The global AIDS situation
by Jonathan M. Mann

When the Acquired Immunodeficiency Syndrome (AIDS) was first recognised in 1981, it appeared that the disease was limited to a single country and to a single risk group. In fact, even in 1981 this was not true. Now, as a result of a series of national and international research efforts during the past several years, the global scope and magnitude of the epidemic of human immunodeficiency virus (HIV) is much clearer.

We now see that the HIV epidemic is an international health problem of extraordinary scope and unprecedented urgency. We also recognise that due to the particular features of HIV infection, the entire range of health sector activities must be aware of and must respond to HIV-related questions and problems.

As of December 1982, only 711 AIDS cases had been reported from 16 countries. However, by 26 February 1987, 41,919 cases were reported to WHO from 91 countries, representing all continents. Reticence in reporting of cases from some areas, combined with under-recognition of AIDS and under-reporting to national authorities, has meant that the number of reported cases represents only a fraction of the total cases to date. WHO considers the number of countries officially reporting cases to be more indicative of the geographical extent and more relevant to an assessment of the scope of the HIV pandemic than the number of reported cases.

The Americas: Of the total of 34,195 reported cases, 90 per cent (30,632) were from the United States, where the “classic” epidemiology of the disease was first described. In this “Western” epidemiological picture, homosexual and bisexual men and intravenous drug users are primarily affected, along with smaller numbers of blood transfusion recipients, haemophiliacs, children of infected mothers, and heterosexual partners of infected persons. In the United States, an estimated 1.5 million persons are infected with HIV. The US Public Health Service has predicted that some 270,000 AIDS cases will have occurred in the United States by 1991, most of these new cases emerging from the large group of already infected persons.

Other countries reporting substantial numbers of AIDS cases in the Americas include: Canada (873), Brazil (1,012), Haiti (785), Mexico (249) and Trinidad and Tobago (108). A further 27 countries have reported from 1 to 69 cases.

Europe: Europe has reported 4,590 cases from 26 countries. The largest numbers of AIDS cases were reported from France (1,253), the Federal Republic of Germany (875), the United Kingdom (686) and Italy (460). Other countries reporting 100 or more cases included: Belgium (207), Denmark (131), the Netherlands (218), Spain (242) and Switzerland (192). Twenty cases have been reported from Eastern Europe; Bulgaria is the only country reporting no AIDS cases. As of 30 September 1986, 71 per cent of adult cases of European origin were homosexual or bisexual men, 13 per cent were heterosexual intravenous drug users and three per cent were homosexual men who were also intravenous drug users.

Most countries in Europe are now experiencing an epidemic of HIV infection. Current estimates of the total number of HIV-infected per-
sons in Europe range from 500,000 to one million or more. Based on current trends, an estimated 25,000 to 30,000 AIDS cases are expected in Europe (cumulative) by the end of 1988. The European Economic Community recently estimated that 100,000 cases may have occurred in Europe by 1990.

Asia: HIV has only started to appear in Asia. A small number of AIDS cases have been reported from Japan (25), Thailand (6), Hong Kong (3), India (5), China (1) and Taiwan (1). These cases have either been related to imported blood and blood products, or to sexual transmission among persons with high risk behaviours (female or male prostitutes). Sero-surveys have so far demonstrated little or no evidence of HIV infection in general Asian populations, but infections have occurred among members of particular risk groups. The current extent of HIV penetration into Asia is unknown; the opportunity for protection of Asia against widespread dissemination of HIV is evident and may be vital to the future of that continent.

Oceania: The cases so far reported from Oceania are all from Australia (382) and New Zealand (22) and are typical of “Western” epidemiological patterns.

Africa: No area of the world appears to be more affected by HIV than Africa, in terms of the proportion of the healthy population already infected and probable numbers of AIDS cases. Central, Eastern and parts of Southern Africa are experiencing epidemic HIV infection and there is increasing evidence of a West African focus of additional human retroviral infections. In Africa, the epidemic of clinically recognisable AIDS appears to have started recently, between 1975 and 1980. The geographical scope and intensity of HIV infection in Africa is difficult to assess, due to limited infectious disease surveillance and laboratory sero-diagnostic capabilities, and the lack of a widely accepted clinical case definition for AIDS.

The proportion of healthy adults with serological evidence of HIV infection in the countries from AIDS-epidemic regions of Africa ranges from four to over 30 per cent, although many of the studies have involved rather small and selected (often urban) populations. The annual incidence of clinical AIDS in some Central African cities is at least 500 to 1,000 per million population.

While the basic modes of HIV transmission in Africa are identical to those in Europe and the Americas (sexual, blood contact, perinatal), several important regional variations exist. The dominant mode of HIV transmission in Africa is sexual, involving heterosexual transmission (infected man to woman; infected woman to man) of the virus. Not surprisingly, the male to female ratio among AIDS cases or among HIV-infected persons is approximately 1:1, and HIV sero-prevalence rates among African women prostitutes are quite high, generally ranging from 25 to 90 per cent. Once HIV is introduced into a heterosexually active population, rates of HIV infection may rise dramatically. Thus, in 1980-81, four per cent of female prostitutes tested in one African city had antibodies to HIV; by 1985-86, 59 per cent were seropositive.

The importance of blood transfusions for HIV transmission in Africa is suggested by the high proportion of infected (although healthy) blood donors, which reaches 5 to 18 per cent in some areas. While practices for collecting and transfusing blood vary widely throughout Africa, screening of donors for HIV infection is not usually performed and storage and processing facilities may be insufficient.

While intravenous drug use is virtually absent in most of Africa, the problem of HIV transmission through contaminated needles may exist in other ways. Any needle or other skin-piercing instrument that
becomes contaminated with the blood of one person and is then used, without proper sterilisation, to pierce the skin of another person can become a vehicle for HIV transmission. The problem in Africa particularly involves injections given for medical purposes, such as for treatment of malaria, fevers, diarrhoea or other common problems. Fortunately, current evidence suggests that HIV is not being spread through childhood vaccination programmes, in large part due to the longstanding and aggressive efforts to ensure use of sterile needles and syringes in these vital public health programmes.

Since HIV is heterosexually transmitted, pregnant women are among those in Africa who are likely to be HIV infected, with resulting transmission of the virus to their children, either before, during, or shortly after birth. While the efficiency of mother-to-child spread is at present unknown, in areas of Africa where 10 per cent or more of pregnant women are HIV seropositive, as many as five per cent of all newborn babies may be HIV-infected. There is no epidemiological evidence to support casual contact transmission or transmission through mosquitoes or other insects.

**Worldwide:** WHO estimates that there have been at least 100,000 AIDS cases worldwide since the beginning of the epidemic and that between 5 and 10 million persons are infected with HIV.

The personal, social and economic costs of the HIV epidemic are enormous. Family structure and function are threatened both by infection and the loss of mothers and fathers. The social and economic fabric is dramatically affected by the epidemic of illness and death among productive 20 to 40 year olds, which is typical of AIDS epidemiology in industrialised and developing countries. The direct economic costs of AIDS are also enormous. For example, in the United States, the total cost of direct medical care for AIDS patients in 1991 is estimated to reach 16,000 million dollars. The combined impact of the HIV pandemic, of AIDS, AIDS-related diseases and neurological disease upon health care, insurance and legal systems, economic and social development and indeed entire cultures and populations is already extraordinary and will become increasingly onerous.

Throughout the world, personal and public reaction to AIDS has been considerable. Fears of AIDS and stigmatisation of different groups (homosexual men, haemophiliacs, Africans, Westerners, female prostitutes) have become common phenomena. However, this remarkable global response has been generated by only 30,000 AIDS cases in the United States, 4,500 cases in Europe, and a relatively few reported cases in many other countries. Individual, family, group and social tragedies are occurring regularly as a result of fears, most often unjustified, of HIV infection and its spread. Throughout the world, tremendous social pressures and tension are being generated by AIDS and AIDS-related concerns. So it must be anticipated that social stresses resulting from the occurrence of 270,000 AIDS cases in the United States by 1991, 25,000 to 30,000 European AIDS cases by late 1988, and increasing worldwide infections may be correspondingly great. Proposed restrictions on HIV-infected workers and international travellers and the unfortunate tendency to blame “others” for HIV suggests some additional international aspects associated with the HIV pandemic.

In May 1986, citing “intensive international interest and concern” about AIDS, the 39th World Health Assembly formally approved the creation of an AIDS programme within WHO. In November 1986, the Director-General of WHO announced that, in the same spirit and with the same dedication which characterised WHO’s global smallpox eradication programme, WHO was now committed to the more urgent, difficult and complex challenge of global AIDS prevention and control. WHO’s Special Programme on AIDS will support the development of strong national AIDS prevention and control programmes, provide international leadership and help ensure global coordination and cooperation.