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Foreword

In the past year, we have witnessed an extraordinary change in public attitude towards AIDS. Similarly, the WHO perspective on AIDS has evolved dramatically.

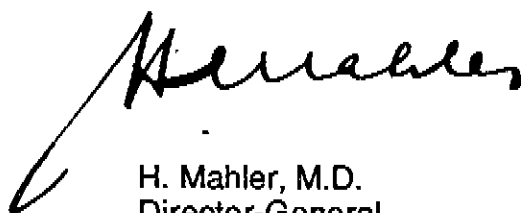
In May 1986, the World Health Assembly supported an intensification of the AIDS programme within WHO. In late June 1986, the Second Meeting of Participating Parties provided moral and financial support for this new WHO programme. In November 1986, WHO's commitment to global AIDS prevention and control was broadened and clarified.

Immediate action was taken within WHO to reinforce the capability of the AIDS programme. Personnel were seconded from other WHO activities. An intensive reformulation of Programme goals, objectives and needs was undertaken. Programme activity and visibility increased rapidly and on 1 February 1987, the Special Programme on AIDS was established.

This Third Meeting of Participating and Interested Parties provides an opportunity to review the accomplishments of the AIDS Programme during the past ten months, and to discuss future directions for worldwide AIDS prevention and control.

The global strategy for AIDS control is to stop the spread of AIDS worldwide by attacking every mode of transmission, in every country, using every scientific and educational tool available. This daunting task will require an unprecedented level of external support for WHO.

We look forward to this Third Meeting of Participating and Interested Parties, to two days of discussion about the accomplishments, goals, objectives and challenges of the Special Programme on AIDS, and to your continued and vital support for global AIDS prevention and control.



H. Mahler, M.D.
Director-General

Introduction

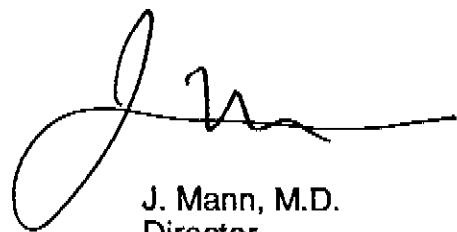
This report covers an extremely important ten-month period in our confrontation with the human immunodeficiency virus (HIV). During this time, many countries throughout the world have realized that AIDS threatens entire societies, rather than segments of society. This recognition has led to national public education programmes of unprecedented scope and cost, containing messages of unique frankness and clarity.

In addition, many peoples are becoming increasingly aware of the global dimensions of AIDS. Media interest is extremely high regarding AIDS in North, South and Central America, the Caribbean, Asia, Africa, Europe, Australia and the Pacific. The global public is being regularly informed that no country or region of the world can be considered safe or free from HIV infection.

HIV infection has extraordinary and broad effects throughout society. The economic impact results not only from the expense of medical care for AIDS patients (which threatens national health budgets in developed and developing countries) but also from enormous indirect costs: lost years of productive life; lost mothers and fathers; lost members of educated and other groups who contribute importantly to social and economic development. The psychosocial impacts of AIDS extend from personal and family tragedies resulting from HIV infection (often amplified by fear and ignorance) to the stigmatization of groups and entire peoples.

AIDS has altered the social and political, as well as the public health environment. Accordingly, the world of 1987 is very different from that of 1980, when the AIDS virus, spreading silently throughout the world, had yet to be recognized.

The World Health Organization is fully committed to AIDS prevention and control. On 1 February 1987, the Special Programme on AIDS was established to implement a worldwide prevention and control strategy. This progress report describes many of the WHO activities against AIDS undertaken from June 1986 to April 1987. The achievements of this period are a credit to many; the challenges ahead will demand the best of us all.



J. Mann, M.D.
Director
Special Programme on AIDS

Highlights

- **Special Programme on AIDS established 1 February 1987**
- **Extra-budgetary resources (US \$6.5 million) received as of 31 March 1987**
- **Global strategy developed; initial assessment and national plan guidelines drafted**
- **Critical number of staff for Special Programme nearly reached**
 - temporary staff seconded to SPA from other WHO programmes
 - professional and support positions established in SPA
 - secondments to SPA underway from three Member States
 - regional office and country-level positions being established
- **National programme support**
 - US \$5.6 million to support and strengthen national AIDS programmes
 - over 75 consultant visits (epidemiology, laboratory, education/information, planning)
 - initial visits to 19 countries
 - initial visits planned to 20 countries
 - initial epidemiological assessment in 17 countries
 - immediate support for urgent actions recommended in 20 countries
 - collaboration with 17 AIDS committees to develop national plan
 - ten laboratory workshops held in 1986
- **Global activity**
 - 101 countries now reporting on AIDS to WHO
 - extensive collaboration established with WHO programmes, UN agencies and non-governmental organizations
 - large-scale information activities include press kits, over 10 press conferences to a global audience and over 100 media interviews
 - seven major meetings held on global research and policy issues; six additional meetings planned from mid-April through July 1987
 - broad international support for WHO leadership of global AIDS control strategy.

The Global Strategy

AIDS will be controlled through the combination of aggressive national programmes and extraordinary international cooperation. AIDS will be controlled by attacking every mode of AIDS virus spread, in every country, using every scientific and educational tool.

- Implementation of national AIDS programmes is of the highest priority, for each national programme not only attacks AIDS in that country, but contributes to global control.
- Assurance of global collaboration is of the highest priority, for AIDS cannot be stopped in any country until it is stopped in all countries.

Part I

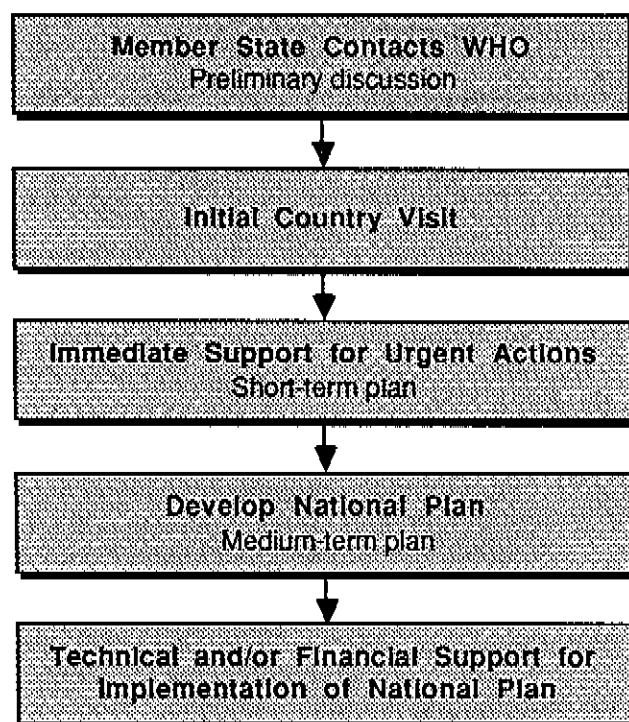
Support to National AIDS Programmes

Every country in the world needs a National AIDS Prevention and Control Programme.

The Special Programme on AIDS (SPA), in close association with regional offices, has thus far provided over 75 consultant visits and US \$5.6 million to support and strengthen national AIDS programmes.

Collaboration with a Member State begins promptly after preliminary discussions between the Ministry of Health, the Regional Office and SPA. The initial phases of SPA/WHO support follow a logical, yet pragmatic and flexible sequence:

WHO action course



Up to 15 April 1987, SPA/WHO made initial visits to 19 countries: Argentina, Brazil, Cameroon, Central African Republic, Congo, Ethiopia, Haiti, Kenya, Kuwait, Liberia, Mauritius, Mexico, Mozambique, Nigeria, Uganda, United Republic of Tanzania, Zaire, Zambia and 19 Caribbean countries through the Caribbean Epidemiology Centre (CAREC - counted as one). As of 15 April, visits are planned to 20 additional countries: Benin, Burundi, Cape Verde, Côte d'Ivoire, Dominican Republic, Egypt, Gabon, Ghana, Guinea, Guinea-Bissau, Jordan, Mali, Niger, Rwanda, Senegal, Sudan, Swaziland, Syrian Arab Republic, Togo and Venezuela.

SPA/WHO consultant teams have included specialists in epidemiology, laboratory diagnosis, health planning and public health communication/education.

SPA/WHO is collaborating with 18 Member States to develop national plans.

The current progress of collaboration between SPA/WHO and Member States is outlined in Table 1; specific illustrative examples are given in this report.

SPA/WHO proposes to visit and support 50 Member States during 1987.

Table 1 SPA/WHO collaboration with Member States to support national AIDS programmes
(as of 15 April 1987)

■ Completed □ Underway or planned

Country	Initial visit	Immediate support	Short-term plan	Medium-term plan
Argentina	■	□		
Benin	□			
Brazil	■	■	■	□
Burundi	□			
Cameroon	■	□	■	□
Capa Verde	□			
Caribbean Islands (through CAREC*)	■	■	■	
Central African Republic	■	□	□	
Congo	■	□	■	□
Côte d'Ivoire	□			
Dominican Republic	□			
Egypt	□			
Ethiopia	■	■	■	□
Gabon	□			
Ghana	□			
Guinea	□	□		
Guinea-Bissau	□	■		
Haiti	■	■	■	
Jordan	□			
Kenya	■	■	■	■
Kuwait	■			
Liberia	■	□	■	□
Mali	□			
Mauritius	■	□	■	□
Mexico	■	■	■	
Mozambique	■	□	■	□
Niger	□			
Nigeria	■	□	■	□
Rwanda	□			
Senegal	□			
Sudan	□			
Swaziland	□			
Syrian Arab Republic	□			
Togo	□			
Uganda	■	■	■	■
United Republic of Tanzania				
Mainland	■	□	■	■
Zanzibar	□			
Venezuela	□			
Zaire	■	□	■	□
Zambia	■	■	■	■

* Caribbean Epidemiology Centre (Anguilla, Antigua and Barbuda, Bahamas, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, Saint Christopher and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Turks and Caicos Islands)

The initial country visit

The initial country visit helps strengthen the political commitment to support an active National AIDS Prevention and Control Programme. SPA/WHO staff meet with senior government officials and review the global, regional and national AIDS situation, national and bilateral actions to date, the principal components of a national plan and WHO strategies and resources. The visiting team emphasizes the importance of establishing a broadly representative national AIDS committee, for this Committee becomes the mechanism for developing the national plan.

During the initial visit, an assessment of the AIDS situation is conducted or planned as a subsequent activity. Existing components of the national strategy are reviewed and areas requiring prompt action (e.g., implementation of initial educational programmes for high-risk groups, health care workers or the general public) are identified and immediate WHO support is arranged. Finally, the SPA/WHO staff and Ministry of Health officials prepare a timetable for subsequent stages of WHO/Member State collaboration

Argentina

Immediately following SPA/WHO's initial visit to Argentina on 5-6 February 1987, the Ministry of Health mobilized all relevant resources to prepare a National AIDS Prevention and Control Programme.

The SPA/WHO team included the Regional Office staff responsible for AIDS and the Director of SPA. The SPA/WHO team reviewed the information available on AIDS cases in Argentina with over 20 health workers responsible for key elements of the health care system. Although only a relatively small number of AIDS cases had been reported (69), the medical community had completed careful study of the clinical and epidemiological profile of AIDS in Argentina.

An evening seminar/discussion was arranged for senior representatives from several government ministries. The global scope of AIDS, the "iceberg effect" (relatively few AIDS cases compared with much larger numbers of HIV-infected persons), and the inevitable sharp increase in AIDS cases to be expected in Argentina during the next 5 years commanded attention.

The following morning, at a meeting with the Secretary of Health, SPA/WHO staff outlined the severity and scope of the AIDS pandemic, described national strategies and the WHO global AIDS programme. A meeting was arranged immediately thereafter with representatives from the Ministry of Health, National Academy of Medicine, National Research Council, specialized institutions, clinical care programmes and universities. A lengthy discussion focused on the components of a National AIDS Prevention and Control Programme and resulted in the Ministry of Health requesting those present to assess how each institution could contribute to a national programme. These responses were incorporated into a draft national plan which was submitted to WHO within two weeks; a final plan was received four weeks later.

Liberia

Concern about global and regional HIV epidemiology prompted the Ministry of Health and Social Welfare of the Republic of Liberia to request an initial visit by SPA/WHO. One case of AIDS had been diagnosed in 1986, however serosurveys showed no evidence of HIV infection in two population samples. On 3 February 1987, a SPA/WHO team held discussions with the Ministry about the steps required to strengthen surveillance of HIV-infection and activities to improve national preparedness for dealing with further cases of AIDS and HIV infection.

A "core group meeting" on AIDS was held with representatives from the Ministry of Health and Social Welfare, medical specialty groups, maternity care, social work and education units, the Medical Students' Association, blood bank staff and the Liberian Red Cross. The meeting produced a draft proposal for terms of reference and membership of a National Advisory Committee on AIDS (NACA).

The Ministry of Health and Social Welfare decided to establish formally the NACA within three months. The NACA's broad terms of reference include advising the Ministry on scientific, technical and operational matters pertaining to the planning, implementation, monitoring and evaluation of the prevention and control of AIDS in Liberia, and to advise on related research and development activities.

Further discussion between SPA/WHO and the Ministry identified a series of short-term actions to strengthen the surveillance of HIV-infection:

- Laboratories will be strengthened to increase HIV diagnostic capability
- Clinical criteria for AIDS diagnosis are being reviewed for distribution throughout the health system
- Clinical experience in the diagnosis and management of AIDS patients has been arranged for two Liberian physicians

WHO and the Ministry agreed to collaborate in the establishment of a National Programme for Liberia on the Prevention and Control of AIDS. The Programme will form an integral part of Ministry of Health activities and develop links with other Ministries. The Programme's focus will be to provide AIDS education and information through primary health care systems and community involvement.

The initial epidemiological assessment

SPA/WHO has carried out initial epidemiological assessments in 17 Member States. An initial assessment of the current AIDS and HIV epidemiological situation is essential for planning a national AIDS Prevention and Control Programme. The initial assessment is intended to:

- obtain information regarding the occurrence of clinical AIDS;
- obtain information regarding HIV seroprevalence;
- provide a reasoned assessment of the general dimensions of the AIDS/HIV epidemiological situation to the national AIDS committee.

SPA/WHO initial epidemiological assessments include an analysis of existing serological studies and the available data on AIDS cases. If the AIDS and HIV situation is unclear, SPA/WHO may perform 'on the spot' seroprevalence surveys and plan more extensive studies.

Haiti

AIDS and HIV infection are significant public health problems in Haiti. From 26-29 January 1987, a three-member SPA/WHO team visited Haiti to collaborate with the Ministry of Public Health and Population in developing a national AIDS prevention and control programme. A review of existing serosurvey data and information on AIDS cases was considered sufficient for an initial assessment of the epidemiological situation.

Although 785 AIDS cases had been officially recorded in Haiti, the National Technical Committee on AIDS estimated that at least 1 000 cases had occurred. The average monthly number of new AIDS cases seen by members of the Haitian Group for the Study of Kaposi's Sarcoma and Opportunistic Infections (GHESKIO) increased from one in 1981 to 13.5 in early 1986 to 20-25 in January 1987. Seventy percent of cases were in men. However, only 10% of these men were classified as homosexual or bisexual; 1% were IV drug abusers; 8% were recipients of blood transfusions, and the large majority, (81%) were considered to have become infected through heterosexual contact. Among women with AIDS, 24% were infected through blood transfusions and 76% through heterosexual contact. Eighty percent of all AIDS patients live in the capital, Port-au-Prince; 10% live in rural areas, and 10% come from abroad.

A number of HIV antibody studies suggest the extent of HIV infection in Haiti.

(Cont.)

Haiti (Cont.)

Available studies demonstrated HIV seropositivity among:

- 3% of pregnant women at the Albert Schweitzer Hospital;
- 38% to 49% of female prostitutes;
- 22% of 166 patients with tuberculosis;
- 55% of 174 regular sex partners of AIDS patients;
- 2% to 4% of blood donors screened at the Red Cross Blood Transfusion Center in Port-au-Prince;
- 6% of 109 hotel and factory workers.

Sexual transmission of HIV appears to be the most common route of infection; most sexual spread is apparently heterosexual. HIV transmission through blood and blood products is also important along with practices involving needles, syringes and other instruments. For example, health authorities estimated that there were between 10,000 and 15,000 "piqueuristes" (injectionists) who administer injections on demand without medical supervision, adequate training or appropriately sterilized equipment.

The extent of AIDS and HIV transmission in Haiti as determined in this assessment led SPA/WHO to provide immediate support and increase the priority for technical and financial support to Haiti.

Mozambique

In the People's Republic of Mozambique, SPA/WHO is supporting a national seroepidemiological survey of HIV infection. This follows a SPA/WHO team visit to Maputo on 2-9 March 1987, which was unable to identify and collect sufficient information on the prevalence of AIDS and HIV infection for the planning of a National AIDS Prevention and Control Programme.

Although no clinical AIDS cases had been seen by the staff at Maputo Central Hospital, three deaths were diagnosed retrospectively as AIDS on clinical grounds. The SPA/WHO team performed three 'on the spot' surveys (sample sizes ranged from 50 to 130) for antibodies to HIV. Sera were obtained from blood donors, patients at sexually transmitted disease clinics and tuberculosis patients. Sera testing positive by ELISA technique in Maputo were forwarded to the Institut Pasteur in Bangui, Central African Republic (a WHO Collaborating Centre on AIDS) for Western Blot confirmation.

During the National Seroepidemiological Survey sera will be tested from 3800 men and women (over 15 years old) living in the main cities. In addition, patients with Kaposi's sarcoma will be sought and tested for serological evidence of HIV infection. A sample survey of high-risk groups will also be performed. Individuals found to be HIV-antibody positive will be informed and counselled.

(Cont.)

Mozambique (Cont.)

The Immunology Laboratory at the National Institute of Health in Maputo is being strengthened and supported to perform ELISA, Western Blot examinations and T-lymphocyte subset determination. SPA/WHO will supply the necessary reagents, supplies and equipment; an experienced immunologist may be appointed to the laboratory as a WHO Consultant.

The national seroepidemiological survey will provide the Ministry of Health with the essential information for establishing priorities for screening at blood banks, creating a national epidemiological surveillance system and defining appropriate targets for a national health education programme.

Immediate support for urgent actions

At the onset, AIDS prevention and control often requires immediate action.

During or following the initial visit, SPA/WHO and the Ministry of Health jointly decide which measures, if any, should be implemented prior to, or simultaneously with the development of a medium-term national plan.

SPA/WHO has recommended immediate support to 20 Member States: Argentina, Brazil, Cameroon, Central African Republic, Congo, Ethiopia, Guinea, Guinea-Bissau, Haiti, Kenya, Liberia, Mauritius, Mexico, Mozambique, Nigeria, Uganda, United Republic of Tanzania, Zaire, Zambia and Caribbean countries through CAREC.

Examples of immediate support are provided below (US\$):

Objectives

Kenya \$387 000

- Establish blood screening systems in seven provincial and one central hospital
- Support national production of guidelines for health workers on AIDS prevention and control
- Support national production of educational material for the public

Uganda \$310 000

- Establish blood donor screening in major city and provincial hospitals
- Establish effective national surveillance system for AIDS

Zambia \$495 800

- Initiate and establish nationwide blood donor screening for HIV

Zambia

A project to implement nationwide screening of the blood supply for HIV has been launched in Zambia. The project is fully supported by SPA/WHO at the request of the Ministry of Health, following joint assessment of the HIV situation among blood donors and development of a project proposal.

In Zambia, the screening of blood donors for antibody to HIV was limited to the University Teaching Hospital in Lusaka. One other laboratory, at the Tropical Disease Research Centre in Ndola, offered HIV antibody testing. In early November 1986, SPA/WHO and the Zambian Ministry of Health agreed that HIV infection arising from the necessary use of blood must be halted as soon as possible. A follow-up visit by an SPA/WHO consultant later in November led to development of a national blood donor screening proposal which was submitted to SPA/WHO in mid-December 1986.

- Existing facilities could undertake only limited additional work and therefore testing will be decentralized to districts and provinces.
- Essential equipment, supplies, training and support for staff costs is being provided for more than 30 blood-screening centres.
- Activities are being coordinated by the National Blood Transfusion Centre at the University of Lusaka.
- Six vehicles are being provided to ensure the reliable transportation of reagents and serum specimens from hospitals and health care centres to blood screening centres and to the regional reference laboratories at Lusaka and Ndola. Efficient transportation is vital to support the widely dispersed centres and to facilitate the collection of accurate information.
- For a minimum of three months all samples tested seropositive at the blood screening centres will be sent to the designated regional reference laboratory. Repeat testing and confirmation will be undertaken by the reference laboratory and results will be sent back to the blood-screening centres on a monthly basis. Donors will only be informed of a positive result if confirmed by repeat testing.
- The counselling of donors found to be HIV-antibody positive is an integral part of the project.

Monitoring the implementation of this project is vital to ensure its success. The data and experience derived will benefit longer-term support for protection of the blood supply in Zambia, as well as the development of similar programmes in neighbouring countries. The project is expected to be operating nationwide in May 1987.

Nigeria

Nigeria established a National Expert Committee on AIDS in June 1986. At the request of the Ministry of Health an SPA/WHO team visited Nigeria from 9-13 March 1987 to review the Committee's current and planned activities and to plan further collaboration.

Prior to the initial visit, neither cases of AIDS nor of HIV seropositivity had been identified; accordingly, the National Expert Committee had stated that HIV was not yet in Nigeria. However, just after the mission, two of 2 000 blood samples tested were positive for antibodies to HIV (both samples were from female prostitutes). The Minister of Health promptly conveyed this information in a press conference during which he recognized WHO collaboration and announced a public education programme on AIDS.

- Technical and financial resources are being mobilized immediately while a medium-term national AIDS plan is being prepared.
- There is an immediate need for educational materials with messages adapted to different socioeconomic groups and geographical areas.
- To define the educational objectives and target groups, the National Committee is organizing a national health education workshop; SPA/WHO will provide a consultant on health communication/education.

The establishment of HIV diagnostic capabilities is also a priority.

- SPA/WHO is providing the resources to equip eight diagnostic and two reference laboratories to perform ELISA tests.
- Reagents (ELISA kits) will be supplied to enable each laboratory to perform 7 500 tests per year.
- WHO will provide funds and a consultant for a workshop to train the technologists and scientists (two from each laboratory) in the ELISA technique.

Developing the national plan

A comprehensive national plan for AIDS prevention and control is an indispensable tool. The national plan not only guides national resource allocation but also provides the basis for coordinated bilateral and multilateral support to the national programme.

The short-term (6-12 months) action plan is the basis for the development of comprehensive medium-term (3-5 year) strategies and activities. Both short and medium-term plans reflect a mixture of practical experience, knowledge about

AIDS and general planning concepts. In addition, the national plan includes the principal components as previously described.^{1,2}

- National AIDS Committee
- Initial epidemiological and resource assessment
- Epidemiological surveillance
- Laboratory capability
- Clinical services and education of health workers
- Prevention programmes
- Programmes to reduce impact of HIV infection

SPA/WHO is collaborating with 17 National AIDS Committees to develop national plans: Brazil, Cameroon, the Caribbean (through CAREC), Central African Republic, Congo, Ethiopia, Haiti, Kenya, Liberia, Mauritius, Mexico, Mozambique, Nigeria, Uganda, the United Republic of Tanzania, Zaire and Zambia.

Five-year plans have been completed for Kenya, Uganda, the United Republic of Tanzania and Zambia. According to national capability and external resource availability, national programmes will be supported and implemented.

Uganda

The Government of Uganda has given the highest priority to controlling the AIDS epidemic. In October 1986, the Ministry of Health established the National Committee for the Prevention of AIDS. An initial visit by a team of SPA/WHO consultants on 14-16 January 1987 resulted in a short-term plan and immediate assistance. During the second half of February, three SPA/WHO consultants collaborated with the Ministry of Health in drafting a detailed medium-term plan.

Uganda is one of the first countries to develop a comprehensive five-year plan for national AIDS prevention and control. The plan defines the Programme's responsibilities, structure, staffing and required resources for 1987-1991. An SPA/WHO consultant has been assigned to Uganda starting in late March to assist the Ministry of Health in coordinating national activities, including external assistance, required to implement the plan.

The overall aim of the AIDS control programme is to reduce the incidence of HIV infection and its associated morbidity in Uganda. Nine objectives have been formulated:

- Assess the current status of the epidemic
- Monitor the progression of the epidemic through surveillance
- Prevent HIV infection by decreasing sexual transmission

(Cont.)

¹ Document WHO/CPA/86.2

² Document WHO/SPA/GEN 87.1

Uganda (Cont.)

- Prevent HIV infection by decreasing transmission through blood transfusion
- Prevent HIV infection by decreasing transmission through other contact with blood and blood products (e.g., injections)
- Prevent HIV infection by decreasing mother-to-child transmission
- Improve clinical management of AIDS patients
- Improve diagnostic capabilities for HIV infection
- Develop and coordinate research activity

Wherever appropriate, the activities proposed to implement these strategies will be integrated into the existing health infrastructure. The AIDS Programme will be directly supervised by the office of the Minister of Health. The National AIDS Committee will advise the Programme and be responsible for AIDS policy formulation. The Programme will be evaluated regularly with collaboration from SPA/WHO.

Technical and/or financial support for implementation

In addition to the country-specific support described in the previous sections, SPA/WHO has conducted training workshops on laboratory techniques for HIV antibody screening (see Table 2). Ten workshops were held during 1986, during which laboratory personnel from 17 African, 11 American, 22 Eastern Mediterranean, 5 South-East Asian and over 20 European countries received training. More than 10 workshops will be held in 1987. Workshop objectives include:

- Strengthening the capability of the health infrastructure;
- Supporting the establishment of surveillance and prevention/control activities;
- Providing support for seroepidemiological research to determine risk factors, mode of transmission, natural history, etc;
- Enhancing collaboration with WHO Collaborating Centres on AIDS;
- Transferring appropriate technology.

Table 2 SPA/WHO Laboratory Workshops on HIV Antibody Screening, 1986-87

Region	Date	Location	Countries Represented	Number of Participants
Africa				
	17-22 Nov 1986	Kigali, Rwanda	Burundi, Cameroon, Central African Republic, Congo, Gabon, Rwanda, Zaire	16
	8-13 Dec 1986	Dar-es-Salaam, Tanzania	Ethiopia, Kenya, Tanzania, Uganda, Zambia, Zimbabwe	15
	2-7 Feb 1987	Accra, Ghana	Ghana, Liberia, Nigeria, Sierra Leone	13
	4-9 May 1987	Nairobi, Kenya	Angola, Botswana, Ethiopia, Gambia, Kenya, Mozambique, Swaziland	16
	22-27 June 1987	Lagos, Nigeria		18
	2-7 Nov 1987	Abidjan, Côte d'Ivoire	Benin, Burkina Faso, Côte d'Ivoire, Chad, Togo	12
	9-14 Nov 1987	Dakar, Senegal	Algeria, Mali, Mauritania, Niger, Senegal	12
Americas				
	3-7 Nov 1986	Rio de Janeiro, Brazil	Brazil, Cuba, Colombia, Honduras, Mexico, Panama, Paraguay, Peru, Venezuela	15
Eastern Mediterranean				
	13-17 April 1986	Cairo, Egypt	Iraq, Jordan, Kuwait, Pakistan, Somalia, Sudan, Yemen	15
	13-18 July 1986	Islamabad, Pakistan	Afghanistan, Democratic Yemen, Djibouti, Iran, Libya, Pakistan, Syria, Tunisia	20
	22-28 Nov 1986	Kuwait	Bahrain, Cyprus, Lebanon, Oman, Qatar, Saudi Arabia, U.A.E.	15
	June 1987	Cairo, Egypt	Cyprus, Egypt, Iraq, Jordan, Somalia, Yemen	15

(Cont.)

Table 2 (Cont.)

Region	Date	Location	Countries Represented	Number of Participants
	June 1987	Islamabad, Pakistan	Democratic Yemen, Iran, Libya, Pakistan, Syria	15
	June 1987	Kuwait	Afghanistan, Bahrain, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, U.A.E.	15
South-East Asia				
	16-20 June 1986	New Delhi, India	India	20
Asia				
	15-20 Dec 1986	Bangkok, Thailand	India, Indonesia, Maldives, Nepal, Thailand	8
	Nov 1987	Under discussion		
Europe				
	23-25 June 1986	Paris, France	Algeria, Argentina, Brazil, Cameroun, France, Ghana, Guadeloupe, Nigeria, Rwanda, Zaire	20
	28-30 June 1986	Berlin (West)	Belgium, Czechoslovakia, Ethiopia, Ghana, Italy, Morocco, Nigeria, Norway, Portugal, Switzerland, Yugoslavia	20
	September 1987	Athens, Greece	20	20
	October 1987	Berlin (West)	20	20
	November 1987	Madrid, Spain	20	20
	December 1987	Paris, France	20	20

Part II

Global Leadership and International Activities

The WHO Special Programme on AIDS is providing strong leadership to ensure international coordination and collaboration for the global AIDS strategy.

The global problem

"We stand nakedly in front of a pandemic as mortal as any pandemic there has ever been." Dr Halfdan Mahler gave this stark assessment in a worldwide press briefing held at the United Nations Headquarters in New York on 20 November 1986. Characterizing AIDS as an unprecedented challenge, Dr Mahler outlined the WHO commitment to global AIDS prevention and control.

"In the same spirit that WHO addressed smallpox eradication, WHO will dedicate its energy, commitment and creativity to the even more urgent, difficult and complex task of global AIDS prevention and control. AIDS is a global health problem of paramount international importance. The actions we take now may have a more profound impact on the history of the AIDS epidemic than actions taken at any later time. We are present at the historic moment, the beginning of a major worldwide epidemic of an infectious disease first recognized only five years ago.

WHO is ideally suited to provide an effective international platform for coordinating and directing the overall efforts for AIDS in such fields as prevention, control, research and policy making.

However, WHO is not a supranational organization and national Governments must have the necessary commitment if global AIDS prevention and control is to be achieved."

Office of the Director

At the invitation of Member States and as speaker at major conferences, the SPA Director has visited each region as spokesman for the global AIDS control strategy. Visits to Member States have included discussions of strategy and mobilization of resources for the global programme.

Since July 1986, the Director has visited 21 countries in six regions: Argentina, Australia, Belgium, Brazil, Canada, The Congo, Denmark, France, Federal Republic of Germany, India, Italy, Kenya, Kuwait, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States of America, Zaire and Zambia. During those visits, meetings were held with national AIDS committees, senior government officials from ministries of health, social welfare, education and foreign assistance, members of the medical and scientific community, donor agencies and private corporations.

Through presentations and interviews, the Director contributes to accurate public information on AIDS. Media interest in the SPA/WHO Programme is high and country visits include interviews with newspaper, radio and television journalists. Since November 1986, the Director has made more than twenty formal presentations on the global AIDS situation and the WHO global strategy. These include giving evidence to the Select Committee on Social Services of the British House of Commons and to the United States Senate Committee on Labour and Human Resources (Chairman: Senator Kennedy). In response to media requests, the Division of Information and Health Education has arranged over 100 individual interviews with the SPA Director. These interviews are additional to the many given during visits to Member States.

SPA Staffing: Provisional and Permanent

In order to support the expanding SPA mandate, professional and support staff from within WHO were seconded to SPA for varying periods. Table 3 demonstrates that, with considerable support from other WHO programmes, SPA received a temporary staff. The willingness and dedication of this temporary staff has been critical to the new programme's functioning.

Table 3 SPA staff (full and part-time) including secondments, temporary hires, and short-term consultants

Date	Professional	General support	Total
1 November 1986	1	1	2
1 December 1986	6	2	8
1 January 1987	5	3	8
1 February 1987	13	8	21
1 March 1987	18	11	29

By early April, the first 19 (nine professional and ten general support) SPA positions were established. The critical mass of SPA personnel has nearly been achieved.

Collaboration

The global AIDS strategy requires close collaboration with many health programmes.

WHO Headquarters

Examples of collaborative work within WHO Headquarters include:

- EPI Expanded Programme on Immunization**
 - Joint preparation of WHO/UNICEF Statement on immunization and HIV infection
 - Discussions on research agenda regarding HIV and immunization
 - TDR Research and Training in Tropical Diseases**
 - Joint planning for international conference on HIV infection and tropical diseases
 - ORH Oral Health**
 - Joint planning and support for training materials and seminars for dentists
 - NUR Nursing**
 - Collaboration with International Council of Nurses on joint declaration and preparation of guidelines for nurses
 - HRP Research Development and Research Training In Human Reproduction**
 - Preparation of joint consultation on contraception and HIV
 - FHE Family Health**
 - Preparation of joint consultation on HIV-related maternal and child health research
 - IEH Public Information and Education for Health**
 - Media kit; press conferences
 - CDS Communicable Diseases**
 - Joint sponsorship of Immunology of AIDS meeting
 - Review of guidelines for leprosy workers
 - CDD Diarrhoeal Diseases Control**
 - Request for consideration of HIV-associated diarrhoeal diseases in CDD evaluations
 - BLG Biologicals**
 - Discussions regarding blood donor screening programmes
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- DAP Action Programme for Essential Drugs**
- Preliminary discussions regarding anti-HIV drugs
- JMS Joint Medical Services**
- Advisor for policy on HIV screening of WHO staff
- HLE Health Legislation**
- Information regarding legislation and policies introduced by Member States to control spread of HIV is being collected and disseminated upon request. A more formal survey of national legislation in this area has been commissioned.

WHO Regional Offices

SPA has established close working relationships with the regional offices. Detailed discussions have been held with regional directors in January 1987 and with regional communicable disease advisors in February 1987 on strengthening regional office capabilities regarding AIDS and contributing support for regional workshops and other regional and inter-regional activities.

Regional Consultations

In addition to the laboratory workshops supported by SPA, the following inter-country consultations and meetings have been organised by WHO in the regions:

South-East Asia

An intercountry consultation on the prevention and control of AIDS was held at the WHO regional office for South-East Asia, New Delhi from 13-16 July 1986. Twelve participants from eight countries reviewed the AIDS situation in the region and discussed future collaboration with WHO.

Africa

A regional conference on AIDS in Africa was held in Brazzaville, Congo from 11-13 November 1986. The objectives included: a scientific review and update of the global aspects of the biology, immunopathogenesis, clinical features, laboratory aspects and epidemiology of HIV infection and AIDS; a scientific review and update of the clinical, laboratory and epidemiological features of HIV and related retroviruses in Africa; and a review of the practical experiences and activities to date in Africa. Representatives from 37 Member States of the African region attended the conference and approved recommendations for both Member States and WHO, encouraging the latter to continue to take a strong position of leadership and advocacy for national and international programmes on the prevention and control of AIDS.

Europe

A regional meeting on AIDS diagnosis and control (Munich, 16-18 March 1987) was attended by 45 participants from 26 countries. The meeting explored intersectoral public health approaches to control the spread of HIV infection. A review and update on AIDS and HIV infection included: epidemiology, pathogenesis, laboratory diagnosis, therapy, immunoprophylaxis, legal and ethical issues, social economic and psychological aspects, paediatrics, drug abuse, survey results, transmission models and quality control of biologicals.

Western Pacific

A regional conference on AIDS prevention and control strategies will be held in Australia from 20-24 July 1987.

Americas

A regional conference on AIDS is planned for Quito, Ecuador from 14-15 September 1987.

Eastern Mediterranean

In addition to the regional meeting held in February 1986, a meeting of Gulf States was held in Kuwait from 7-8 March 1987.

The UN family

SPA is actively collaborating with UNICEF, UNESCO and the World Bank and initial discussions have been held with UNDP, UNFPA and UNHCR. For example, SPA is collaborating with UNESCO in the development of effective educational materials for national education authorities. A joint meeting with educational specialists is planned for June/July to explore approaches and formulate a plan of action. SPA has worked closely with UNICEF in addressing specific concerns such as immunization and in order to ensure complete consistency in technical, informational and policy areas.

Other organizations

Working links have also been developed between SPA and other organizations, including the African Medical Research Foundation, American Foundation for AIDS Research, Commission of the European Communities, Family Health International, International Council of Nurses, International Planned Parenthood Federation, Fondation France Liberté, Fondation Mérieux, League of Red Cross and Crescent Societies, Médecins du Monde, Médecins sans Frontières, National Academy of Sciences (USA) - Institute of Medicine, National Council for International Health, Nordic Red Cross Societies, Organization for Coordination and Control of Endemic Diseases in Central Africa, Panos Institute, Project Hope, Terre des hommes, World Council of Churches, World Emergency Relief, World Hemophilia AIDS Center.

**The League of Red Cross/Red Crescent Societies
and National Societies**

SPA is working actively with the League (including partial support for the AIDS specialist post in League Headquarters) and with individual Red Cross Societies, particularly in areas of blood donor screening and public education. A highlight of this collaboration was the meeting of Nordic Red Cross and Foreign Cooperation Agencies, organised by the Norwegian Red Cross in Oslo from 8-9 January 1987.

Health promotion

Information about AIDS is vital

WHO activities on AIDS and details of recent developments have been regularly conveyed through the *Weekly Epidemiological Record* (WER).

- Since the beginning of 1986, more than 40 articles on AIDS and related subjects have been published in WER.
- An AIDS information kit is updated and distributed every three months to regional offices, ministries of health and permanent missions in Geneva. It serves as a basic source of information for press releases and responses to press inquiries. The updates incorporate the most recent information on virology, immunology, epidemiology, treatment, diagnosis and vaccine development.
- Telex messages are sent to regional offices promptly when new information or developments occur (e.g., AZT field trial results, Ribavirin study data).

A consultation on AIDS Public Health Communication will be held at WHO Headquarters in Geneva from 6-9 July 1987. The discussions of 28 participants from 19 countries will present a global picture of active national AIDS communication programmes. The consultation will provide a forum for the exchange of strategies and materials, and the critique of a draft WHO manual on public health communication strategies for the prevention and control of AIDS.

In June, SPA will distribute an AIDS information brochure and prevention poster. SPA is also producing a health promotion manual to provide Member States with a practical guide for this essential component of the National AIDS Programme. A one-day workshop on use of the manual is also being designed for members of National AIDS Committees.

The Media

Frequent contact with the media is used to keep the public informed of the global AIDS situation and SPA/WHO activities.

- A press conference has followed most meetings on AIDS held at WHO Headquarters, so that the results and recommendations are widely and immediately available.
- 15 to 40 media inquiries are received daily about AIDS and SPA's activities.
- SPA has collaborated with the Reader's Digest to compile a question and answer sheet on AIDS and HIV infection. This tear-out sheet will appear in all 39 editions (15 languages) of the June issue. Reader's Digest estimates its readership at 100 million people worldwide.

Preparation and distribution of guidelines

Guidelines for the prevention and control of AIDS are being prepared. The formulation of these materials involves bringing together key scientists, public health officials, and policy makers from as broad a range of countries as possible.

- **Guidelines for the prevention and control of infection with LAV HTLV-III (HIV)**, issued in May 1986, are currently under review by SPA. These guidelines cover: precautions for health care workers, providers of pre-hospital emergency care and laboratory staff; management of parenteral and mucous membrane exposures; considerations relevant to personal service workers, food service workers and workers sharing the same work environment; prevention of parenteral transmission through blood and blood products; and disinfection and sterilization, including commonly available disinfectants, sterilization and processing of needles and syringes.
- Based on the above recommendations, a practical wall chart showing essential precautions to prevent HIV-transmission is being designed for use in clinics.
- **Guidelines for the prevention of sexual transmission** are currently being prepared.
- **Guidelines for nurses on the care of patients with AIDS and HIV infection** are being produced jointly by SPA and the International Council of Nurses (ICN). WHO and ICN have also issued a joint declaration on AIDS. ICN has committed itself to full partnership with WHO in working for the interests of the public, those infected with HIV and those providing care to them.
- **Guidelines on immunization and HIV-infection** prepared within the framework of WHO's Expanded Programme on Immunization, emphasize that adherence to recommended practices regarding sterilization of reusable needles and syringes will eliminate any risk of HIV transmission through immunization. A joint WHO/UNICEF statement on immunization and AIDS was issued in February 1987.
- A **clinical manual on AIDS in Africa** is being prepared.
- **International travel and HIV** was the subject of a consultation convened by SPA on 2-3 March in Geneva. Three issues were addressed: whether international travellers should be screened for HIV, whether the travel of HIV-infected persons by public conveyance should be restricted; and recommendations for international travellers on the prevention of HIV infection. It was concluded that:
 - at best, and at great cost, the screening of international travellers would only briefly retard HIV from spreading, whether regarded from the global or the national perspective. Serious logistic, epidemiological, economic, legal, political and ethical problems would be inherent in any proposal for such screening, which would have to involve both national and foreign entrants. The diversion of resources from educational programmes and measures to protect the blood supply is not justified.

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- there is no reason to prevent HIV-infected persons from using trains, buses, airplanes, cars, or ships, since there is no risk for others of infection from sharing the same conveyance.
 - the routes of transmission, the behaviour that puts an individual at risk, and the preventive measures are the same, regardless of whether the individual is travelling or remains in one country. Educational material should be made available to international travellers, to increase their awareness of how HIV is transmitted and how it can be prevented.
 - **Guidelines on counselling of HIV-infected persons and AIDS patients** are being developed as a result of a consultation organised by SPA in Geneva from 7-9 April 1987. An international group of clinicians, social workers, psychiatrists and sociologists from six countries worked to design generic guidelines.
 - **Criteria for HIV screening programmes**
SPA is organizing a meeting to develop criteria to be considered whenever a programme for HIV screening is under discussion. The meeting is being held at WHO Headquarters in Geneva from 20-21 May 1987.

Research and development

The focus of SPA's Research and Development Unit is to co-ordinate, promote and support biomedical, epidemiological, behavioural, operational and economic research and development. These activities are supported by an international network of WHO Collaborating Centres on AIDS (see page 34). A meeting of WHO Collaborating Centre directors will be held in Washington on 6 June 1987, following the Third International Conference on AIDS.

Examination of testing kits

Using a panel of reference sera, the collaborating centres have evaluated test kits for HIV antibody detection produced by 13 manufacturers. In October 1986, a letter was sent to manufacturers of test kits indicating WHO's strong interest in the development and evaluation, including field testing of HIV antibody detection methods that are fully adapted to conditions in the developing world. WHO expressed its willingness to assist in the coordination of evaluation and field testing, and several manufacturers have been working with WHO in this area.

Global banks for reference sera and for HIV and related retroviruses

A global serum bank, including geographically and temporally representative sera, is being established. WHO reference sera from patients in Europe and USA have already been made available on request to national laboratories for evaluation of antibody tests. A collection of human sera of known reactivity with HIV was evaluated by a variety of immunoassays in an international collaborative study involving 21 laboratories. A WHO-coordinated network ("bank") for HIV and related retroviruses is being established to ensure that a

collection of well characterized viral strains, geographically and temporally representative of the global situation, will be freely available to scientific researchers.

AIDS vaccine efficacy trials in human populations

In anticipation of the need to test candidate AIDS vaccines in humans, SPA invited 13 scientists from ten countries to WHO Headquarters from 15-16 December 1986. The participants agreed on the following general concepts regarding evaluation of candidate AIDS vaccines:

- Efforts to develop AIDS vaccines establish a new era in vaccine development.
- Testing of candidate AIDS vaccines will be complex, difficult and time-consuming. An AIDS vaccine for general use will not be available, if at all, before 1991 and is unlikely to be available before the mid-1990's.
- Given the complexity of the problem, including ethical and social dimensions, along with the paramount global importance of developing a safe and effective AIDS vaccine, international cooperation and collaboration and open information exchange are essential in the evaluation of candidate AIDS vaccines.
- There is an urgent need for advance planning of clinical trials of potential AIDS vaccines.

It was recommended that SPA should establish a mechanism to ensure the open exchange of the scientific, social and ethical information necessary for advance planning and international collaboration in the clinical testing of candidate AIDS vaccines, with particular reference to phase three trials.

Newly Identified HIV-related retroviruses

In view of the identification of additional human retroviruses, SPA convened a meeting in Geneva from 11-12 February 1987. It was attended by 27 participants and 39 scientific observers from 26 countries. The virology, immunology, serodiagnosis, epidemiology and clinical aspects of HIV-related retroviruses, isolated principally in West Africa, were discussed. These viruses appear antigenically closer to the simian immunodeficiency virus (STLV-III) than to HIV. Some isolates appear to be associated with clinical AIDS and some appear to be of low pathogenicity.

The meeting concluded that the relationship among isolates is not clear and that further research is required. Although the epidemiology is not well defined, the HIV-related retroviruses appear to be transmitted by the same routes as HIV and therefore the same precautions are recommended to prevent infection. The meeting recommended that WHO play an active role in the exchange of information and reagents. Specifically, SPA is organizing working groups to develop criteria that will facilitate the comparison of HIV-related retroviruses, and to propose a system that will ensure the international exchange of human retroviral reagents, including virus isolates and sera ("bank", see above). In

collaboration with the governments of countries in West and Central Africa, a meeting will be organised on the virology and epidemiology of HIV-related retroviruses and on prevention and control programmes.

The designation of a WHO Collaborating Centre on Simian and Related Retroviruses at the Department of Cancer Biology, Harvard School of Public Health (USA) has been proposed to help ensure close communication between SPA and the rapidly evolving field of simian retroviral research.

Immunology of AIDS

A meeting on the immunology of AIDS, sponsored by WHO and the International Union of Immunological Societies, was held in Geneva from 18-19 February 1987. Eleven participants from seven countries discussed the most recent developments and reviewed the underlying immunological abnormalities. The summary report will be published in the WHO Bulletin and elsewhere in the scientific literature.

Breast milk and HIV transmission

HIV has been isolated in human breast milk. A very small number of cases of possible postnatal transmission of HIV through breast milk have been reported. However, the respective roles of intrauterine, peripartum and breast-feeding periods in perinatal HIV transmission are unclear. To address these issues, SPA will organise a consultation of ten experts from eight countries in Geneva in June 1987. Given the nutritional and immunological importance of breast-feeding for the majority of children throughout the world, and the policies that have been adopted by different countries over the past ten years concerning the promotion of breast-feeding, it is vital that the role of breast milk and breast-feeding in HIV transmission be clarified and appropriate recommendations prepared. WHO Guidelines previously prepared in collaboration with the maternal and child health programme stress the need to maintain current breast-feeding policies while awaiting results of ongoing studies.

Contraception and AIDS

Condoms, other barrier methods and spermicides are proposed to prevent HIV transmission during coitus. In addition, the relationship between hormonal contraceptive methods and HIV transmission has not been systematically reviewed. To stimulate further targeted research, SPA is organising a meeting in collaboration with the Special Programme of Research, Development and Research Training in Human Reproduction (HRP). Ten participants from six countries will meet at WHO Headquarters in Geneva from 13-15 May 1987.

Psychosocial research needs

SPA is convening a consultation on psychosocial factors and research needs in HIV infection and AIDS in Geneva from 25-28 May 1987. Twenty participants from 18 countries will meet to determine and assign priority to current and future needs for research which are appropriate to health planning and education. Methods and approaches will be proposed for studying social issues and a core

group of biosocial scientists who can collaborate with WHO in strengthening national research capabilities will be established.

Maternal and Child Health/Family Planning and HIV transmission

Mothers and children are being increasingly exposed to risks of HIV transmission. Health workers who come into contact with mothers or women of reproductive age can play an important role in counselling, educating and helping identify high-risk individuals or groups. Maternal and Child Health and Family Planning (MCH/FP) services, because they serve this particular age group, and because in almost all countries have high coverage and acceptability, are ideally suited to the provision of HIV preventive services. In collaboration with MCH/FHE, SPA is bringing together 15 participants from 13 countries for a consultation in June 1987 in order to review the tasks that different health-workers perform, and the roles and responsibilities for AIDS prevention and control that could be assumed. The Consultation will define tasks, educational inputs and critical intervals in the process of MCH/FP care at which specific interventions could be provided.

Blood and blood products

As part of the follow-up to the meeting of experts on blood and blood products (April 1986), detailed recommendations were published in the *Weekly Epidemiological Record* regarding information for the public concerning the risk of HIV-infection, donor education and testing of blood donations for antibodies to HIV. The meeting on HIV-related retroviruses (described above) recommended that Member States take into account the epidemiology of the newly identified retroviruses (LAV-2 and HTLV-4) when establishing and reviewing country or regional blood donor screening policies.

Other important scientific meetings co-sponsored by WHO

- Second International Conference on AIDS, Paris, France, 23-25 June 1986
- International Conference on AIDS in Children, Adolescents and Heterosexual Adults, Atlanta, USA, 19-21 February 1987
- International Conference on AIDS, Washington, USA, 1-5 June 1987

Surveillance, forecasting and impact assessment

Surveillance

A weekly update of the AIDS case report to WHO is prepared and distributed. As of December 1982, only 711 AIDS cases had been reported to the World Health Organization from 16 countries. However, by 1 April 1987, 45,700 AIDS cases were reported to WHO from 102 countries representing all continents (Figs. 1 and 2). An additional 29 countries have informed WHO that they have no cases to report.

A reporting form which includes the age and sex of AIDS cases, clinical diagnosis and broad risk groups has been provided to all Member States. Reticence in reporting of cases from some areas, combined with under-recognition of AIDS and under-reporting to national health authorities, has meant that the number of reported AIDS cases represents only a fraction of the total cases to date, which are estimated to exceed 100,000. WHO considers the number of countries reporting AIDS to be more indicative of the geographic extent and more relevant to an assessment of the scope of the HIV pandemic than the number of cases reported.

Predictive modelling and impact assessment

SPA is planning a series of seminars and meetings to develop and improve predictive modelling capabilities, by bringing together modellers, epidemiologists, virologists and representatives of other relevant disciplines.

The need for accurate estimates of national HIV seroprevalence has stimulated preparations for a meeting in Geneva to develop alternative strategies for collection and analyses of this data.

In order to evaluate the direct medical care costs for AIDS patients in the developing world, a collaboration with the World Bank is planned.

The demographic impact of HIV infection may be substantial. Strategies to assess and predict this impact, under development by USAID, will be evaluated for possible application in national and regional analyses.

Fig. 1 Number of countries reporting on AIDS to WHO as of 15 April 1987*

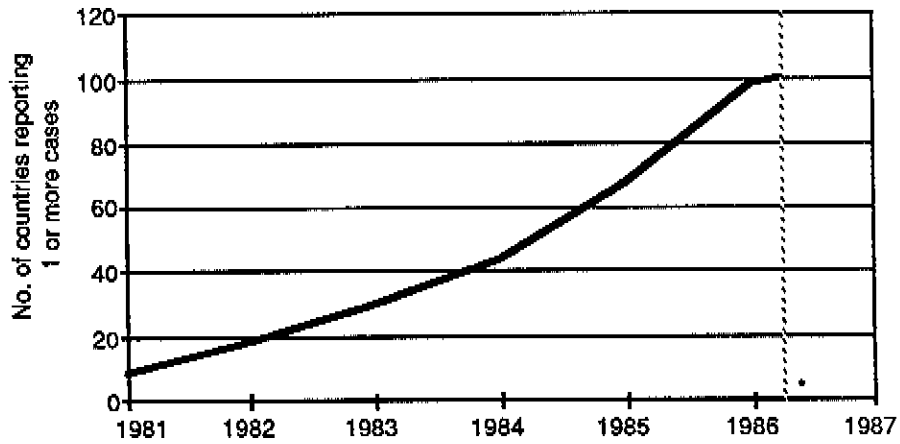
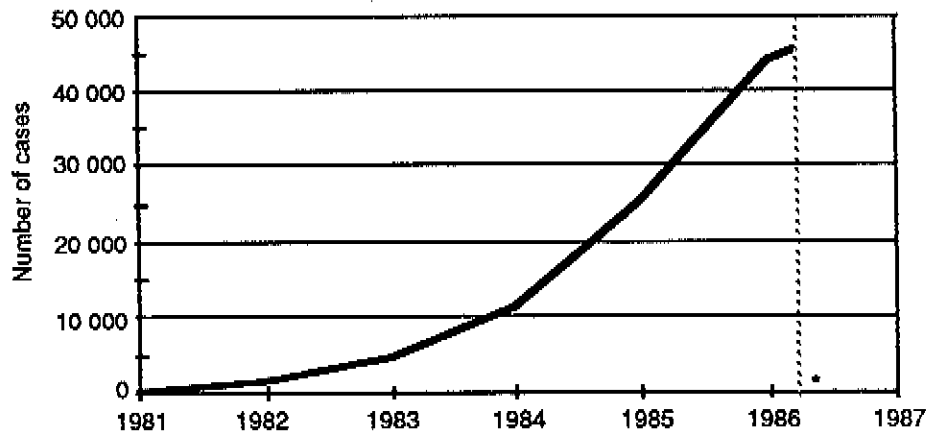


Fig. 2 Cumulative number of AIDS cases reported to WHO as of 15 April 1987*



WHO collaborating centres on AIDS*

The following centres are already designated or are in the process of being designated:

African region

Institut Pasteur, Boîte postale 923, Bangui, Central African Republic

Kenya Medical Research Institute, University of Nairobi, Nairobi, Kenya

Region of the Americas

Department of Cancer Biology, Harvard School of Public Health (collaboration on simian and related retroviruses), 665 Huntington Avenue, Boston, Massachusetts 02115, United States of America

Laboratory Centre for Disease Control, Tunney's Pasture, Ottawa, Ontario, Canada K1A 0L2

AIDS Program, Center for Infectious Diseases, Centers for Disease Control, Atlanta, Georgia 30333, United States of America

National Institutes of Health, Building 1, Room 111, Bethesda, Maryland 20205, United States of America

Fundação Oswaldo Cruz, Avenida Brasil 4365, Caixa Postal 926, 21040 Rio de Janeiro, Brasil

Center for Drugs and Biologics, Food and Drug Administration, 5600 Fishers Lane, Rockville, Maryland 20857, United States of America

South-East Asia region

National Institute of Virology, 20A Dr Ambedkar Rd, 411001 Pune, India

Faculty of Medicine, Department of Microbiology, Siriraj Hospital, Mahidol University, Bangkok, Thailand

European region

Institut de Médecine et d'Epidémiologie africaine et tropicales, Hôpital Claude Bernard, 10, Avenue de la Porte d'Aubervilliers, F-75944 Paris Cedex 19, France

Collaborating Centres on AIDS of the Federal Republic of Germany

- Department of Hygiene and Medical Microbiology, Max von Pettenkofer Institute, Pettenkoferstr. 9A, 8000 Munich 2
- Institut für Klinische und Experimentelle Virologie der FU, Berlin
- Robert-Koch Institut des Bundesgesundheitsamtes, Berlin
- Paul-Ehrlich-Institut, Frankfurt

* Includes those under designation.

European region (Cont.)

National Institute of Hygiene, Gyali ut. 2-6, 1097 Budapest, Hungary

Central Public Health Laboratory, 61 Colindale Avenue,
London NW9 5HT, United Kingdom

National Bacteriological Laboratory, 10521 Stockholm, Sweden

Unité d'Oncologie virale, Institut Pasteur, 28, rue du Docteur Roux, F-75724 Paris
Cedex 15, France

Centro Nacional de Microbiología, Virología e Inmunología Sanitarias,
Majadahonda, Madrid, Spain

National Reference Centre for AIDS, Athens School of Hygiene, Athens, Greece

Institut de Médecine Tropicale "Prince Léopold", Nationalestraat 155, B-2000
Antwerp, Belgium

Department of Virology, Istituto Superiore di Sanità, Laboratorio di Virologia, Viale
Regina Elena 299, 00161 Rome-Nomentano, Italy

National Institute for Biological Standards and Control, Hampstead, London NW3
6RB, United Kingdom

D.I. Ivanovsky Institute of Virology, 16, Gamaleya Street, 123098 Moscow, Union
of Soviet Socialist Republics

Eastern Mediterranean region

Faculty of Medicine, Department of Virology, Kuwait University, Kuwait

National Institute of Health, Islamabad, Pakistan

US Naval Medical Research Unit, No 3 (NAMRU 3), c/o American Embassy,
Cairo, Egypt

Western Pacific region

National AIDS Reference Laboratory, Fairfield Hospital, Yarra Bend Road,
Fairfield, Victoria 3078, Australia

Institute for Virus Research, Kyoto University, Sakyo-ku, Kyoto 606, Japan

Department of Pathology, Singapore General Hospital, Singapore