, with some limitations, mentioned earlier. ■ The participants valued this process. 	<ul style="list-style-type: none"> ⇒ The procedure chosen to implement in a concrete way (elements of) second generation surveillance in countries with diverse types of epidemics is adequate, in particular the participatory element of this process. ⇒ Participation is central as a possible element for sustainability and has to be gained systematically, including the participation of international or bilateral agencies
Elements for success	
<ul style="list-style-type: none"> ■ In some countries one or more of the following partners gave support to the project: <ul style="list-style-type: none"> ▪ NAPs, ▪ international organisations, ▪ UNAIDS-CPA, ▪ politicians. This support has been central to the development of SGS. ■ Joint assessment of biological and behavioural surveillance from the beginning (country assessment) resulted in better assessment reports. 	<ul style="list-style-type: none"> ⇒ Identify the person(s) that will be supportive for the development of SGS right from the beginning. ⇒ Identify a person directly in charge of SGS (different models of affiliation are possible, cf. Myanmar with the person based at UNAIDS or now at WHO). ⇒ This teamwork needs to be extended to the whole process and to result in joint or coordinated protocols.
Main barriers to overcome	
<ul style="list-style-type: none"> ■ Lack of coordination between agencies at country level (who is doing what?). ■ Duplication of projects. ■ Lack of thinking in terms of sustainability and funding. ■ Lack of integration between the two elements (biological and behavioural) at each level (UNAIDS, country, staff units). ■ Lack of expertise in behavioural surveys in some countries. 	<ul style="list-style-type: none"> ⇒ This coordination has to be improved. It is of utmost importance since elements of the surveillance system are in hands of international/bilateral organisations (FHI, CDC, World Bank, Macro International [DHS], etc.). ⇒ Take advantages of various sources of funding to increase synergy and reduce duplication. This task implies negotiation skills and a sufficiently strong position at country level. ⇒ Plan the repetition of surveys from the beginning and the procedures to follow and to obtain funding/support. ⇒ There is a need to better integrate SGS in already existing HIV surveillance (e.g. AIDS and HIV case reporting), STI surveillance and other health information systems. ⇒ Multidisciplinarity is needed since the beginning (assessment) and during the whole process (joint protocols). ⇒ Continue to provide support and training when necessary, including regular supervision.

5 EVALUATION OF PHASE 3 OF THE PROJECT

Phase 3 includes the implementation and follow-up of surveillance activities:

- development of methodologies and procedures to follow up the programme,
- implementation of surveillance protocols,
- national and international evaluation,
- feed back of information to the providers and partners,
- technical and financial monitoring,
- workshops at regional level with international and national experts to make recommendations for the extension of the programme.

5.1 RESULTS

Three main steps have been considered:

1. Implementation of surveillance protocols.
2. Feedback of information to the providers and partners.
3. Technical and financial monitoring.

The implementation of these three steps have been assessed during the evaluation (visits in three countries^k and interviews with key persons in 4 other countries^l) with a check list reviewing the following dimensions:

- **For biological surveillance** – site selection, training and capacity building, lab methods and quality control, recording of information, data management, data analysis, organisation/coordination/supervision, use of data, budget and supplies, sustainability.
- **For behavioural surveillance** – sampling, instrument design, training, pilot test, data management, data analysis, organisation/coordination/supervision, use of data, budget and supplies, sustainability, triangulation of data with biological surveillance.

The project leaders have not undertaken the development of methodologies and procedures to follow up the programme. It has been included as a product of the evaluation (check-lists for the M&E of the programme, see Annex 3).

Workshops at regional level with international and national experts have taken place. They could not (yet) be used for making recommendations for the extension of the programme due to for delays in the development of the programme. However they were beneficial to coordinate the project, to increase the contacts between project participants and international partners, to promote SGS activities and to increase expertise (capacity building) of the project participants on SGS, especially behavioural surveillance. In these occasions all the important documents were compiled on CD-ROMs for the participants. These

^k Tanzania, Dominican Republic, Myanmar.

^l Mexico, Vietnam, Burkina Faso, Nigeria.

workshops were not included in the evaluation, but the evaluators participated in one of them (see below). No **national evaluation** took place; the **international evaluation** is the object of this report.

5.1.1 Implementation of surveillance protocols

General findings

The protocols were implemented in the eight countries. At the moment this document was written (June 2003) one full cycle, i.e. - up to reporting and dissemination of data - has been completed in two countries: Burkina Faso and Tanzania (see Table 2). Both are African countries with generalized epidemic where UNAIDS and WHO are already very present and involved.

Table 2 Main activities in country, second trimester 2003 (UNAIDS/WHO data)

Countries	HIV Surveillance	BSS	Reports HIV	Reports BSS
Nigeria	Completed	Completed	Yes	No
Tanzania	Completed	Completed	Yes	Yes
Mozambique	NA (CDC)	Completed	NA	?
Burkina Faso	Completed	Completed	Yes	Yes
Mexico	NA (MOH)	Completed	NA	Yes
Dominican Republic	Completed	Implementing	Yes	No
Myanmar	NA (MOH)	Implementing	NA	No
Vietnam	NA (MOH)	Implementing	NA	No

In these two countries this new experience of SGS – and especially the behavioural component had an important role of advocacy to start/reinforce prevention activities and inform the population about the level of risk.

In each country Phase 3 provided a good opportunity for upgrading experience, particularly in the field of behavioural surveillance. At different levels, the project significantly contributed to the improvement of existing system(s). Synergies were created or used, for instance:

In Tanzania, the project could take advantage of the activities of the CDC who performed the quality control of the laboratories. It also received supervision and support from an Italian NGO – active in one region of the surveillance- during the pilot test of the behavioural component at one site.

In Mexico, the project could benefit from the collaboration with a highly experienced institute of public health for the design and supervision of the behavioural surveys.

Questionnaires designed by FHI for behavioural surveillance were widely used.

Capacity building opportunities were used by inviting country representatives of the project to participate in regional events (like workshops on behavioural surveillance), to present their work in international conferences (XIII Int. Conf. on HIV/AIDS in Barcelona), etc.

Cooperation with the private sector (e.g. in Burkina Faso for behavioural surveillance).

The project was thus capable of using a window of opportunity in the context of a "small" project alongside all the "big" organisations (FHI, CDC, etc.).

The relative imbalance between the biological and the behavioural component of surveillance observed during phase 1 and 2 persisted for the same reasons in the implementation phase: less immediately available expertise in the countries, limited previous experience in the field of behavioural surveys, underestimation of difficulties in the field work (time, cost, cultural diversity, etc.), insufficient reflection on sustainability issues.

In almost all countries the activities related to behavioural surveillance and biological surveillance ran separately, partly for obvious reasons of timing and implication of different staff. In this situation, as already mentioned in the case of protocol development, it is particularly important to pay a high grade of attention to the final aim of establishing second generation surveillance. During the implementation phase many contacts with other partners were established, new resources were mobilised and it may have been possible to better take advantage of this momentum to systematically put forward issues of long-term involvement, i.e. the reflection on comparability of data and replicability (methodological issues) and sustainability (political, technical and financial issues).

During the visits in the three countries and in the interviews with key persons of other countries, it appeared that the practical problems of implementation of the two components of the SGS, as well as the fact that there was not always a designated local person making sure that the project was running towards a sustainable comprehensive system, led to a rather low profile of the idea of SGS and maintained a limited ownership of the project by the countries. Maintaining the parallel progress towards such a system was de facto not a priority at the expense of prospective thinking. This phenomenon also appeared in the management of the relationships with other agencies working in the countries: generally coordination with the activities (sporadically) conducted by other agencies (national and international) was insufficient even if a very good experience was made. No written rules or guidelines were found on how to coordinate and on who would be responsible for this task (role of UNAIDS versus WHO, versus a designated person in the MOH, etc.). This coordination is nevertheless critical for the sustainability of SGS.

Implementation of biological surveillance

Several countries (e.g. Tanzania, Burkina Faso, Nigeria) had previous experience (and capacities) with biological surveillance in antenatal clinics (ANC), and the project permitted to extend and/or consolidate the existing system (although sometimes at some expense of trends when sites were changed). In these countries (e.g. Tanzania), the quality of the data collection/flow, registration/management system was satisfactory. Many partners participated in the support of the system.

In some countries with also a long lasting experience in biological surveillance at ANC level, specific problems were encountered. For instance, the Dominican Republic was engaged in a decentralisation process, and was experiencing budget/personnel shortages with the consequence of unequal quality in the different sites.

Generally biological surveillance at ANC comes on top of other activities (personnel overload) and the periodicity (versus continuity) of data collection could be a problem. Earmarked budget is not always secured.

Site selection – the project provided an opportunity to modify (Tanzania) the repartition of sites to consider an increase in rural sites (Burkina Faso, Myanmar). Overall site selection was considered satisfactory.

Training/capacity building – in the countries visited as in the others, this part of the system was reported as good (although capacities were considered unevenly distributed in the Dominican Republic).

Laboratory methods and quality control – the situation is more contrasted with countries having a good system (e.g. Tanzania where the system at national level was reviewed by CDC) and others insufficient procedure of quality control (e.g. in Myanmar, CDC has potential plans to improve it in the future but not done yet) or reported as regular (Burkina Faso). However, quality may be unequal (better at national level than at regional level).

Recording of information – was generally good in the countries visited (standardized methods, good record keeping), reported as good in the others.

Flow of data and of biological sample – was generally satisfactory/good but the situation was uneven in the countries visited. For instance, delays in data management and feedback to the regions were mentioned in Dominican Republic and Tanzania.

Data analysis – a diversity of situations was observed/reported: from good (Burkina Faso, Tanzania) to limited [e.g. aggregation of data at national level were based on samples not representative of the national population (Myanmar) or insufficient quality and with delays (Dominican Republic)].

Organisation, coordination, and supervision – in the three countries visited, these aspects of the system appear very diverse: in Myanmar an epidemiologist was assigned by the NAP to the coordination and supervision of the project. This person is located at UNAIDS and can benefit from the support and network of the organisation, and can therefore dedicate more time to the project. In Tanzania, the biological surveillance is well anchored within the national reporting system for HIV/STI. In the Dominican Republic, by contrast, limited managerial resources at national level led to insufficient supervision of the whole process in the project.

Budget and supplies – most of the countries have been able to maintain a system for several years. In many cases, resources come from different sources. However in several countries, the budgetary situation is not considered as stable (Tanzania, Burkina Faso) or is frankly unstable (Dominican Republic). In others (Nigeria, Myanmar, Vietnam) the situation is regarded as good.

Sustainability – generally, although problems of funding still exist and may persist, the biological surveillance in ANC clinics is considered sustainable. Biological surveillance linked with behavioural surveillance in specific populations is more questioned (see below).

Implementation of behavioural surveillance

Previous experience in behavioural surveillance was very limited in the eight countries. Generally surveys had been conducted, not always with national coverage, in a few specific populations without surveillance purposes. By the time of the visits to the selected countries, behavioural surveys were planned or in the pilot testing phase in the Dominican Republic and Tanzania. Myanmar had conducted surveys among the general population and among high risk groups, prior to the implementation of this SGS UNAIDS project in 2000 and 2001. The assessment was therefore incomplete.

Regarding behavioural surveillance, it is useful to differentiate between the countries with generalised epidemics where the behavioural surveillance concerned young people in the catchment areas of ANC clinics and the countries with concentrated epidemics where many groups of the populations – often marginalized or hard to reach - were candidates for surveillance. This situation was requiring more sophisticated sampling methods and the experience with these was generally lacking or limited in the concerned countries.

At the end of June 2003, among the countries with generalised epidemics, Burkina Faso and Tanzania have completed the first wave of behavioural surveillance. In Nigeria, the survey has been conducted and a first draft of the report produced.

Concerning countries with concentrated epidemics, Mexico was able to complete the fieldwork in the selected groups of population but the analysis has so far not been completed. However, preliminary data

have been presented. In Myanmar the behavioural surveillance is underway. In the other countries (Dominican Republic, Vietnam), work is in progress.

Overall, the project permitted, (especially in countries with concentrated epidemics) to increase the capacity in survey methodology. For example, in Mexico, Vietnam and Dominican Republic, good experience was gained regarding feasibility (concerning mapping, gaining participation of people, etc.) of large surveys in populations that are difficult to reach.

Sampling – in countries with generalised epidemics no serious problems in sampling strategies have been reported/observed. However, sampling procedures were sometimes not sufficiently described (e.g. Tanzania). Discussion on how to proceed in the future has not yet been initiated. In particular the frequency of repeat of the surveys is still to be discussed in the view of the costs of the surveys as well as taking advantage of cooperation with other national surveys, for instance DHS/DHSplus (oversampling of young people in specific regions, specific modules on sexual behaviour).

In countries with concentrated epidemics, diverse strategies have been chosen, and major problems reported/observed, for instance:

- in Mexico and the Dominican Republic, mapping followed by random sampling was adopted. In both situations the procedure was considered very difficult, time and resource consuming (i.e. very expensive), but overall feasible. Underestimation of time and resources was reported in both countries and repeatability is questioned,
- in Myanmar, convenience samples were used, such as recruitment through both prisons and drug treatment centres for IDU (with varying proportions of IDU recruited in both settings), and through STI clinics for sex workers. However, neither were potential biases considered or no attempts made to evaluate the direction of potential biases, nor was calibration of data ever considered.

Sampling is thus a major issue in countries with concentrated epidemics but has been sufficiently been taken into account and prepared in the project although international workshops have been set up to discuss this issue. In particular, mapping techniques have been advocated so far without sufficient reflection on sustainability and cost issues (repeatability, possible use of mapping exercise with calibration purpose coupled with recruitment through health or social facilities, etc.).

Stigmatisation and potentially adverse outcome of surveillance (both biological and behavioural surveillance) is another major issue in countries with concentrated epidemics. Certain groups at risk may be difficult to include in surveillance. In Myanmar for instance, MSM were simply not even considered because of denial. In other instances, recruiting hard to reach population was very difficult and led to changes in recruitment methods, which created major biases (e.g. IDU in Myanmar). Finally, having lists and maps of sub-populations, often highly stigmatised, cannot be overlooked.

Instrument design – often standardized instruments/questions have been used, with adaptation to local context. In Tanzania, in some regions, the person in charge of conducting the survey came from the specific region, facilitating the adaptation of the questionnaire and procedures. This process of adaptation and translation was not always simple: for instance in Mexico, it was not possible to translate the questionnaire in the different dialects spoken by migrant populations, interpreters were used with a certain threat to the validity of questions/answers. In other countries (e.g. Myanmar), the final version of the questionnaires was not available in English, not allowing a final check by the project leaders.

Other problems occurred: e.g. in Tanzania several versions of the questionnaire were successively produced and tracing the versions was difficult with the risk of "losing" some questions.

Insufficient reflection was given regarding possibilities of triangulation with the biological surveillance component, M&E or prevention indicators (and, in the future, UNGASS indicators): in one situation, the different wording of socio-demographic variables in the two components would have impeded the

comparison. The procedure for protocol and questionnaire review is unclear in some countries. More supervision of this important step is thus required.

Training – in all countries, training was carefully organised/planned, with qualified persons.

Pilot testing – pilot testing was conducted in most countries, mainly for feasibility reasons; however, insufficient time was planned for final adaptation of the questionnaire to the local context (risk of change overtime leading to limited analysis of trends) leading to the risk of having done one wave of behavioural surveillance for nothing.

Data collection: fruitful experiences were made:

- in Tanzania in gaining support from the population, and by insuring good conditions of confidentiality,
- in Mexico in gaining accessibility to and cooperation of difficult to reach populations, in flexibility of organisation to conduct the surveys in very different settings,
- in the Dominican Republic in realising first mapping exercise, etc.
- in two of the countries with concentrated epidemics where mapping and random sampling was conducted/planned (Mexico and Dominican Republic), no collection of blood samples have been performed/planned, despite this being in contradiction with the philosophy of SGS (no linkage possible between biological and behavioural surveillance). Data will however be very useful for prevention planning. In Vietnam, collection of blood samples is planned.

Data analysis – in Burkina Faso, Nigeria and Tanzania, analyses were conducted without major problems. In the latter country, support from an international expert (LSHTM) was organised. In Mexico, analysis is still pending. In Myanmar, where convenient sampling will be used (e.g. among IDU and SW), there are no systematic quality control procedures to ensure that trends are due to real behavioural change and not biases introduced by changes in recruitment methods.

Organisation/coordination/supervision – the **organisation** of surveys, the coordination between different actors turned out to be in each country a long and sometimes difficult process. Support has been organised at national level (e.g. piloting group in Burkina Faso), sometimes in cooperation with international agencies. Innovative means of coordination and supervision have been set up (e.g. in Mexico the set up of a website to inform on progress, regular phone meetings for supervision by the local project staff for remote areas, etc.). However, there are still unmet needs in supervision and support from project leaders.

In regards to **coordination** – in most countries, several organisations/agencies have conducted, are conducting or plan to conduct behavioural surveys – often without surveillance purposes - that could be integrated in or at least coordinated with the SGS. This requires a strong position of the respective coordinator at country level and a strong role of advocacy of UNAIDS/WHO (to gain collaboration of different actors involved).

Budget and supplies – generally there was an underestimation of costs/time for this part of the SGS and in some case (e.g. Nigeria) additional funding was sought. This was particularly true in cases where mapping/random sampling was planned. Nevertheless, the project clearly demonstrated the feasibility of conducting BSS in a context of generalized epidemics with a limited budget of around 50'000 US\$. Delays in payment (from UNAIDS/WHO or within the country) complicated the situation.

Sustainability – in countries with generalised epidemics, in spite of the fact that the funding is not secured, interviewed persons are rather optimistic about the possibility of maintaining regular surveys (the frequency of which remains unclear). The interest seems to be there and bilateral/international donors may be approached regarding this matter.

As for countries with concentrated epidemic, it seems on one hand that Myanmar and Vietnam will continue to be able to mobilise funding, whereas in Mexico and in the Dominican Republic, the situation is rather unclear about the future, leaving questions of future and sustainability unanswered.

As mentioned in the discussion on protocols, in all countries with concentrated epidemics methodological problems related to sustainability (i.e. the ability to measure trends) are not solved.

Triangulation of data with HIV sentinel surveillance or other data

As mentioned in the evaluation of protocols, triangulation of biological and behavioural surveillance, in fact the core of SGS, has not been sufficiently reflected upon, planned and performed.

In countries with generalised epidemics, there is no direct link to the individual level. In Burkina Faso, it was clearly acknowledged that the various socio-demographic and marital status information available for the 15-24 age groups are not sufficient to ensure that the two populations, i.e. pregnant women (for biological surveillance) and general population (for behavioural surveillance) are the same, or to select comparable sub-groups of these two populations. In Tanzania, there was no standardisation of common variables, by the time of the evaluation visit. And indeed in Burkina Faso and Tanzania, where the whole cycle has been done, comparison of data was not undertaken. In Burkina Faso, the two components of SGS were presented in separate reports, in Tanzania in one, without an attempt to synthesise data. Cooperation between the two components of surveillance should be increased; efforts have been done in this direction in Burkina Faso.

No other country has produced a report including both components, up to now, and no one is planning to do so. To correct that, collaboration with an expert from the London School of Hygiene and Tropical Medicine was initiated to develop the methodology and analysis of the two components.

In countries with concentrated epidemics, the situation is basically the same, even worse when biological data are simply missing. In Mexico, where a national HIV case reporting system is in place, no plan for triangulation of data is foreseen.

In Myanmar where such triangulation may be possible, there is an insufficient use of other sources of data (UNICEF, UNFPA, etc.) for calibration and discussion of potential biases.

Generally, there is a very limited planned use of other biological data (other sources of sero-prevalence data, STI data, HIV/AIDS case reporting, etc.) Even a basic contextualisation of data is not planned.

Ethical issues – this point was approached in different ways in the countries: in countries like Tanzania there is a national board in charge of reviewing all the projects on this matter and, for instance, the confidentiality issue was carefully taken into account in the fieldwork. In other countries there was not an official review of protocols but ethical issues were mentioned in the protocols (e.g. Vietnam, Burkina Faso, Mexico). Nevertheless, a document is under development that includes all aspects of ethical issues^m.

5.1.2 Feedback on information to the providers and partners

Use of data is a major issue in SGS and many actors are potential users of the information collected, for different purposes: politicians at national and regional level (information, advocacy, sustainability of activities of NAP), professionals at each level in the National AIDS Programme (planning for interventions, evaluation, accountability), NGOs media and population (information) professionals in the system (motivation, quality assurance, etc.).

^m Ethical issues in second generation surveillance: guidelines.

At the current stage of the project (not all countries having finished the first cycle), use of information is still limited but good experiences have been made:

- In Burkina Faso, after the completion of the first cycle, information has been disseminated (sending of the report and other means of information) to political authorities (national and regional) to religious and traditional authorities, to professional authorities. The results of SGS were considered as extremely useful; they were used to review the annual plan for 2003. Generally, people are informed about the HIV/AIDS problem, but on top of that, having real data on their country and their region was greatly appreciated. It helped for advocacy, planning and implementation of prevention (for instance by showing what the risk factors are: including early sexual debut, multiple sex partners, economic dependency particularly among young girls, etc.).
- In Tanzania, feed-back of the data has been more limited up to now but is in preparation.
- In Mexico, preliminary data were presented at national and local level. The whole process was useful for prevention (identification of needs and better knowledge of the field).

In other countries, dissemination of data has been more limited.

5.2 CONCLUSIONS AND RECOMMENDATIONS REGARDING PHASE 3 WITH RESPECT TO THE EVALUATION QUESTIONS

These conclusions on phase 3 mainly answer the evaluation question 4: to what extent is the implementation of a 2nd generation surveillance system taking place as planned? What good experiences have been made, what difficulties encountered, and what changes made? Evaluations questions 5 and 6 about sustainability and usefulness of the project for other countries are treated in the general conclusions and recommendations.

Conclusions	Recommendations
Implementation of the protocols	
<ul style="list-style-type: none"> ■ There was some delay and difficulties in implementation due mainly to administrative questions, limited expertise or experience in the country. However, all countries will have completed the first cycle by the end of 2003. 	<ul style="list-style-type: none"> ⇒ During the situation assessment, more emphasis should be given on the identification of available expertise in the country, on resources (especially human resources, contacts with key persons/ organisations, etc.) that can be mobilised for SGS and on processes that can favour or impede implementation.
Good experiences	
<ul style="list-style-type: none"> ■ Synergies were created (e.g. capacity building workshops) or used (cooperation with other national or international institutions, use of common material, etc.). ■ Phase 3 provided good opportunities of improving existing systems (e.g. quality and reliability of biological surveillance) or upgrading experience, (first experience in populations mapping in behavioural surveillance). ■ In countries that completed the first cycle and/or disseminated preliminary results, great interest was raised in different groups of stakeholders (policy makers, prevention professionals, etc.). 	<ul style="list-style-type: none"> ⇒ These synergies need to be reinforced and extended. ⇒ Examples of good experiences /practices should be used for advocacy purposes in future negotiations for SGS implementation in other countries. ⇒ Use of data needs to be given high priority.

Conclusions	Recommendations
Difficulties encountered	
The imbalance between the behavioural and the biological component of SGS persisted throughout implementation.	⇒ This imbalance should be foreseen and compensated by specific support within the behavioural component (more training, more supervision, more methodological reflection, etc.).
■ The two components were realized separately most of the time and triangulation of data was not performed.	⇒ Emphasis on the final aim of SGS (integration of both components) needs to be provided repeatedly.
■ Roles and responsibilities between the actors involved in SGS were not sufficiently clear, and generally coordination was insufficient.	⇒ The identification of a person responsible for SGS and coordination of the actors at country level is necessary and would increase local ownership of SGS.
■ Sustainability was not an issue until late into the process.	⇒ Sustainability has to be taken into account early in the implementation phase, and discussed with all stakeholders (political, technical and financial issues).

6 CONCLUSIONS AND RECOMMENDATIONS

Second generation surveillance is a recent concept in the realm of the HIV/AIDS epidemic. It permits a more comprehensive approach of the epidemic and represents a valuable tool for policy making and evaluation. Many countries have some experience in the development (often running in parallel) of HIV biological surveillance and behavioural surveillance, although in the latter, surveillance has often been merely the addition of consecutive surveys in different populations without a clear conceptualisation of the surveillance system part. Generally it has to be said that behavioural surveillance is not yet fully recognised and practised.

This pilot project constitutes a very important step in putting forward the concept of SGS by proposing the demonstration of the feasibility and value of such a system, especially in countries with a large number of HIV/AIDS cases, limited financial resources and where HIV/AIDS case reporting may be difficult to implement^a.

In all the country selected in the project, the phases 1 and 2 of the project (assessment, consensus building, protocols development) have been successfully completed, with adequate flexibility taking into account the diversity of situations encountered across the countries. The evaluation has allowed to identify strengths and weakness in this process and, in some aspects has proposed changes that could be integrated. The visits and reviews conducted during the evaluation occurred at various stages of the implementation. This also permitted to identify examples of good practices as well as problems and to propose adjustments in the course of the project.

Conclusions	Recommendations
Concept of SGS	
<ul style="list-style-type: none"> ■ At the end of June 2003, two countries had completed the first cycle of SGS as foreseen in their situation. Six of the eight countries are still in different stages of the implementation phase and will most probably complete the first cycle by the end of 2003. ■ The feasibility of implementing the first foundations of SGS could be demonstrated. ■ In countries that completed the first cycle, usefulness of SGS was acknowledged. ■ Overall highly valuable experience has been gained. ■ The concept of SGS was, however, insufficiently embodied from the beginning and throughout the project: in most of the cases the two components of SGS ran separately. ■ Time allocated for the project was too short, and especially not sufficiently mentioned in documents. 	<ul style="list-style-type: none"> ⇒ In the future it will be necessary to better integrate the two components since the beginning and throughout the project, at each level of implementation. This implies: <ul style="list-style-type: none"> ■ a better collaboration between the two subsystems, ■ a reinforcement of the coordination at country level (for example with a specific person in charge of SGS), ■ an increased technical support from UNAIDS/WHO, ■ an increased advocacy role of UNAIDS/WHO to mobilise other national/international actors who can contribute to the system. ⇒ The concept of SGS and its implications in countries where many actors (especially international) are involved needs to be discussed in WHO/UNAIDS. In particular, different levels of complexity of SGS systems according to the situation of the countries may be proposed, and the distribution of roles

^a This concept still needs to be adopted in many countries (e.g. in high income countries where the main biological tool is case reporting).

Conclusions	Recommendations
<ul style="list-style-type: none"> ■ In a context of limited resources, it is difficult to maintain the interest and participation of all actors during the whole process. In particular, the context of surveillance is in continuous evolution: new demands for information (e.g. UNGASS indicators), alternative or additional proposals from international actors (e.g. initiatives to implement DHS/DHS-plus). In such a context this relatively "small" project had to be flexible (adaptation to survive). 	<ul style="list-style-type: none"> between the international actors in this process specified. ⇒ Potential different strategies according to the nature of the epidemic (generalized versus concentrated) and the possible implications on what should/could be SGS in each situation should be discussed. In countries with generalised epidemics, opportunities to add modules on existing large scale surveys (DHS, DHS-plus) with an over sampling in sentinel sites to reduce cost and increase quality of data collection should be considered. ⇒ In each country, the first cycle of the project should end with the production of a report that includes and synthesises both components of the surveillance (essence of SGS) and, where feasible, a combined analysis. This type of report is of utmost importance for the advocacy of the usefulness of SGS. ⇒ The use of other source of data as part of SGS should be improved and need to go beyond the parts financed by the project (e.g. other behavioural surveys, STI, etc.).

Sustainability

<ul style="list-style-type: none"> ■ In the two countries where one cycle has been completed there seems to be a potential for sustainability of SGS. This is mainly due to the interest generated by the reports and their recognized utility for better planning and decision making on priorities within the NAP. ■ In the other countries with a generalised epidemic, there seems to be an interest in maintaining the system. ■ In countries with concentrated epidemics, sustainability is more uncertain in terms of financial resources and the methodological reflection on a reliable behavioural surveillance system, and the linkage to a biological system has been very limited at this stage. ■ These problems are partly related to logistical problems, methodological complexity, political context (stigmatisation of specific populations, etc.), etc. 	<ul style="list-style-type: none"> ⇒ In order to better establish the foundations of SGS in the selected countries, it would be favourable to continue for another 3-4 years, and to complete two cycles, if possible with all countries or at least with countries representing the two types of epidemics (generalized and concentrated). ⇒ Before the launch of a second cycle, a new consensus building process should take place: both to conclude the first cycle and discuss on the yields of SGS as well on weaknesses identified, and to prepare the next step with a more comprehensive view of how SGS should be built up on the long run (with a special focus on behavioural surveillance: frequency of repetition, funding, firm inclusion in SGS, etc.). ⇒ Countries could embark on the next waves if they have submitted a final report including: data synthesis, problems encountered during the first cycle and solutions proposed for the next steps, action plan with stakeholders where possible, etc. ⇒ The second wave needs to include other sources of data (validation, calibration) and to develop a plan for trends analysis. ⇒ Extension of BSS to specific populations (e.g. prostitutes) in countries with generalised epidemic should be considered.
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Conclusions	Recommendations
Organisation, coordination, supervision	<ul style="list-style-type: none"> ⇒ Extension of the project may be considered in at least two other countries (one with a generalized epidemic, one with a concentrated one). On this occasion it could be tested whether the whole process can be done in 2 instead of 4 years, taking into account experiences made. From the beginning, 2 waves should be planned (to allow good triangulation, first trend analysis, etc.).
<ul style="list-style-type: none"> ■ The integrative approach chosen, that favours country participation, ownership and sharing of experiences between countries, has been welcomed and appreciated. ■ However, for an integrative approach to be maintained, by far more support and supervision is needed from project leaders. At country level, the position of the person(s) in charge of SGS is not very strong. ■ Monitoring and supervision of the project (due to the number of countries to be monitored, and also to other commitments of the persons in charge of the project at UNAIDS/WHO Geneva, etc.) was not always sufficiently taking into account. ■ Major delays in transfer of funds have slowed down the implementation process and have also lead to missed opportunities of co-funding. ■ Links with M&E remained unclear. 	<ul style="list-style-type: none"> ⇒ Such integrative approach has to be maintained. ⇒ Mechanism of supervision should be improved (nationally and at UNAIDS/WHO level). Regular monitoring of the project and technical support should be more systematic. (A) person(s) in charge of SGS at country level should be identified (role clarification) and adequately supported. ⇒ Criteria that need to be reached in order to accept protocols and to agree on funding of country project should be established (checklist). ⇒ The project should be flexible and taking advantages of the external main actors and of the potential complementary sources of funding; on the other hand WHO should try to convince all stakeholders to adapt to SGS. ⇒ The funding flows (quick transfer of money, etc.) have to be improved. ⇒ Integration and link with M&E should be improved. ⇒ It is necessary to translate all major documents (including questionnaire and field guides) into English for final acceptance by UNAIDS/WHO (contract specification and budget allocated for that).
Communication	<ul style="list-style-type: none"> ⇒ A wrap-up workshop at the end of the first phase of the project should be organised. ⇒ An adequate dissemination of the results of the project should be planned (with advocacy and capacity building aims). ⇒ The lobbying role of WHO/UNAIDS for SGS at international level and at country level (CPA) should be reinforced.

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ANNEX 2 QUESTIONNAIRE

Questionnaire on the overall experience with the UNAIDS/ EC Project on second generation surveillance

1 How would you describe the **first analysis of the situation** of the surveillance system conducted by UNAIDS in your country?

(answer each item using a score from 1-5 (5=best score))

1	complete and accurate	1	2	3	4	5
2	useful	1	2	3	4	5
3	participatory	1	2	3	4	5
4	what is your overall judgement on this process	1	2	3	4	5

Comments _____

2 How would you define the **consensus workshop** at the end of the first assessment in terms of:

answer each item using a score from 1-5 (5=best score)

1	participation of major stakeholders	1	2	3	4	5
2	usefulness of the process	1	2	3	4	5
3	overall judgement	1	2	3	4	5

Comments _____

3 How would you define in general the process of protocol development?

(score 1-5) from very difficult to very easy

1	2	3	4	5

Comments _____

Suggestions for improvement _____

4 How would you in general assess the process of implementation of the protocol?

answer each item using a score from 1-5 from very difficult (1) to very easy (5)

Sentinel serosurveillance

1	site selection	1	2	3	4	5
2	training and capacity building	1	2	3	4	5
3	lab methods and quality control	1	2	3	4	5
4	recording of information	1	2	3	4	5
5	data management	1	2	3	4	5
6	data analysis	1	2	3	4	5
7	organisation, coordination, supervision	1	2	3	4	5
8	use of data	1	2	3	4	5
9	budget and supplies	1	2	3	4	5
10	sustainability	1	2	3	4	5

How would you in general assess the process of implementation of the protocol?
answer each item using a score from 1-5 from very difficult(1) to very easy(5)

Behavioural surveillance

1	sampling	1	2	3	4	5
0	instrument design	1	2	3	4	5
1	training	1	2	3	4	5
2	pre-test	1	2	3	4	5
3	data management	1	2	3	4	5
4	data analysis	1	2	3	4	5
5	organisation, coordination, supervision	1	2	3	4	5
6	use of data	1	2	3	4	5
7	budget and supplies	1	2	3	4	5
8	sustainability	1	2	3	4	5
9	combination of data from the serological and behavioural surveillance	1	2	3	4	5
10	overall appreciation of the combined serological and behavioural surveillance	1	2	3	4	5

Your appreciations and comments will be discussed during the interview

5 Were results **disseminated**?

National level	yes	<input type="checkbox"/>	no	<input type="checkbox"/>	Local level	yes	<input type="checkbox"/>	no	<input type="checkbox"/>
to professionals		<input type="checkbox"/>		<input type="checkbox"/>	to professionals		<input type="checkbox"/>		<input type="checkbox"/>
politicians		<input type="checkbox"/>		<input type="checkbox"/>	politicians		<input type="checkbox"/>		<input type="checkbox"/>
others		<input type="checkbox"/>		<input type="checkbox"/>	others		<input type="checkbox"/>		<input type="checkbox"/>

Good experiences, difficulties, suggestions will be discussed during the interview

6 Did an **internal evaluation** of the UNAIDS project on second generation surveillance take place? yes no

Comments _____

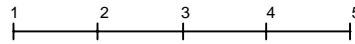
7 In the **national context of HIV/AIDS surveillance** in your country, do you think that the UNAIDS/EC project on second generation surveillance is

complementary to other existing system(s)	yes	<input type="checkbox"/>	no	<input type="checkbox"/>
overlapping/duplicating with other systems	yes	<input type="checkbox"/>	no	<input type="checkbox"/>

Comments _____

8 Do you think that the situation of HIV/AIDS surveillance changed in your country as a consequence of the project?

(Score 1-5, from not at all (1) to very much(5))



Comments _____

9 How do you see the future of second generation surveillance?

This issue will be discussed during the interview

10 Can you briefly mention the main inputs of UNAIDS in the project?

This issue will be discussed during the interview

11 What do you think about the change from UNAIDS to WHO of the surveillance leadership?

This issue will be discussed during the interview

12 What are your suggestions to UNAIDS/WHO for improvement of second generation surveillance?

13 Could you briefly present a SWOT analysis of the current situation in terms of HIV/AIDS surveillance in your country?

S (Strengths) _____

W (Weaknesses) _____

O (Opportunities) _____

T (Threats) _____

Thank you!

ANNEX 3 FRAMEWORK OF EVALUATION

Main levels	Secondary levels	Evaluation questions for protocol	Answers to evaluation questions	Examples from Tanzania (if yes how, and if no why with concrete examples)
Coordination and organisation	Organisation	Does the protocol provide general information about the institutions involved in the behavioural survey and how they will interact if more than one are involved?	Yes or No	Yes: Dpt of Sociology of DSM University, Italian NGO with previous experience
Coordination and organisation	Competence	Does the protocol provide information about the competences in the field of behavioural survey of the institutions involved in the survey? (e.g. past experience, CV, references of published documents, etc.)	Yes or No	Yes: CV provided, past experience in the field
Type of survey	Study design	Does the protocol describe the type of behavioural study, which is planned? (e.g. cross-sectional face to face survey, etc.)	Yes or No	Yes: Cross-sectional face to face of persons aged 15 to 24 in a radius of 5 km from a sentinel ANC clinics
Sampling methods	Study site selection	Does the protocol contain general information on the study site(s) selection? (e.g. urban and rural, etc.)	Yes or No	Yes: Only partially
Sampling methods	Study site rationale	Does the protocol describe the rationale for this selection? (e.g. feasibility, previous surveys in this site, etc.)	Yes or No	Yes: 3 sites with one (Dodoma) surveyed in collaboration with an Italian NGO due to the limited resources but to keep some national representativeness and a link with the serosurveillance
Sampling methods	Sampling design	Does the protocol describe the planned sampling strategy?	Yes or No	No: The unit of analysis were mixed with the unit of sampling in the protocol
Sampling methods	Sampling frame	Does the protocol mention existing sampling frame? (e.g. households enumeration, census, etc.)	Yes or No	No: In fact the last national census in Tanzania that can provide information was carried out in 1988 but a new census was done in 2002 (useful for next round of BSS surveys), some data on ANC clinic catchments area also exist but were not mentioned in the protocol
Sampling methods	Sampling size	Does the protocol contain sample size calculation? (e.g. overall sample size calculation, sample size calculation for main indicators, for trends, etc.)	Yes or No	Yes: In the annexes, basic sample size calculation are provided
Sampling methods	Non participants	Does the protocol mention how the information for non participants will be collected? (e.g. short questionnaire for non participants, strategy to collect the information, type of refusal, etc.)	Yes or No	No: Nothing was mentioned and it was during the evaluation visit that this point was raised but still not solved during the final survey (see final report of LSHTD)

Main levels	Secondary levels	Evaluation questions for protocol	Answers to evaluation questions	Examples from Tanzania (if yes how, and if no why with concrete examples)
Sampling methods	Comparability	Does the protocol provide evidence that the sampling methodology will be similar across sentinel sites?	Yes or No	Yes: The same sampling methodology was mentioned in the protocol for the 3 sites
Sampling methods	Comparability	Does the protocol provide evidence that the sampling strategy will be stable over time?	Yes or No	No: Nothing was mentioned about this aspect in the protocol
Instrument design	Standardization	Does the final questionnaire attached to the protocol contain standardized questions for cross countries analyses on the main indicators?	Yes or No	Yes: The questionnaire was based on the FHI questionnaire proposed as a standard by UNAIDS
Instrument design	Adaptation	Does the protocol mention which questions need potential adaptation to the local context?	Yes or No	No: Nothing was mentioned in the protocol but during the pre-test it was evident that some questions needed local adaptation (done after the pre-test)
Instrument design	Link	Does the protocol mention a possibility of linking the two systems of surveillance?	Yes or No	Yes, partially: It is mentioned that the data will be linked but nothing specific is written on how to link
Instrument design	Triangulation	Does the protocol explicitly describe the common variables between the two systems or the possibility of making common variables in recoding some of them (e.g. marital status, age, education category, etc.)	Yes or No	No: Nothing specific was mentioned in the protocol or in the annexes
Instrument design	Quality	Does the protocol mention how the translation of the questionnaire will be carried out?	Yes or No	No: It was just mentioned that translation from English to Swahili would be carried out
Instrument design	Quality	Does the protocol mention how a back translation will be done?	Yes or No	No: I was just mentioned that a back translation will be done
Instrument design	Guidelines	Does the protocol or an annex of the protocol contains the interviewer guidelines?	Yes or No	No: It was just mentioned in the protocol but not annexed to it
Training	Interviewer	Does the protocol explain how the interviewer will be selected (e.g. interviewer from the community where the study will be conducted, interviewer with previous experience in the field, etc.)	Yes or No	Yes: It was clearly mentioned in the protocol and well argued
Training	Interviewer	Does the protocol clearly spell out the main steps of the training of interviewer (e.g. duration and type of training, sampling method, interviewing technique, checks, exercise and direct supervision, etc.)	Yes or No	Yes: The main elements of training were provided in the protocol, but more information could have been provided
Training	Interviewer	Does the protocol contain a training manual?	Yes or No	No: No training manual was provided with the protocol or as an annex

Main levels	Secondary levels	Evaluation questions for protocol	Answers to evaluation questions	Examples from Tanzania (if yes how, and if no why with concrete examples)
Pre-test	Implementation	Does the protocol mention how the pre-test will be done?	Yes or No	Yes: The protocol described in details how the pre-test would be done
Pre-test	Analysis	Does the protocol describe the type of analysis of the data from the pre-test?	Yes or No	No: The protocol did not contain such description
Pre-test	Reporting	Does the protocol mention if a report of the pre-test is planned?	Yes or No	No: The protocol did not contain information on a report of the pre-test
Pre-test	Reporting	Does the protocol mention if a feedback of the pre-test to the community is planned?	Yes or No	No: The protocol did not contain information about a feedback to the community of the pre-test
Pre-test	Adaptation	Does the protocol contain a planned adaptation of the training manual after the pre-test?	Yes or No	No: The protocol did not contain such information
Data collection	Participation	Does the protocol explain how the information on participation rate will be collected?	Yes or No	No: The protocol did not contain information about participation rate
Data collection	Participation	Does the protocol explain in details the various steps of the data collection?	Yes or No	Yes: The protocol contain the main elements of data collection, nevertheless more information would have been useful
Data collection	Problem encountered	Does the protocol mention how the information on problems encountered during the study will be collected (e.g. logbook, framework, regular meetings, etc.	Yes or No	No: The protocol did not mention how this information will be collected
Data collection	Quality of data	Does the protocol mention how the quality of the data collected will be checked?	Yes or No	No: The protocol did not mention how the quality will be checked
Participants	Informed consent	Does the protocol contain information on the informed consent (e.g. written informed consent, oral, etc.)?	Yes or No	Yes: The protocol and the annex contain information on informed consent (written informed consent)
Participants	Respect of privacy	Does the protocol mention the type of procedure that will be used for respect of privacy?	Yes or No	No: The protocol did not contain information on respect of privacy
Participants	Referral to health care	Does the protocol mention if a referral to health care is planned when needed?	Yes or No	No: The protocol did not contain information on the strategy for referral to health care
Participants	IEC	Does the protocol contain a planned IEC component?	Yes or No	No: Nothing was mentioned in the protocol on IEC
Participation rate	Quality of data	Does the protocol mention a minimum level of participation rate that need to be achieved?	Yes or No	No: Nothing was mentioned on the minimum participation rate and the techniques to increase it if a low participation rate is achieved
Data entry	Quality of data	Does the protocol describe the principal steps of data entry and data support to be used?	Yes or No	Yes: Some information was provided in the protocol

Main levels	Secondary levels	Evaluation questions for protocol	Answers to evaluation questions	Examples from Tanzania (if yes how, and if no why with concrete examples)
Data management	Storage	Does the protocol mention how the data storage will be organised? (e.g. Backup procedure, etc.)		No: Nothing was mentioned in the protocol
Data management	Data cleaning	Does the protocol mention how the data cleaning will be done? (e.g. cross-tabulation, limited range, etc.)	Yes or No	No: No detailed information was provided in the protocol on data cleaning
Data analysis	Comparison	Does the protocol explain how the common variables and categories between the two components of the surveillance system will be analysed?	Yes or No	No: Nothing was mentioned in the protocol on how this analysis will be carried out
Data analysis	Trend	Does the protocol mention how the trend analyses will be carried out in the next round(s) of surveillance?	Yes or No	No: Nothing was mentioned on trend analysis
Supervision	Quality of supervision	Does the protocol mention how the supervision will be done at each stage?	Yes or No	Yes: The protocol contain information the type of supervision planned for the surveillance
Timeliness	Quality	Does the protocol contain a timeframe?	Yes or No	Yes: The protocol contain a timeframe for the first round
Dissemination of information	Information	Does the protocol describe how the results of the first round will be disseminated? (e.g. type of report, oral vs. written, type of audience, etc.)	Yes or No	No: The protocol did not contain information on how the results will be disseminated (mentioned in the timeframe)
Financement	Budget	Does the protocol contain a detailed budget?	Yes or No	Yes: An annex of the protocol contained a very detailed budget

ANNEX 4 EC PROJECT PRODUCTS

Products and inputs in chronological order

Meetings/ Presentations

- Afro Epidemiological Network meetings (1999, 2001, 2003). Technical meetings originated by WHO Afro Regional office, to discuss issues on HIV /SGS surveillance. Participation and presentation in these meetings.
- Casteldefells, Spain, July 2002: this 3 days meeting grouped around 60 participants and was funded paid and organised by the project with additional funding from key partners in surveillance. It allowed participants to present the implementation of 2nd GS and reach consensus on key research and implementation agenda in surveillance at the global level (documented in a CD ROM produced by UNAIDS).
- Training on HIV/SGS for countries from South Eastern Europe Region, organized by WHO Europe Regional office, November 2002.
- Barcelona, Spain, July 2002: paper presentation by C. Pervilhac (plenary) “Behavioural Surveillance in the African Region: How well do we understand the epidemic?” in the Policy track with P. Ghys, N. Walker, T. Calleja on the quality of behavioural surveillance in the African region to stimulate the countries and agencies to support this effort
- Bangkok meeting on “Monitoring Behaviours as a Component of Second Generation Surveillance in Asia”, Thailand 2002: this 3 days meeting organised and paid by FHI (with a contribution from the project) grouped around 50 participants from the Asia Region to present the work of the countries and reach consensus on capacity-building needs in the region, with inputs from the team (documented in a CD ROM produced by FHI)
- Epi-network of Latin America Countries Meetings (2000, 2001, 2002 and planned in 2003): technical inputs from epidemiologist. Series of sub regional meetings to introduce and train in SGS concepts.
- Latin America AIDS Conferences (Foro Rio 2000, Foro Cuba 2003): technical inputs from epidemiologist and presentations on Issues on SGS progress and challenges for the LAC region
- HIV estimates training workshops in Africa and LAC regions. Training on methods and tools to all the countries in those regions in how to make HIV estimates. Six workshops between April and July 2003.
- A follow up meeting for Casteldefells to revisit the operational and research agenda, being prepared in collaboration with CDC. The conference will be organized on January 2004.

Guidelines/ Modules

- “Initiating second generation HIV surveillance systems: practical guidelines” UNAIDS/ WHO Aug. 2002: technical contribution of the team based on the experience of the project first steps
- Using data from HIV surveillance systems: A practical guide, to be released Sept. 2003: consultant hired from project funds to complete this module, based on the felt needs of the meeting in Bangkok
- Population selection in surveillance: A practical guide, to be released 2nd semester 2003: consultant hired from project funds to complete this module, based on the felt needs of the meeting in Bangkok
- Ethical Issues in Second Generation Surveillance: Guidelines, WHO, to be released 2nd semester 2003: technical inputs from the team
- Technical Guidelines for Conducting HIV Sentinel Serosurveys Among Pregnant Women and Other Groups, US CDC, WHO, to be released 2nd sem. 2003: technical inputs from the team

Publications/ Reports

- Second generation surveillance for HIV Compilation of Basic Material (UNAIDS/WHO, Jan. 2001 and July 2002 update): technical inputs from the team.
- WHO/UNAIDS Epidemiological updates, December, 1999, 2000, 2001, 2002 and planned for 2003. Contributions from the team.
- UNAIDS Report on the global HIV/AIDS epidemic 2002 released in Barcelona: technical inputs from the team
- “The HIV epidemic in Latin America and the Caribbean: impact and response. A multidisciplinary view. AIDS”, vol. 16 Supplement 3 Dec 2002 (UNAIDS/ WHO): co-ordinated and contribution by the epidemiologist.
- “HIV/AIDS in Africa Surveillance Update for the WHO Africa Region”: (to be released September 2003 in ICASA Nairobi, produced by WHO/ AFRO) inputs from team
- Quality of HIV surveillance systems. An assessment of overall quality by countries of the national HIV surveillance systems. Published on AIDS 2000. A revision is planned by 2003.
- Quality of behavioural surveillance scoring (upcoming paper, 2nd sem 2003): contribution from team
- Project Country reports: see list in attachment (Table on Main Activities by Country): contribution from countries with team
- Methods and tools for HIV estimates in 2001 (AIDS, in press). And a series of papers on tools used for HIV estimates.
- Lessons Learned in Implementing Second Generation HIV Surveillance. (Planned in November 2003 Meeting, Dom. Republic): this technical meeting gathers the key implementers from eight countries to share the lessons learned in implementing HIV and behavioural surveillance in those countries. The meeting will address four leading themes with a particular emphasis, but not limited to, the surveillance in young people: capacity-building, methodological issues, surveillance and M&E, evaluation of national surveillance systems. As an output a publication will summarise those findings.