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GLOBAL PROGRAMME ON AIDS

REPORT OF THE MEETING ON HIV SENTINEL SURVEILLANCE

DAKAR, SENEGAL
14–18 DECEMBER 1991

WORLD HEALTH ORGANIZATION

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1. Introduction

A meeting on sentinel surveillance for HIV, sponsored by the World AIDS Foundation, the World Health Organization Regional Office for Africa (AFRO), the WHO Global Programme on AIDS (GPA), and the Centers for Disease Control (CDC), USA, was held in Dakar, Senegal, on 14-18 December 1991, as a "satellite" meeting to the VIth International Conference on AIDS in Africa (Dakar, Senegal, 16-19 December 1991).

The objectives of the meeting were:

(a) to identify the principal common constraints on the implementation of HIV sentinel surveillance in Africa;

(b) to develop an overview of the potential approaches for resolving these constraints; and

(c) to assist GPA in identifying outstanding technical issues with respect to HIV sentinel surveillance.

The meeting was attended by 37 participants from 26 countries of sub-Saharan Africa and by staff members from WHO and CDC (Annex). The meeting was opened by Dr M.H. Merson, Director, GPA, who spoke of the importance of sentinel surveillance data on HIV as one of the indicators for monitoring the performance of national AIDS programmes. He hoped the meeting would not only identify common operational constraints on the implementation of HIV sentinel surveillance by national AIDS programmes, but would also allow the sharing of experiences in order to find ways around such obstacles. Dr J.A. Kalilani, AFRO, recalled that data from epidemiological surveillance provided information for action and were essential for the rational targeting and monitoring of national AIDS programmes.

Representatives from three countries - Central African Republic, Rwanda and Zimbabwe - each presented an overview of their country's problems and successes with HIV sentinel surveillance. Common problems were limited human resources and a health infrastructure already heavily burdened with other activities. Attentive support to, and decentralization of, training, equipment, and logistics to sentinel surveillance sites had enabled Zimbabwe to successfully implement such surveillance in a few sites, with plans for additional sites in the near future, as resources allow. The relative strength of the health infrastructure in Zimbabwe was recognized as having facilitated the successful implementation of the first phase of HIV sentinel surveillance. Rwanda had brought its HIV sentinel surveillance into line with available resources by reducing the frequency of sampling.

Particular attention was directed in the Central African Republic to making use of surveillance data for HIV/AIDS prevention and control activities, previously a recognized weakness in the national AIDS programme. All three country reports acknowledged that training, supervision, and mobilization of health workers had played an important role in the operational success of sentinel surveillance. Close attention to strengthening the management of surveillance data was identified as an issue of particular importance.

In the discussions of the small working groups which followed the country presentations, particular problems were identified in each of the areas reported here, and a list of recommendations drawn up in each case.

2. Mobilization of health workers

The following are major obstacles to the mobilization of health workers for HIV sentinel surveillance:

(a) less than adequate training, supervision or feedback to health workers in the field;

(b) frequent turnover of staff;

(c) poor management and planning including, too many assignments to too few health workers, over-ambitious protocols for sentinel surveillance that do not adequately allow for existing workloads, absence or inadequacy of job descriptions for health workers involved in surveillance, inadequate or poorly conducted supervision of health workers in the field and frequently unreliable distribution of supplies and equipment;

(d) reliance on supplemental financial incentives to health workers from external sources, which may in the long term be counterproductive to the sustainability of surveillance or any other project if external funding support is withdrawn;

(e) less than adequate attention to maintaining the motivation of health workers at sentinel sites, e.g., through feedback on their performance and on surveillance results. The latter constraint may in some countries be heightened by delays in obtaining official clearance for the release of sentinel surveillance reports; and

(f) unclear government guidelines and policies towards health workers.

3. Support of policy makers

Although support from all levels of governments has continued to improve, the tendency for political factors to play a role in the planning and implementation of sentinel surveillance has remained a hindrance in some countries. These effects may be due to misconceptions at some government levels regarding sentinel surveillance – for example, sentinel surveillance may be considered a prestigious research activity, rather than the source of information for directing public health action.

Use of data arising from sentinel surveillance (including feedback) has in some instances been hindered by the delayed release of surveillance reports by governments.

4. Logistics and distribution

Common difficulties were noted in ensuring the regular and uninterrupted delivery of equipment and supplies to sentinel sites, particularly supplies imported from abroad. With HIV testing kits, insufficient provision or competing requirements for their use elsewhere (for example, to ensure blood transfusion safety, or to provide voluntary testing for individuals concerned about their HIV status) is a frequent problem in all the countries.

5. Training and supervision

Training and supervision were identified by the participants as two of the most crucial factors in determining whether or not surveillance, as with most other public health activities, can be sustained. Most problems regarding training and supervision are related to staffing shortages and frequent turnover.

Existing training curricula for health workers are often inadequately related to the duties they will have to take up after training. Supervision is often not standardized, and implementation of recommendations arising from supervisory visits is less than complete at all levels. Resource allocation for supervision appears to be less than adequate in many countries, particularly with respect to budgeting and vehicle allocation.

6. Technical issues

Supplemental testing, in particular with the Western blot assay, continues to be over-utilized for sentinel surveillance in some countries.

Data management capabilities in many countries are weak, and strengthening this capability would enhance the likelihood of surveillance data being used as information for action. Too many data are being collected too often from too many places, overwhelming the capacity of national AIDS programmes to analyse, interpret, and take action on the collected data. Inappropriate aggregation of data from different sentinel sites is also a problem. The strengthening of laboratory quality assurance regarding HIV testing is seen as important for HIV sentinel surveillance as well as for all other national AIDS programme activities requiring HIV testing.

Sentinel surveillance data have in some cases been over-interpreted. Thus, extrapolation from surveillance results has been done without adequate allowance being made for the biases inherent in such data.

Recommendations

A Mobilization of health workers

A. Efforts should continue to be made to improve the training, supervision and feedback given to health workers in the field.

A.2 Protocols for HIV sentinel surveillance should conform more closely with what is practical and feasible. The protocols should also be consistent with existing plans for HIV/AIDS prevention and control.

A.3 Countries should review the advisability of externally provided financial incentives to health workers, because on the long term this may be detrimental to the sustainability of surveillance programmes. Efforts should be made to identify and promote alternative forms of incentives.

Governments should formulate legislative guidelines on HIV/AIDS in general and on HIV sentinel surveillance in particular.

A.5 Governments should consider implementing measures to limit the high turnover of health workers. Such measures may include improving working conditions, enlarging the pool of trained personnel and offering employees contracts for two to five years.

B. Support of policy-makers

B.1 Countries are encouraged, when planning or implementing sentinel surveillance, to follow the HIV sentinel surveillance guidelines developed by WHO. The principal criteria should be technical, wherever possible.

Surveillance results should be released with the shortest possible delay, thus speeding up feedback to sentinel sites, an important component of health worker mobilization.

HIV sentinel surveillance should be fully integrated into the overall health information system.

C. Logistics and distribution

C.1 Diversion elsewhere of HIV test kits originally earmarked for surveillance should be minimized by ensuring adequate supplies of HIV test kits for all uses.

Efforts should be made to shorten the time between submission of purchase orders by national AIDS programmes and delivery of the required supplies or equipment.

C.3 The various external funding agencies should be encouraged to coordinate their surveillance-related activities.

D. Training and supervision

D.1 The training curricula of health workers should reflect more closely the duties assigned to them.

D.2 Protocols for sentinel surveillance should carefully detail the requirements of, and methods to be used for, the supervision and training of surveillance programme staff.

D.3 Each health worker involved in sentinel surveillance needs to understand his or her duties or functions. Where possible, detailed job descriptions should be drafted for each type of health worker involved in surveillance. When necessary, existing job descriptions should be modified to incorporate additional duties. Each sentinel site should have a Summary of Duties table, which helps each health worker understand his or her role in surveillance in relation to other workers in the same health facility. Such documents would also help standardize supervision.

D.4 Problems identified during supervisory visits should be followed up, to improve health worker motivation. In addition to job descriptions, supervisory checklists (or job descriptions for supervision) may facilitate supervision and the identification of problems.

Resource allocation for supervision should be improved, and supervisory visits should, wherever possible, be integrated with the supervision of other nationalAIDS programme activities.

D.6 Decentralization of supervisory activities to a regional or lower level should be encouraged.

E. Technical issues

In general, at the levels of HIV prevalence seen in most countries of sub-Saharan Africa, supplemental Western blot testing should not be necessary for surveillance purposes.

For surveillance data management purposes, microcomputers are useful but not indispensable. GPA has developed an integrated set of computer software for surveillance data management – the Public Health Surveillance (PHS) system. The PHS system integrates data base, data analysis, entry checking, graphics, mapping, and modelling capabilities to strengthen the surveillance capabilities of countries.

E.3 It is important for the sentinel surveillance system to be simple and practical, collecting only so much data as will be required to monitor trends in HIV infection. In this regard, it may be best to continually bear in mind the different objectives of research or special studies on the one hand and surveillance on the other.

E.4 For monitoring trends in HIV infection, prevalence rates should not be aggregated. Thus, prevalence rates should be calculated separately for each sentinel health facility, and for each of the different populations at risk tested at such a facility.

E.5 The priority data to be obtained are age-specific HIV prevalences for the 15-24 year old age group, and total HIV prevalence. The male/female ratio of sentinel surveillance populations is often likely to be quite different from that of the population as a whole (e.g. antenatal clinic attendees are all women and STD clinic attendees are often primarily men); therefore, collecting information on the male/female ratio in sentinel surveillance sites would not generally be useful. Line graphs of HIV prevalence over time and maps illustrating the cross-sectional (spatial) relationships of data from different sites are a simple and easily interpreted means of presenting surveillance data to policy-makers.

E.6 Epidemiologists should attempt to interpret the results obtained, and make recommendations for public health action based on their analysis. Too often interpretation of surveillance data has been weak, with too little action taken in response to surveillance results.

E.7 If consistent methods are used (to minimize methodological biases) and sera for HIV testing are obtained by the unlinked anonymous method (to minimize participation bias), trends in HIV prevalence may be tracked over time by the sentinel surveillance method.

HIV sentinel surveillance data are subject to selection bias with respect to whether the data are representative of the situation in the general population. Therefore, such data should be extrapolated to the general population cautiously, taking into account such biases. Extrapolation from such data remains important, since sentinel surveillance continues to be one of the main sources of consistent HIV prevalence data over time and place in most countries.

E.9 In the implementation of HIV sentinel surveillance, WHO's guidelines on the size of sample and sampling frequency should be taken into account as far as possible. These guidelines may be obtained on request from GPA.

Special research studies evaluating the validity of data from sentinel surveillance for monitoring trends in HIV prevalence over time and place, and evaluating their validity in terms of representing the situation in the general population, should be encouraged.

Annex

List of participants

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