

SEA-AIDS-112

# Intensifying HIV/AIDS Surveillance

*Report of an Intercountry Meeting  
Denpasar, Bali, Indonesia, 27–30 July 1999*

WHO Project: ICP OCD 041



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## 1. INTRODUCTION

The AIDS pandemic is now well established in most countries of the Region. As of 1 June 1999, more than 92 000 AIDS cases had been reported from South-East Asia. It is estimated that nearly 5.5 million people with HIV, or 18% of the world total, are in the South-East Asia Region. Unlike other parts of the world, the epidemic in our Region is still growing sharply. WHO estimates that the number of infections will continue to rise well into the next century and there will be 8 to 10 million infections by the year 2000. Although HIV came late in the Region and the epidemic started only in the mid- to late-1980s, it has rapidly taken a firm hold of the population in most countries. Starting out in populations whose lifestyles were conducive to the spread of a sexually transmitted infection and in many countries heralded by the injecting drug use, the epidemic is beginning to spread to the general population.

Though all the countries of the Region have been carrying out HIV/AIDS surveillance, the urgent information requirements for planning, focusing and evaluating national programmes for the prevention and control of HIV/AIDS have increased the need for quality data. Only an intensified programme of surveillance to yield data of the highest and most carefully controlled quality can fill this need.

To discuss the intensification of HIV/AIDS surveillance, and the addition of STD and Risk Behaviour Surveillance to the overall surveillance strategy, WHO organized an intercountry workshop in Bali from 27 to 30 July 1999. The objectives were:

- (1) To review the existing pattern and status of HIV/AIDS surveillance in the South-East Asia Region;
- (2) To discuss the type of epidemiological surveillance data needed for effective planning and monitoring of the HIV/AIDS control programme activities;
- (3) To develop a consensus on the operational methodologies for collecting and analysing various types of surveillance data relevant to the Region, and

- (4) To develop country-specific strategies and a plan on HIV, STI and Behavioural Surveillance in each country, during 2000 – 2001.

The intercountry meeting, which consisted of plenary sessions, intensive discussions, country reports and group work, was attended by focal points at the country level for HIV/AIDS surveillance as well as WHO and UNAIDS staff from WHO/HQ, SEARO and the country offices. (The list of participants and the meeting programme are at Annexes 1 and 2 respectively.)

The participants were welcomed at the opening session by Dr Jai P. Narain, Regional Adviser on HIV/AIDS and Tuberculosis, SEARO. He recalled that WHO/SEARO had organized an intercountry meeting on HIV/AIDS surveillance in Bangkok in 1995, which focused on surveillance methodologies and data management. However, since then the need to consider STIs and risk behaviour as part of the overall surveillance package had become clear. These aspects would be discussed during the meeting.

Dr Keith Bentley from the WR's Office in Indonesia read out the message from Dr Uton Mutterer Rafei, Regional Director, South-East Asia Region of the World Health Organization. The Regional Director stressed the commitment of WHO to focus on HIV/AIDS as a priority concern. He emphasized the importance of reliable, good quality data for effective public health action and said that HIV/AIDS surveillance had also evolved as the pandemic developed and it was now evident that it was not enough to look at the prevalence of HIV/AIDS alone. The well-established synergistic relationship between HIV and sexually transmitted infections had made it necessary to monitor STIs and also the level of risk behaviour in the community. He particularly thanked the government of Indonesia for kindly hosting the meeting and offering all facilities to make the meeting a success.

Dr Achmad Sujudi, Director-General, Department of CDC & EH, Ministry of Health, Indonesia, in his address, stated that his country was strongly supportive of all programmes in connection with the HIV/AIDS pandemic. He reiterated the need to have the best possible quality of surveillance data and stressed the need for meaningful planning of country programmes. Dr Sujudi thanked WHO for holding the meeting in Indonesia and assured that the recommendations and conclusions would be of great value to Indonesia.

Dr Indriyono Tantoro (Indonesia) was nominated as Chairperson and Dr Prema Ramachandran (India) as Co-Chairperson for the meeting. Dr Ariyaratne (Sri Lanka) was nominated the rapporteur.

## **2. OVERVIEW OF HIV/AIDS SURVEILLANCE**

To get a complete picture of the HIV epidemic, several separate activities have to be implemented. AIDS case reporting reflects current HIV-related morbidity and the transmission of the infection 5-10 years earlier or even further back. Data on HIV infection can give a little more immediate idea about the load of infection. Because of the long period between acquiring infection and developing AIDS, the impact of the interventions are often not immediately visible as the prevalence of HIV is affected slowly and minimally by even drastic changes in incidence. While the prevalence is easily measured through various surveys periodically, the incidence of HIV infection is difficult to detect or measure on a routine basis as it involves the serial measurement of infection in a defined cohort.

As conventional STIs and the majority of HIV infection are both spread by the same means, studies of STIs give a very good surrogate measure of the potential for the spread of HIV in a given population. As prevention and control measures advocated for conventional STIs and HIV are exactly the same, changes in the prevalence of STIs indicate the impact of control interventions. Because of the essentially short duration of the incubation period of the STIs, changes in incidence are easier to detect and can be related to current interventions.

In the absence of vaccines or other bio-medical interventions for preventing HIV infection, all prevention efforts are primarily focused on behavioural change. It follows therefore that measurements of behavioural patterns are the most immediate and sensitive indicators of the impact of prevention programmes and of the potential for the spread of HIV infection. Behavioural surveillance is therefore also an important component of the total effort to get information about HIV/AIDS.

A complete public health surveillance of the epidemic therefore requires that information from all components be used to complement each other. AIDS case surveillance and HIV surveillance together with STI and behavioural surveillance present a complete picture of the epidemic, both in terms of disease distribution as well as of the related risk factors. The question most asked by decision-makers, media and the general public is, however, about the total HIV infection in the country. For this reason, no picture of the HIV/AIDS situation can be considered complete without estimating the total burden of HIV infection in the community.

### **3. ISSUES RELATING TO SURVEILLANCE IN THE REGION**

#### **3.1 AIDS Case Reporting**

For many reasons, it is important for the health system to have a good idea of the number of persons with AIDS. When complete, AIDS case reports can provide information on the demographic and geographic characteristics of the population affected by the epidemic and on the relative importance of the modes of transmission. This information is of great value for planning prevention interventions. AIDS case data also indicate the extent of serious morbidity associated with HIV infection and the potential impact on health services. This information is necessary for short-term planning of health care at the national level. Data on AIDS cases can also be used for advocacy and raising public awareness. Finally, as long as case definitions and surveillance systems are taken into consideration, the data can be used for international and intra-national comparison.

Among major issues relating to AIDS case reporting is the fact that AIDS cases represent the culmination of events that occurred 5 to 15 years ago. In addition, for several reasons, in almost all situations there is gross under-diagnosis and under-reporting of cases. There are also delays in reporting.

In the absence of a widely known and accepted AIDS case definition, health care providers remain reluctant to diagnose and report cases of AIDS. As far as AIDS case definition is concerned, the one prescribed should have certain attributes. The definition must be able to identify cases of severe HIV-related disease with a high degree of sensitivity and specificity. At the same time, it must be applicable in all health care facilities, be simple to understand and be suitable for both national and international comparisons. Laboratory HIV testing and other tests, such as CD4 cell counts, will improve the sensitivity and specificity of the diagnosis. However, the accepted definition must also cater to the needs of the more peripheral areas where sophisticated laboratory facilities for HIV and immunological testing are not routinely available and where precise etiological diagnosis of many opportunistic infections cannot be made.

The Provisional Clinical Case definition for AIDS, or the "Bangui" definition, developed in 1985, was modified in 1992 by WHO and does not

require HIV testing to identify a case of AIDS. This definition is widely used in many countries and provides a good level of information. Most parts of the SEA Region accept the 'Bangui' definition for AIDS case surveillance but many authorities have modified this by the addition of HIV test results. It is correct that the addition of HIV tests increases the sensitivity and specificity of the definition; however, provision must be made for those facilities that do not have ready access to HIV testing.

To improve AIDS case reporting, several linked activities were suggested. Mechanisms and policies must be enacted to make AIDS case reporting a part of the accepted pattern, preferably integrated into the general morbidity reporting format.

- > Uniform AIDS case definition acceptable in a country must be widely propagated to all health care workers. This must be laid down separately for situations where testing facilities are available and for other situations when care is given in the absence of HIV testing facilities.
- > Health care providers must be trained to recognize AIDS, to diagnose it using the relevant national case definitions and to report cases to appropriate public health authorities.
- > Steps should be initiated to ensure confidentiality; reporting should not require data on personal identifiers.
- > All training programmes for physicians and other health care providers should ensure that the teaching curriculum contains a reference to this important need.

### **3.2 HIV Sentinel Surveillance**

AIDS case surveillance gives information on infection that occurred a median of 7-10 years earlier. HIV surveillance, on the other hand, gives information on the current status of the infection in the community. There are several types of surveillance that have been carried out to determine the extent and trend of HIV infection in the community.

Soon after HIV tests became available in the mid-1980s, people started reporting the results of HIV tests as sero-prevalence data. Some countries even

tried to estimate the prevalence of infection by carrying out random surveys in the community. It soon became evident that these surveys were not cost-effective and generated information at high cost, which soon became obsolete. It also became apparent that many such surveys gave highly inaccurate estimates of the total HIV load because of the fact that HIV infection is not randomly distributed in the population, but rather was highly clustered around certain behavioural characteristics. Participation and selection bias also played their part in making results unreliable.

Usually, the tests done could not be related to any particular population or community and therefore this form of data did not give much information. In other words, the denominator was generally not available. Such data had limited epidemiological application but did serve to inform decision-makers whether or not HIV infection had reached a particular geographic area. It also served some advocacy functions. Attempts to draw conclusions from the seropositivity rate were fraught with pitfalls.

During the late 1980s, WHO advocated testing of specific population groups periodically using an unlinked anonymous methodology. When repeated every six months or one year, using similar methodology, this process provides trends of HIV prevalence in the same population group. It was suggested that sentinel surveillance be carried out in those with high risk behaviour (HRB) as well as among groups representing the general population provided the rates in HRB were found to be high.

The methodology of sentinel surveillance for HIV infection was developed in response to the need for a system that did not have the drawbacks of random surveys or routine reporting of the results of all the testing that happened to be done at any particular centre.

It follows that sentinel sites must be chosen keeping in mind that they must be available to be resurveyed periodically. Sentinel surveillance is recommended by WHO as the principal methodology for collecting information on the geographic, demographic and temporal distribution of HIV infection.

Populations particularly suitable for sentinel HIV surveillance are persons attending STI clinics, drug treatment centres, and other groups at higher risk. Women attending antenatal clinics and young military recruits represent populations at lower risk or the general population. To facilitate unlinked anonymous testing, sentinel sites are chosen where blood is already being

drawn for a non HIV-related reason. Generally, clinic or health centre-based sentinel sites are preferred as they permit the testing of blood/sera drawn for any routine purpose without linking the result to the identity of the person. This methodology is referred to as “unlinked anonymous testing” and is the preferred method for sentinel surveillance. Blood is drawn for any routine investigation and an aliquot of serum is separated without any personal identifiers and tested for HIV. The methodology is important as it avoids participation bias, which otherwise is a problem in such surveys. As no attempt is planned to link the person being tested with the test result, this technique also obviates the need to take informed consent, nor is confidentiality an issue. Moreover, sentinel surveillance for HIV does not involve randomized selection of samples or sentinel sites, making it operationally easy to implement. It must be noted that data from different sites are not amenable to being aggregated.

Sentinel surveillance using unlinked anonymous testing is a powerful methodology that addresses several of the common causes of bias and inaccuracy of the data generated by surveys. The sites must have the potential to recruit an adequate number in the defined sampling period. It is important that care is taken to choose sites that are stable and can be used from year to year. Sentinel surveillance for HIV serves to monitor trends for HIV prevalence in selected populations, determine the geographical spread of infection and provides data which can be used to estimate the current HIV load and to make projections for the future. However, the utility of HIV surveillance data can be greatly decreased if care is not taken to follow the methodology stringently.

There was broad acceptance that collection and dissemination of surveillance data on STIs are essential to identify groups at high risk, establish realistic disease control objectives and evaluate the overall effectiveness of syndromic management in managing sexually transmitted diseases. Interventions to change behaviour to reduce the transmission of STIs can also be monitored by STI surveillance. Inputs on the prevalence and incidence of STIs are therefore an essential component of the total surveillance efforts for HIV/AIDS.

In all practical aspects, HIV/AIDS is also a sexually transmitted infection. Both conventional STIs and HIV are spread by unprotected sex and prevention messages that relate to HIV are exactly the same as measures directed towards the control of conventional STIs. In addition, the presence of a STI increases the risk of both acquiring and transmitting HIV infection.

The priority for the Region now is to establish a reliable but simple and practical STI surveillance programme using a standardized approach and format. Consistent availability of reasonably accurate data on STIs will guide and assist STI/AIDS control programmes in evaluating the impact of control strategies, e.g. based on syndromic management of STIs. The data can also serve to evaluate IEC interventions targeted at individuals with high risk behaviour. Such data will also help in rationally planning for future strategies.

Monitoring of gonococcal anti-microbial susceptibility patterns is important for developing and changing treatment options as part of STD syndromic management.

### **3.3 Components of STI Surveillance**

In essence, STI surveillance depends upon establishing a system of reporting based on two different approaches. Basic data must come from sentinel sites that report on STI prevalence based on a syndromic diagnosis. Additional information is derived from specialist centres where exact etiological classification is possible.

Reporting of STIs by all institutions or from carefully selected sentinel sites scattered across the country on a continuous basis, should provide data that can be analysed, reported and disseminated on a regular basis. Patient load and the institutions' willingness to participate in reporting are important considerations when selecting STI sentinel sites. In the case of males, reporting of syndromes, particularly genital ulcer disease and urethral discharge, will be most practical. The situation is very different in women. STIs are frequently asymptomatic and syndromic reporting would not be useful. Hence, reporting by etiology, particularly of syphilis, and if possible, cultures for gonorrhoea and chlamydia could be considered.

In this regard, it is important to note that syndromic management guidelines are focused on the attempt to offer on-the-spot treatment to a wide variety of different etiologies by following a simple decision tree. They are not designed to give good etiological differentiation. For this reason, all the different syndromic management categorization is not equally reliable for diagnostic purposes.

Etiological reporting is also an important part of STI surveillance; however, it is necessarily restricted to a few treatment facilities that have the laboratory and clinical resources to make such diagnoses.

***(1) STI prevalence surveys***

Periodic surveys in various population groups help to establish a baseline and thereafter in monitoring STI over time. These surveys could be carried out in populations accepted to be at high risk as well as those who are part of the general population. Examples of high-risk female populations are female sex workers. Clinics situated in the proximity of Commercial Sex Worker concentrations, and thus including a sizeable proportion of sex workers in their clientele, are an example of a suitable high-risk site for females. Male high-risk populations are typically sampled from STI clinics. Another example of high-risk population is those that use injected drugs (IVDU). Surrogates for the general or low-risk population include pregnant women (ANC attendees) and recruits to the military and paramilitary forces.

***(2) Special surveys/studies***

As in the case of other forms of surveillance, special surveys can be used as an important supplemental source of valuable information. Examples of these include investigations into treatment seeking behaviour, community prevalence of STIs, validation of syndromic management flow charts and other such studies. Monitoring of gonorrhoeal anti-microbial susceptibility has been established in the Region, which could provide very useful surveillance information which can be used to decide the choice of treatment for STD syndromes.

### **3.4 Risk Behaviour Surveillance**

In the chain of events that culminates with a person developing AIDS, the earliest point is the behaviour that puts an individual at the risk of getting a sexually transmitted disease, be it one of the conventional STIs or HIV. In the absence of a specific vaccine or other bio-medical intervention, prevention efforts are focused on promoting behavioural change to eliminate or minimise the risk of acquiring HIV infection. It stands to reason therefore that monitoring behaviour would give a direct measure of the efficacy of

educational interventions directed at preventing HIV/STIs. In addition, a measure of the prevalence of risk behaviour can serve to indicate the potential for the spread of HIV/STI.

In common with other forms of surveillance, a universal and ongoing measurement is not possible. Repeat cross-sectional surveys on behaviour are relatively expensive as they need considerable time per person interviewed. The frequency of such surveys must therefore be carefully considered. Periodic surveillance every two years appears to be a pragmatic possibility. As in HIV and STI surveillance, it is desirable to select sentinel sites so that the risk behaviour in the selected population can be monitored on a temporal basis.

Linking HIV surveillance with behavioural surveillance has advantages and enhances the value of both. However, this should not be interpreted as requiring the administration of the behavioural data questionnaire to the same individuals being selected for sentinel HIV surveillance. Behavioural sentinel sites should, as far as possible, be community based and the concept of linking should be put into practice by ensuring that the persons sampled as part of HIV sentinel and behavioural surveillance are drawn, as far as possible, from the same community.

The aims of behavioural surveillance are:

- > To guide programme managers to decide on groups to include in HIV surveillance and target for interventions
- > To provide repeated measures of behavioural indicators to observe trends in possible behaviour change
- > To correlate behavioural trends with trends in STI and HIV prevalence rates
- > To alter future STI/HIV surveillance groups
- > To assess, in a general sense, the impact of programmes aimed at behavioural change
- > To project shifts in priority groups for future interventions, or intensify work with existing groups
- > To provide suggested future research direction regarding the effectiveness of behavioural interventions.

In the second generation of surveillance recommendations, it is no longer suggested that exactly the same site of a risk group is accessed each year for the survey. Hence, cross-sectional studies of the same groups, but perhaps in different locations, are acceptable for aggregated countrywide behavioural data. In repeated surveys, new groups can be added, but at least 50 per cent of the same older groups must be retained. This will provide correction of groups surveyed in light of the findings of each wave of the survey.

The steps in behavioural surveillance are:

- Rapid assessment of risk groups, including mapping, size estimation, risk ranking and prioritization in relation to the stage of epidemic (low, concentrated or generalized)

This is the preliminary step. If marginalized groups, e.g. sex workers, men having sex with males (MSM), injecting drug users (IDUs), are to be included, close cooperation with intervention agencies such as NGOs, Community-based organizations (CBOs), is required. Where necessary, a social scientist should be employed to lead this exercise, preferably one with prior experience in sex-related surveys.

Mapping would involve identifying geographical areas where different risk groups are present for any level of risk, e.g. IDUs and sex workers (high), factory workers or truckers (bridge populations or medium risk), and antenatal women, family planning clients (low risk). The purpose is to learn how to reach them and what terminology of risk-related behaviour to be used in the questionnaire.

Size estimation for each risk group may be accomplished through key informants (local experts, e.g. police, brothel managers), other secondary data sources, and local intervention programmes. Observation by team members should attempt to triangulate the figures given by others.

Risk ranking, at this point of the survey preparation, is a rough estimate of relative amounts of risk-taking behaviour for each group, e.g. ordinarily IDUs and full-time sex workers have the highest risks and, therefore, rank first, and antenatal mothers rank last.

Based on these assessments, a prioritized list is prepared and a few groups selected for surveillance based on risk ranking, accessibility, cost, and logistics.

- (1) Preparation of a pre-tested standardized questionnaire, including primary indicators. These may be face-to-face interviews (which requires careful screening of recruited data gatherers and adequate training and supervision), self-administered questionnaires (for literate groups), or other methods. All methods must assure confidentiality, anonymity and privacy.
- (2) Required indicators, in addition to basic demographic data (age, sex, economic class), are:
  - > Proportion of group that reports having sexual intercourse with a non-regular partner in last month (or year, for low-risk groups). The term 'clients' should be used for sex workers.
  - > Proportion of group who report condom use for their last intercourse with non-regular partner in last month (year for low-risk groups).
  - > Optional: the above two indicators can be adapted for non-paying partners as well. Remember this can become very disparate: e.g. non-paying regular partners, spouses, non-paying casual partners, etc.
  - > For sex workers and MSM, time should be adjusted to last day and/or week and total condom use requested. Ask for all events of intercourse (vaginal and anal) in the specified time and the number of times condoms used for same events. Calculate the median use (for example, if 5 times intercourse last week, and 3 times used condoms, then 3/5 or 60 per cent condom use is reported).
  - > Among males, self-reported current (in high-risk groups) and within last year (for low-risk groups) episodes of urethritis.
  - > Proportion of male respondents who sought initial treatment from qualified practitioners for the last episode of urethritis.
  - > For IDUs, in addition to sexual behaviour indicators, one must include the following: Proportion of IDUs who shared syringes

and needles even once last week. Ask for the number of injections last week and the number of times he/she used a completely clean new syringe/needle first, before any one else.

For low-risk groups, knowledge indicators may be included.

For purposes of triangulation, ask if condoms are held presently and can be shown to the interviewer. For most sensitive questions, a repeated question asked in a different way at another point in the interview may help validate answers.

### ***Sample Size***

- For high-risk groups, 250-400 is adequate for each round.
- For medium-risk groups, 600-800 is adequate for each round.
- For general population/low-risk groups, 1000 or above is required.

If geographical differences in risk-taking behaviour appear to be great enough, sampling should accommodate such variation.

### ***Data management (analysis and reporting)***

- (1) Set up a standard package of tables and proportions to be reported for each group. Check that median age and other demographic characteristics show same groups have been sampled for biological and behavioural surveys. In subsequent years, one can also check for matching of characteristics.
- (2) Please use medians as the measure of choice for central tendency for each indicator.
- (3) Compare behavioural indicators with prevalence rates of STI and HIV for each group. If geographical areas have been sampled separately, analyse these separately and compare them.
- (4) With repeated surveys, do the trend analysis for each behavioural indicator separately and use the data for advocacy and programme alterations. If necessary, one may use statistical consultants for precise interpretation of data of trends.

- (5) Disseminate the data to policy-makers, all levels of programme managers, participants of data collection and all HIV/data users. Data should be checked before dissemination.
- (6) Data may provide clue to add newer areas for intervention if necessary.

#### **4. ESTIMATION OF THE BURDEN OF HIV INFECTION**

It was agreed that any estimates of the total burden of HIV infection in any country was both required and generally very approximate due to the difficulty in getting precise data on prevalence in any population group. The methodology favoured by the discussion by the participants in the intercountry workshop in Bali was based on dividing the population of the country/state or other unit into various risk categories. Examples of such risk categories include age groups, such as 15–44 year old general population, groups at special risk, such as CSW and IDU, or persons with STIs. The basic demographic data may be available from national census and other sources. Once the population size in each category or group is defined, numbers of estimated infected persons could be obtained by applying available group specific prevalence figures. Totalling the numbers for each group gives an estimate of the total infected.

The prevalence in ANC clinic attendees is the most frequently used surrogate for the general population in the reproductive age group. Another similar 'general' or low-risk group is military recruits. High-risk group estimates are obtained from a variety of risk categories such as IDU, CSW or STI clinic attendees.

Rural–Urban and male–female prevalence differentials must be kept in mind. By the very nature of the method, the estimates are very approximate. Every country must attempt to refine their estimates as much as possible as more data are available. The overall quality of surveillance data is very important as it has a major influence on the total estimate.

## **5. STRATEGIES FOR THE FUTURE**

The agenda for future strategies for WHO to intensify HIV/AIDS surveillance in the Region must therefore include elements directed at each of the identified components of the comprehensive plan for HIV/AIDS Surveillance.

### **5.1 Strengthening AIDS Case Surveillance**

The meeting highlighted that AIDS case reporting is generally incomplete and often irregular in the Region. Clear and unambiguous case definitions and adequate training are key interventions that have the potential to improve the completeness and reliability of AIDS case reports.

### **5.2 Improving the Quality of HIV Surveillance Data**

Most countries in the Region have adapted the methodology of HIV sentinel surveillance as advocated by WHO. However, much work needs to be done to ensure that the data generated in different situations is not only of a high standard but that the data are analysed appropriately and reported expeditiously.

### **5.3 Establishing a Uniform STI Surveillance Methodology**

Some system for the collection of data on STIs exists in most countries. However, the data gathered are of limited value even for the country collecting it and has almost no international value. There is an urgent need for propagating the idea of using a standardized and reliable methodology for STI surveillance.

### **5.4 Establishing Risk Behaviour Surveillance**

Each country needs to establish risk behaviour surveillance as an integral part of its surveillance strategy. It would be desirable to limit the national surveillance efforts to a few basic indicators in the interest of feasibility and cost.

## **5.5 Estimating Total HIV Infection**

Each country needs to establish a core working group of national specialists to periodically review available data and upgrade national estimates of the total load of HIV infection in the community.

## **6. CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Conclusions**

The meeting emphasized that the changing scene of HIV/AIDS in the Region had made it necessary to rethink the issue of surveillance. In addition to the traditional focus on AIDS case and HIV sentinel surveillance, Member States need to emphasise STI surveillance and the tracking of risk behaviour. WHO should play a leadership role in these areas and support national AIDS control programmes in their endeavour to further strengthen HIV/AIDS surveillance in the Member Countries. Only such an efficient surveillance system can provide the evidence for rational interventions and monitoring both the epidemic and the efficacy of the interventions. The need to spend limited national and international resources more efficiently also mandates that decisions are based on evidence.

There can be no doubt that the most immediate measure of susceptibility to risk of HIV and of the impact of intervention programmes is a measurement of the quantum of risk behaviour in selected populations, especially high-risk groups. However, the usual survey of behaviour, as has been done by various groups in India, Thailand and some other countries, has been so elaborate that they are difficult to replicate without extensive training and committing significant resources. Twin factors of the cost and the need for specialized investigators have made the methodology less feasible for state AIDS cells.

The challenge is to devise a simple yet sufficiently sensitive and specific methodology that can be used as a model. A pragmatic and possible methodology that can still give a good idea of the potential for the spread of HIV and yet sensitive enough to detect changes in behaviour resulting from behavioural change interventions.

The PI survey, as recommended by WHO/GPA and carried out by India, was one such attempt. Building upon the PI survey and using the experience gained by FHI advocated model of behavioural surveillance, the workshop in Bali recommended a simplified methodology in the interest of feasibility.

Several important decisions were taken and many issues clarified.

- (1) The importance of comprehensive HIV/AIDS surveillance has been reiterated.
- (2) The group agreed that AIDS case reporting should continue and efforts made to augment both quality and completeness.
- (3) While HIV sentinel surveillance has been the mainstay of HIV surveillance in the Region, the focus must now be on improving the quality of data and ensuring timely and complete reporting. Unless data are gathered by a defined methodology and consistency maintained, the full value of the information being gathered cannot be realized and used for advocacy and planning purposes.
- (4) The workshop was clear in its recommendation that STI and behavioural surveillance are important and essential parts of the overall HIV/AIDS surveillance strategy.

## **6.2 Recommendations**

Effective surveillance can only be conducted if the infrastructure in terms of manpower, laboratory support and logistics is present and adequate attention is paid to training and supervision at all levels and quality assurance procedures are maintained during data collection and analysis at all levels, including HIV testing.

Publication and dissemination of surveillance data through regular reports, newsletters and web pages to all stakeholders, including the peripheral level, should support the use of data for planning and advocacy. Clearing houses as a repository and source for all available relevant information should be established. The value of such an exercise would be greatly enhanced if materials were screened for epidemiological validity.

### **Specific recommendations**

- (1) National consensus on AIDS case definition should be reached and this case definition widely disseminated to health professionals.
- (2) Efforts should be made to improve completeness of reporting while making special efforts to maintain confidentiality and preventing double counting and participation bias.
- (3) Unlinked anonymous testing at carefully chosen and well-defined sentinel sites should remain the method of choice for HIV surveillance. If the recommended sample size cannot be reached in the stipulated period, the sampling period may be extended to the minimum possible, even up to six months if necessary. However, the periodicity may be reviewed if the period of sampling is extended.
- (4) Other sources of data (e.g. blood banks) should be analysed to provide supplementary epidemiological information.
- (5) A system of reporting STIs from the periphery, based on syndromic approach (GUD and Urethral discharge for men, GUD and cervical discharge for women) can be set up.
- (6) Etiological reporting may be established from selected sentinel sites and anti-microbial sensitivity monitored on a regular basis.
- (7) Community-based or sentinel prevalence studies can be commissioned on a periodic basis for estimating the burden of disease, monitoring of interventions and for fine tuning of the syndromic management procedures.
- (8) Risk behaviour evaluation should form an integral part of the overall surveillance plan. WHO should develop simple guidelines for feasible studies looking at a limited number of key indicators. Such surveys should be instituted in both high-risk and general populations.
- (9) A working group on HIV estimates should be established in each country for the estimation of the total HIV prevalence. The process of filling gaps in information (HIV prevalence, population size) for this purpose should be initiated, if necessary by contracting rapid assessment procedures for specific risk categories.

## Annex 1

### PROGRAMME

#### **Tuesday, 27 July 1999**

0830 – 0900 Registration

0900 – 0945 **Opening Session**

Welcome and meeting objectives

Dr Jai P Narain

Address by Director-General, CDC&EH, Indonesia

Inaugural address by the Regional Director,  
WHO/SEARO

Announcements

Introduction and nomination of Chairperson and  
Rapporteur

**Plenary Session**

1000 – 1030 Second generation HIV/AIDS surveillance

Dr Stefano Lazzari

1030 – 1100 Discussion

Prof. Lalit M. Nath

1100 – 1130 AIDS case surveillance

1130 – 1145 Discussion

1145 – 1230 Utility of AIDS case data, selected country  
experiences

**Plenary Session**

1330 – 1415 HIV surveillance: Methodological issues

Dr S. Sarkar

1415 – 1500 Data management for HIV sentinel surveillance

Dr Bing Wibisono

1500 – 1600 Country experiences on HIV sentinel surveillance  
Discussion

1600 – 1615 Group Work explanation of tasks

1615 – 1700 Group 1. Methodological Issues in HIV sentinel  
surveillance

Group 2. Data management and use

Group 3. Quality control in sentinel surveillance

#### **Wednesday, 28 July 1999**

Presentation of Group Consensus

0830 – 0845 Methodological issues

0845 – 0900 Discussion

0900 – 0915 Data management

0915 – 1000	Discussion	
1000 – 1015	Quality control	
1015 – 1030	Discussion	
	Behavioural surveillance	
1045 – 1130	Risk Behavioral Surveillance	Dr Carol Jenkins/ Dr Vijaya Srinivasan
1130 – 1230	Discussion	
1330 – 1430	Group Work Group 1 – Simplifying behavioural surveillance methodology for programme purposes Group 2 – Behavioural surveillance and interventions	
1430 – 1530	Behavioral surveillance - Presentations of group consensus	
	<b>Plenary Session</b>	
1530 – 1545	STI surveillance	Dr Sombat Tanprasertsuk
1545 – 1615	Discussion	
	– Group Work reporting of STIs	
	– Prevalence surveys	
	– Integrating STI surveillance with general disease surveillance systems	

**Thursday, 29 July 1999**

	<b>Plenary Session</b>	
0830 – 0930	STI Surveillance: Presentation of group consensus	
0945 – 1100	Gonococcal antimicrobial surveillance	
	– Objectives of gonococcal susceptibility surveillance	Dr Sudarshan Kumari
	– Performance of gonococcal susceptibility surveillance	
	Discussion	
1100 – 1230	GASP review: Networks, principles, and methods for gonococcal susceptibility. Overview of past and present GASP data	

**Plenary Session**

1330 – 1415	Estimating HIV prevalence: methodologies	Dr Stefano Lazzari/
1415 – 1500	Discussion on methodology	Dr Neff Walker
1515 – 1630	Estimating HIV prevalence: Country experiences and discussion	
1630 – 1700	Briefing on task assignment: Individual country plan of action on HIV/AIDS surveillance	

**Friday, 30 July 1999**

**Plenary Session**

0830 – 0915	Use of surveillance data for advocacy and programme direction	Dr Jai P Narain
0915 – 0945	Discussion	
1000 – 1100	Developing country plan of action for 2000 – 2001 (Individual country task Continued)	

1100 – 1230 **Plenary Session**

- Preparation and presentation of major conclusions and recommendations
- Closing

## Annex 2

### LIST OF PARTICIPANTS

#### REPRESENTATIVES OF MEMBER COUNTRIES

##### BANGLADESH

Dr Md. Asad Uddin  
Deputy Director and Programme Manager,  
STD/AIDS  
DGHS, IPH Building  
Mohakali, Dhaka

Dr Mosaddeque Ahmed  
Deputy Programme Manager (Service Delivery)  
STD/AIDS Programme  
DGHS, IPH Building  
Mohakali, Dhaka

##### BHUTAN

Dr Tenzin Penjor  
Chief of Public Health unit  
Thimphu

##### DPR KOREA

Dr Choe Si Hun  
Vice-Director, State Hygienic Control Board  
Ministry of Public Health, Pyongyang

Dr Kim Son Il  
Interpreter  
Ministry of Public Health, Pyongyang

##### INDIA

Dr Mohammed Shaukat  
Deputy Director (Technical)  
National AIDS Control Organisation  
Ministry of Health and Family Welfare  
New Delhi

Dr Prema Ramachandran  
Adviser (Health)  
Planning Commission  
Government of India  
New Delhi

##### INDONESIA

Dr Indriyono Tantoro  
Chief, Sub-directorate STD/AIDS and Yaws  
D/G CDC & EH, Ministry of Health  
Jakarta

Dr Fonny J. Silfanus  
Chief, Surveillance Section, D/G CDC & EH  
Ministry of Health, Jakarta

Dr Endang R. Sedyaningsih Mamahit  
Senior Researcher  
Communicable Disease Research Center  
NIHRD, Ministry of Health, Jakarta

Dr Rita M. Ridwan  
Ag. Chief, Investigation Section  
Sub-Directorate of STD/AIDS & Yaws  
Ministry of Health  
Jakarta, Indonesia

##### MALDIVES

Mr Abdullah Saeed  
Senior Regional Health Administrator  
Seenu Regional Hospital  
Malé

##### MYANMAR

Dr Myint Kaw  
Team Leader (HIV/AIDS)  
Myitkyina

Dr Hla Myint  
Medical Officer (HIV/AIDS)  
Department of Health  
Yangon

**NEPAL**

Dr Vimala Arjyal  
National Centre for AIDS and STD Control  
Department of Health Services  
HMG of Nepal  
Teku  
Kathmandu

Dr Bikash Lamichhane  
Medical Officer  
National Centre for AIDS and STD Control  
Department of Health Services  
HMG of Nepal  
Teku  
Kathmandu

**SRI LANKA**

Dr (Mrs) I. Abeywickrame  
Director, National AIDS/STD Programme  
Colombo

Dr K. Ariyaratna  
Coordinator, HIV Surveillance  
Colombo

**THAILAND**

Dr Panumard Yarnwadsakul  
Medical Officer  
Regional Office for Communicable Disease  
Control, Region 11  
Department of CDC, Ministry of Public Health  
Nakorn Srithammarat Province

Mrs Orapan Sangwanloy  
Technical Disease Control Officer, Division of  
Epidemiology  
Office of the Permanent Secretary for Public  
Health, Ministry of Public Health  
Bangkok

Temporary Advisers  
Dr Carol Jenkins  
Sector Coordinator, Health and Population  
CARE-Bangladesh  
Dhaka  
Bangladesh

Dr Vijaya Srinivasan  
Director, The Gandhigram Institute of Rural  
Health and Family Welfare Trust  
Ambathurai R.S., Dingidul District  
Tamil Nadu – 624 302  
India

Dr Sombat Tanprasertsuk  
Department of Communicable Diseases  
Control  
Ministry of Public Health  
Bangkok  
Thailand

**UNAIDS**

Dr Neff Walker  
STP, UNAIDS, Geneva  
Dr Swarup Sarkar  
Intercountry Programme Adviser  
UNAIDS  
New Delhi, India

WHO Headquarters  
Dr Stefano Lazzari  
HSI/CHS/HQ

**SEARO**

Dr Jai P Narain  
Regional Adviser-HIV/AIDS & TB

Dr Sudarshan Kumari  
Regional Adviser-Health Laboratory Services

Prof. Lalit M. Nath  
Consultant (HIV/AIDS Surveillance)  
WHO Country Offices

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Dr R.J. Kim-Farley  
WHO Representative to Indonesia  
Jakarta

Dr Amaya Maw-Naing  
WHO Medical Officer-STD/AIDS  
Office of the WHO Representative to Indonesia  
Jakarta

Mr Mohammed Rasheed  
Programme and Administrative Officer  
Office of the WHO Representative  
Jakarta

Dr Bing Wibisono  
WHO National Consultant (AIDS)  
Office of the WHO Representative  
Jakarta

Ms Maria Erly  
Secretary, STD/HIV/AIDS Programme  
Office of the WHO Representative to Indonesia  
Jakarta

Dr Ying-Ru Lo  
WHO Medical Officer-STD/AIDS  
Office of the WHO Representative to Thailand  
Bangkok