

terms of public health. European HIV/AIDS surveillance data are, however, often cited both within countries and internationally, and provide a background (or justification) for policy making.

### *Problems and future perspectives*

With the advent of HAART, AIDS incidence trends have become less meaningful than before in terms of direct inference to past HIV incidence trends, and back-calculation has become quite impossible. AIDS incidence does not reflect the full burden of the HIV epidemic (even less than before). At the same time, AIDS occurrence increasingly becomes an indicator of failure of secondary (or tertiary) prevention including lack of timely HIV diagnosis, poor access to HIV treatment, and HIV treatment failure. In this respect, AIDS incidence should still be a useful indicator. In the future, AIDS occurrence may be recorded in an integrated HIV/AIDS reporting system.

Other issues related to European AIDS surveillance data include the lack of information on pre-AIDS treatment. Such information should become increasingly useful, but standardisation is not simple. There is also some incoherence in the data on geographic origin (available only for some heterosexually transmitted cases). This latter issue is a sensitive one and lack of standardisation between countries results in part from differences in historical and current migration patterns.

## **2. HIV case surveillance**

### **Organisational and legal structures for surveillance**

Based on recommendations from a meeting of national HIV/AIDS surveillance coordinators and representatives from the European Commission, WHO, and UNAIDS<sup>11</sup>, a European HIV case reporting system, coordinated by CESES, is currently being set up. As is the case for European AIDS case reporting, country participation will be voluntary. Data collection will start in early 1999 and will concern cases reported at national level in 1997-98 (cases reported earlier will not be collected at European level other than in summary tables by year).

In several European countries, changes are ongoing to improve the geographic coverage and the quality of HIV reporting. A survey carried out in 1997 indicated that nationwide HIV reporting systems existed in 35 countries, systems limited to some regions existed in four countries (France, Italy, Netherlands and Spain), and HIV reporting systems had not been implemented in Greece, Ireland, Luxembourg or Malta<sup>12</sup>. Since the time of the survey, an HIV reporting system has been put in place in Spain and one should soon start in Greece. Among the 35 nationwide systems, 31 started in the mid or late 1980s. Reporting is mandatory in 28 countries and voluntary in Belgium, Israel, Lithuania, Poland, Portugal, San Marino and the UK.

### ***Reporting system***

At European level, HIV cases will be reported without personal identifiers (as AIDS cases). Data will be reported on a half-yearly basis. Countries unable to provide individual HIV data will be able to provide aggregate data by half-year of report, sex, transmission group, and age group. At this point, two separate databases will be maintained at European level (one for AIDS and one for HIV).

Because no identifier will be available, linkage between the two databases will not be possible. In the future, one single integrated database may be adopted at European level if a sufficient number of countries are able to provide data in such format. (Currently, not all countries are able to link HIV and AIDS databases, see below).

Items to be reported will include: reporting country; sex; date of birth; date of HIV test (the test triggering the report); date of HIV report; type of virus (HIV-1 or HIV-2); clinical stage at the time of reporting; transmission category; date of first HIV positive test ever (may be different from the one being reported); probable date of infection; date of AIDS diagnosis; date of death. Only countries where HIV and AIDS databases can be linked will be able to provide the last two variables for cases reported prior to the stage of AIDS.

At country level, HIV cases are reported by laboratories in nine countries, by clinicians in seven countries and by both in 19 countries. HIV reports are nominal at national level in 12 countries, in

each of which AIDS reports are also nominal. In the 23 non-nominal systems, cases are identified through codes (in 15 countries) or combinations of personal information (Table 1 for European Union countries). In seven countries (Austria, Denmark, Germany, Hungary, Poland, Romania, Switzerland), HIV reports contain less personal information than do AIDS reports. In 29 countries, HIV and AIDS reports can be linked (i.e. AIDS reports can be related to a previous HIV report for the same individual). Such linkage is not possible in Denmark, Germany, Romania, or Switzerland.

Standardised procedures for the identification and elimination of duplicate reports exist in eight of the 12 countries with nominal HIV reporting and in 18 of the 23 countries with non-nominal reporting.

### ***HIV case definition and validation***

All laboratory confirmation criteria accepted for reporting at national level are accepted for reporting at European level. However, HIV cases less than 18 months of age should be reported only in the presence of HIV antibody tests and at least one positive HIV virological test (detection of antigen p24 or nucleic acids [PCR], viral isolation), or clinical evidence of AIDS.

In 33 countries, a positive Western blot (WB) is required as laboratory evidence for reporting. In Ukraine and in the UK, two different positive serological tests (e.g. ELISA, EIA), confirmed on a second sample, are, following WHO/UNAIDS recommendations<sup>13</sup>, routinely used for HIV diagnosis, and accepted for reporting.

### ***Results of case surveillance***

At this point, there are no European HIV case reporting data available. Preliminary data from a survey conducted in 1997<sup>12</sup> indicate that, compared to AIDS data, HIV reports for 1996 show higher numbers of cases and a different distribution by transmission category (e.g. a higher proportion of heterosexual cases), probably closer to current HIV transmission patterns.

### *Dissemination and actions which result*

HIV case report data will be disseminated together with AIDS data through a half-yearly surveillance report and the Internet. In the first year (pilot phase) of the project, HIV case report data will not be available in a public database.

### *Problems and future perspectives*

Interpretation and communication of data that do not represent direct incidence or prevalence measures are difficult and need to be further developed. Among HIV case reports, recent infections are of obvious interest and should be identified. The relationship between HIV/AIDS report databases and other sources of information (death certificates, CD4 reports, HIV testing activities, serosurveys) need to be strengthened. The use of HIV case reports for modelling is intuitively possible, but more technical development is needed.

## **3. Sentinel serosurveillance**

### *Organisational and legal structures for surveillance*

The European HIV prevalence database, set up in 1989 and managed by CESES, includes aggregate data (published and unpublished) on HIV prevalence in various populations, including information on the methods used for assessing these prevalences<sup>14,15</sup>. Data are selected by national HIV/AIDS coordinators according to specific criteria and availability of information on the study methods (e.g. representativeness of the study population, minimum sample size). Studies may be done by national surveillance institutions or by (independent) research institutions. Approaches for assessing prevalences differ substantially across countries and populations, and include surveys (either linked or unlinked anonymous) and data from systematic HIV testing in certain populations (see below). In some countries (e.g. Austria, Belgium), unlinked anonymous testing is not authorised.

### *Sampled populations and sampling procedures*

*Pregnant women* are a population in which HIV prevalence studies have been most widely conducted and are probably more comparable than most other populations in which HIV prevalence studies are frequently conducted (e.g. drug users). Unlinked anonymous testing (UAT) is the method most commonly used to assess prevalence in pregnant women in western European countries (except Norway and Sweden) and more recently in certain countries of Central Europe (Slovenia and Hungary)<sup>14</sup>. Sera may be collected from newborns (e.g. Italy, Germany) or from pregnant women, usually during antenatal care (e.g. Hungary, UK). Studies may be continuous (e.g. UK) or repeated periodically (e.g. France), and may be national (e.g. Italy, Finland) or restricted to selected areas (e.g. Germany, France).

Data collected from individual counselling and testing programmes have been primarily used in Scandinavia and in central and eastern European countries. In these countries, nearly all pregnant women are tested, and testing data may therefore be used to assess prevalence in this population. These programmes are national and continuous.

*Drug users* are a population at risk in which HIV prevalence studies have been frequently conducted. Drug users are recruited in very diverse settings such as clinics or hospitals, street, sexually transmitted disease clinics, prisons, HIV testing sites, and various types of drug treatment centres<sup>15</sup>. Comparisons across studies should therefore be made cautiously. Testing may be unlinked anonymous or linked to individuals.

*Persons with sexually transmitted diseases (STD)* constitute another at risk population frequently subject to HIV prevalence studies<sup>16</sup>. As for drug users studies, interpretation of results must be done in the light of information about recruitment site.

*Homo bisexual men* and *prostitutes* are high-risk groups in which data are few and studies often conducted in very selected sub-groups.

*Blood donor* testing data are readily available in nearly all European countries<sup>17</sup>. Although blood donors are (or should be) a population at low risk for HIV infection, prevalence trends in blood donations provide some indication of the spread of HIV in the general population.

### ***Measurements***

Laboratory testing methods obviously depend on whether studies are based on UAT or an individual counselling and testing. Algorithms used in UAT usually differ from those used in individual testing (e.g. screening test may be done on pooled sera, specimen may be collected on filter paper).

Information recorded in UAT studies is usually very limited: age is collected in most studies; other variables include country of origin (e.g. for pregnant women), sexual behaviour (e.g. studies in STD clinics).

### ***Reporting system***

All data included in the European HIV prevalence database are validated by the relevant national HIV/AIDS surveillance coordinator. A standardised form is used for data collection and validation. The initiative to provide and gather information usually comes from national correspondents, but also CESES may request more detailed or up-to-date information on studies for which some data have already been provided, or that have appeared in the bio-medical literature or been presented at international conferences.

### ***Results of serosurveillance***

HIV prevalences in *pregnant women* during 1990-96 were highest (10 to 30 per 10 000) in large urban areas of western Europe including Amsterdam, Barcelona, London, Paris, Milan, Rome; between 1 and 2 per 10 000 in Nordic countries; and as low as 0.5 per 10 000 in central and eastern European countries (except Ukraine, 1996: 5 per 10 000). From 1990 to 1996, prevalences decreased in Rome whereas they increased in London, the Czech Republic, and since 1995, in Russia and Ukraine; elsewhere, no time trends were detected.

A review of data through mid 1996 indicates that HIV prevalence in *drug users* showed considerable geographic variations both between and within European countries. For example, in Italy, prevalence reached a level higher than 70% in Milan but never exceeded 10% in Naples and, in Scotland, prevalence rose to over 60% in Edinburgh but remained lower than 2% in Glasgow. In several countries or cities of western Europe (e.g. Copenhagen, Stockholm, Italy, Spain), decreases in prevalence were observed in studies repeated over time. In the centre and east of Europe, until the mid 1990s, prevalence among drug users appeared to be much lower than in the west, except in Yugoslavia (where a prevalence of 44% was found in Belgrade in 1992) and in Poland (46% in Warsaw in 1993). In Ukraine, major epidemics started in 1995 in Odessa and Nykolayev, two cities on the Black Sea, where prevalence among IDU registered by the police has reached levels well over 30%, and rapidly spread to all regions of Ukraine with varying degrees of intensity.

In 1997, HIV prevalence in *blood donations* in the WHO European Region was 4.1 per 100 000 overall, ranging from 0 per 100 000 in 13 countries (e.g. Belarus, Czech Republic, Slovakia) to 53 per 100 000 in Ukraine<sup>17</sup>. It was lower than 1 per 100 000 in 19 countries, between 1 and 4 per 100 000 in 16 countries, and over 4 per 100 000 in nine countries. The highest prevalences were found in countries near the Black Sea and in the Iberian Peninsula. In western Europe, the decrease in HIV prevalence observed through 1990 continued during the period 1991-97, at least in those countries where prevalence was highest, i.e. France, Greece, Italy and Spain—all situated in south-west Europe. In the countries where the prevalence has always been low or had already reached low levels (around 1 per 100 000), prevalences remained stable at these low levels (e.g. Belgium, Denmark, Sweden, Switzerland, United Kingdom). In Portugal, where no data were available between 1991 and 1996, prevalence was as high as 60 per 100 000 in 1990 and partial data for 1997 for three cities suggest that it remains high. In most countries of central Europe (e.g. Hungary, Czech Republic, Slovakia), HIV prevalence has generally remained stable at low levels. In contrast, in several countries of the former Soviet Union (Russian Federation, Republic of Moldova and Ukraine) prevalence has increased markedly over the past 2 years. While in the Russian Federation HIV prevalence in blood donations is

still low (1.4 per 100 000 but numbers of infected donations increased from 0 or 1 until 1994 to 57 in 1997), in Ukraine it has reached alarming levels.

#### *Dissemination and actions which result*

The European HIV prevalence database is available on both paper and diskette, and results are presented in scientific meetings and in publications. Data have been used to complete the WHO/UNAIDS Epidemiological Fact Sheets.

#### *Problems and future perspectives*

In France, prevalence surveys in pregnant women are being discontinued, in part because an HIV case reporting system is being introduced. In other countries, as far as we know, they are continuing.

There is a need for better analysis of repeat prevalence surveys to infer incidences. In addition, detuned assays may be used in the future to assess HIV incidence from samples collected through prevalence surveys.

### **4. Behavioural surveillance**

#### *Organisational and legal structures for surveillance*

Large surveys on sexual behaviour in the general population have been carried out in the late 1980s to early 1990s in several western European countries but the information collected is not well standardised. Repeated surveys on sexual behaviour in gay men are also conducted, through the gay press or through community-based organisation in several countries (e.g. France, Germany, Switzerland).

Some behavioural data (i.e. transmission group of reported HIV/AIDS cases) have been collected since the beginning of HIV/AIDS surveillance.



### *Results of behavioural surveillance*

A review of behavioural surveys carried out in western Europe between 1987 and 1990 shows that the reported number of sex partners remained quite stable irrespective of the country, while condom use increased markedly, particularly for the most sexually active populations. Among people with casual partners, the percentage of those reporting using condoms regularly rose from 8% in 1987 to 48% in 1989 in Switzerland, and from 9% to 40% in the Netherlands during the same period. In the UK, the percentage of 18- to 24-years olds who reported using a condom during their most recent sexual intercourse rose from 14% in 1986 to 31% in 1989. Such results, based on self-reported behaviours, are also partially supported by trends in condom sales. In Switzerland, wholesalers (representing 80% of the market) increased their sales from 7.6 million units in 1986 to 15 million in 1992. In France, the number of condoms sold in pharmacies and supermarkets rose from 36.8 million to 74.4 million between 1986 and 1993.

In contrast, very little is known about the condom market in central and eastern Europe. In Slovenia, condoms are available through pharmacies, petrol stations and supermarkets. In some countries, condom availability and low income levels can heavily restrict condom use. In Kazakstan in 1995, condoms were available only in some pharmacies of Almati, the capital city.

### *Problems and future perspectives*

In addition to sex and drug use behaviours, other health-related behaviours should be monitored including HIV testing behaviours (in the general population, in populations at risk, among infected individuals) and care seeking/adherence to treatment (among infected individuals).

## **III. HIV/AIDS PROGRAM EFFECTIVENESS MONITORED AND EVALUATED BY SURVEILLANCE OR SURVEYS**

At this point, it is not possible to measure current or recent HIV incidence (and HIV incidence trends). Thus, in terms of primary HIV prevention, it is difficult to evaluate whether what we are doing to reduce HIV transmission works. Evaluations of primary prevention programmes have to rely on other indicators such as behavioural indicators or incidence of other STDs. Both these indicators pose problems. Sexual behaviour is complex and hard to measure. The incidence of curable STDs may be decreasing due to effective treatment programmes, while the incidence of HIV infection may remain unchanged or even increase.

While we know little about current incidence trends, past HIV incidence can be estimated through mathematical model. In Europe, HIV incidence is estimated to have declined after having reached a peak in the mid to late 1980s. However, it is difficult to disentangle the effect of prevention interventions on HIV incidence from that of a saturation of the highest risk population.

Compared to primary prevention, secondary prevention is easier to evaluate through surveillance. For example, using surveillance data, a decrease in the proportion of AIDS cases presenting with *Pneumocystis carinii* pneumonia (PCP) can be attributed to the effectiveness of PCP prophylaxis at the population level. The current decline in AIDS incidence and in deaths is attributed, at least partly to the effect of HAART. However, it is difficult to disentangle the effect of a past peak in HIV incidence on current AIDS incidence from that of HAART.

#### **IV. CONCLUSIONS**

AIDS and HIV surveillance are very sophisticated (and costly) surveillance systems. They have provided very useful data for describing the epidemics. There is, however, a need to better present data from different sources (e.g. case reporting, prevalence surveys, modelling) into more coherent and user-friendly messages. *[To be developed]*

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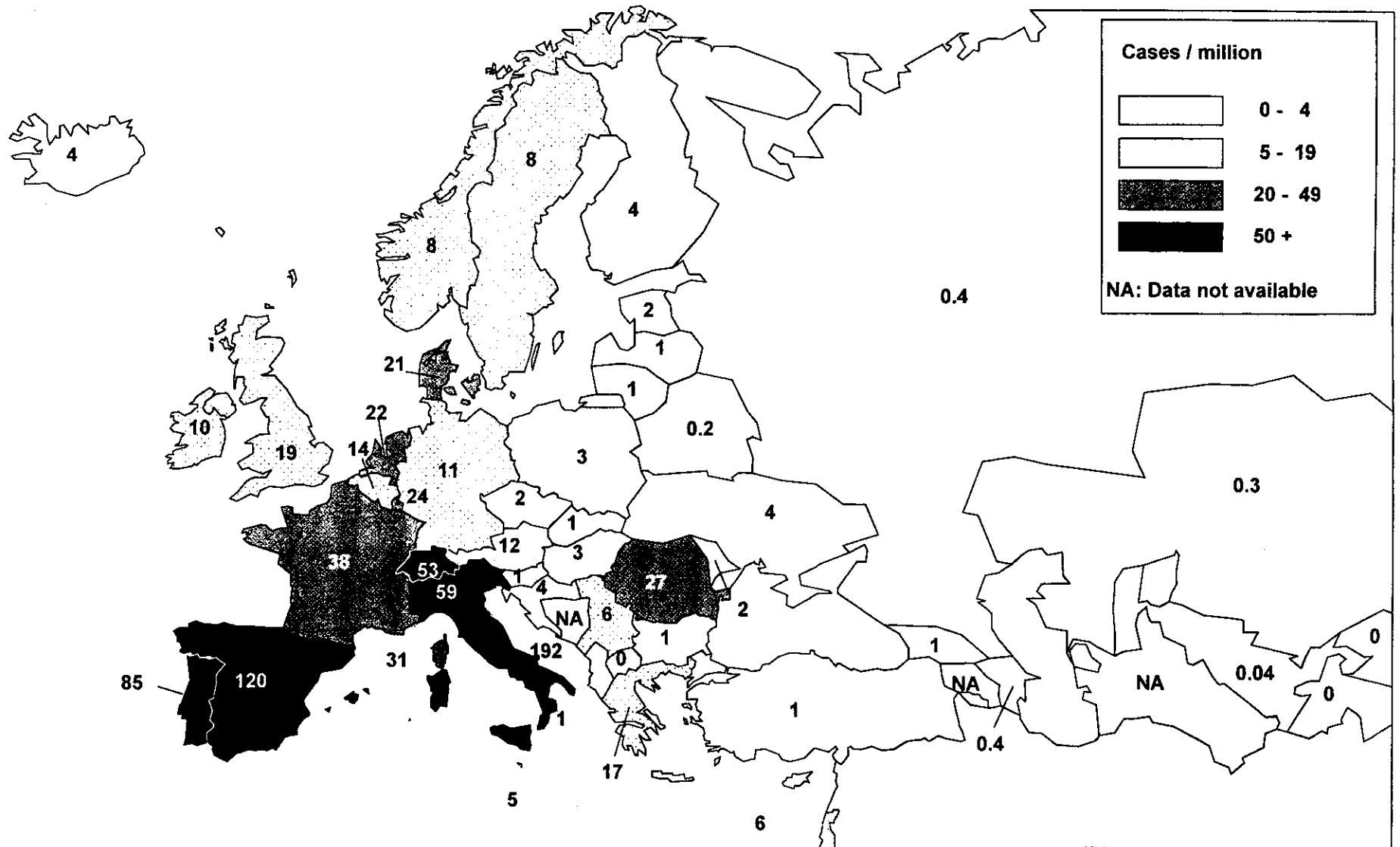
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**Table. HIV and AIDS cases reported in 1996 and case identifiers used for reporting, EU, 1996**

Country	Number of reported cases		(HIV reports/ 10 <sup>6</sup> population)	Case identifier at national (regional) level	
	AIDS	HIV		AIDS reports	HIV reports
<b>Austria</b>	141	180	(2.2)	initials, DOB†, residence	YOB‡, residence, code
<b>Belgium</b>	232	719	(7.1)	initials, DOB	same as AIDS
<b>Denmark</b>	161	267	(5.1)	name, NHS code	YOB, region
<b>Finland</b>	25	69	(1.3)	DOB, 4 digit code	same as AIDS
<b>France</b>	4,841	new system	-	initials, DOB, residence	same as AIDS
<b>Germany</b>	1,641	5,035*	(6.2*)	initials, YOB, residence	YOB, residence
<b>Greece</b>	215	new system	-	name	initials, DOB
<b>Ireland</b>	79	no reporting	-	initials, DOB	-
<b>Italy</b>	5,379	regional reporting	-	name	(various codes)
<b>Luxembourg</b>	12	no reporting	-	DOB	-
<b>Netherlands</b>	448	regional reporting	-	initials, DOB	(name code, DOB)
<b>Portugal</b>	896	not available	-	initials, DOB	same as AIDS
<b>Spain</b>	6,954	new system	-	name	initials, DOB
<b>Sweden</b>	153	221	(2.5)	YOB, parts of NHS code	same as AIDS
<b>UK</b>	1,862	2,887	(4.9)	name code, DOB	same as AIDS

\*incomplete elimination of duplicate reports † DOB= full date of birth; ‡ YOB= year of birth

Figure: 1997 AIDS incidence, per million total population, WHO European Region



Data reported to 30/06/98, adjusted for reporting delays

CESES, Saint-Maurice, France

## **Current situation and regional perspective of HIV/AIDS related surveillance in Asia / Pacific.**

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## **Introduction / Global picture**

### ***SLIDE 1 Spread of HIV - Asia***

While the HIV epidemic started in the Western countries, Australia, New Zealand and the African continent at the beginning of the 80's, no country in Asia had experienced a major epidemic until the late 80's. By the beginning of the 90's, however, a number of countries, led by Thailand, observed an increasing number of infections and by 1998, the epidemic is well established across the continent.

### ***SLIDE 2 Estimated AIDS Reporting Rate in Selected WPR Countries***

AIDS reporting and sometimes HIV reporting was quickly initiated in most Asia/ Pacific countries. However, underreporting and underdiagnosis of HIV/AIDS in most settings is common. This slide shows that only a few countries with well organized surveillance systems and diagnostic capacity in the Western Pacific, such as Australia, Japan and New Zealand, are estimated to report more than 50% of cases. The large majority of countries will report less than 50% of the cases, with some of them estimated to be as low as 10 or 20%..

### ***SLIDE 3 Ongoing HIV Surveillance in Selected Population Groups Western Pacific Region - 1996-97***

Consequently, to obtain better estimates of the real situation, additional surveillance systems were also introduced .

This slide shows that there is a mixture of surveillance systems in place in the Western Pacific Region, including;

- HIV sentinel surveillance, often combined to the collection of behavioural data such as condom use;
- routine screening (such as blood donors or sex workers);
- ad hoc HIV surveys among selected population groups.

and more recently

- behavioural surveillance and also
- STD surveillance (as an indirect marker of at risk behaviours and behavioural changes).

We can definitely say that surveillance systems have developed rapidly over Asia , often led by the experience of Thailand and that there is now a good knowledge and monitoring of the HIV epidemic, although the lack of standardization make it difficult to compare the data between countries and sometimes even within countries.

***SLIDE 4 Estimated HIV Prevalence in Adults (15-49) Asia / Pacific - 1998***

Based on the analysis of the data collected, estimates have been drawn. You can see that as of 1998, estimated rates of infection remain below 3% in this part of the world.

You can also see that a large disparity is observed in estimated rates over Asia.

- HIV prevalence rates among the adult population are higher or close to 1% in four countries ; Cambodia (2.7%), Thailand (2.14%), Myanmar (1.87%) and India (0.98%)
- A number of countries have what we will call an “intermediate” estimated level of infection for the region ( between 0.1% and 1%) - These are Malaysia , Nepal, Vietnam, Papua New Guinea , Singapore and Australia.
- Finally, many countries also have HIV infection rates below 0.1%. These are Hong Kong, China, Philippines , Sri Lanka, New Zealand, Indonesia, Lao PDR, Bangladesh, Republic of Korea and Japan

***SLIDE 5 Estimated HIV prevalence and prevalence rates in Asia - 1998***

If compared to sub saharian Africa, where the highest rates reach 25%, these are low. However, if compared to the Western type epidemics, with higher rates reaching 0.5% - these are high. The size of the epidemic is clearly different in different parts of the world.

However, one factor to consider is the size of populations in Asia and the Pacific ( almost 3 billion or 60% of the world population). Even if rates remain relatively low , the number of people HIV infected are high. It is estimated more that 7 million individuals are living with HIV/AIDS in 1998 and more than 300 000 new cases of AIDS have occurred in 1998. The largest number of people HIV infected are fund in India (4 million), Thailand (more than 700 000 ) and China ( more than 600 000 ).

**A multifaceted and evolving epidemic**

***SLIDE 6 Patterns of HIV transmission Asia / Pacific - 1998***



Numbers and rates are not sufficient to describe the HIV epidemic. To understand this evolving epidemic, we need to look at trend and details - such as geographical distribution, population affected and modes of transmission.

The epidemic can be summarized in three patterns;

- Increasing epidemic in Cambodia, India, Myanmar, Malaysia, Papua New Guinea mainly - and to a lesser degree Vietnam, Nepal and China.
- Stabilized or decreasing epidemics - Australia and New Zealand with Western type epidemic. Early start in the 80's and - predominantly among MSM. In this country, the prevalence among IVDU remained very low due to early and intensive harm reduction programmes. HIV spread reached at the beginning of the 90' and is now under control. Thailand - where the epidemic started in the second half of the 80's and where, following intensive prevention programmes, particularly among sex workers and their clients, HIV transmission is slowing down.
- Countries / areas not experiencing epidemics such as Indonesia, Philippines, Sri Lanka, Laos, Bangladesh, Republic of Korea, Japan and the Pacific Islands

***SLIDE 7 HIV Sentinel Surveillance Among Volunteer Blood Donors in Multiple Sites Cambodia, 1995***

If disparities are noted in the epidemic size between countries, large variations in prevalence rates are also observed within countries; often related to movement of populations (e.g. rates are higher in southern Vietnam at the border with Cambodia) - and distribution of injecting drug use - (e.g. rates are higher in South and North West China) and level of promiscuity (e.g. higher rates are often observed in urban settings). This slide on the rates of infection among blood donors in Cambodia in 1995 illustrate very well this pattern, with rates up to 20 times higher in the capital city Phnom Penh when compared to the rates in the province of Pursat.

***SLIDE 8 Estimated Exposure Categories HIV Infection - Selected Asian countries 1998 Estimates***

Main modes of transmission vary between countries and within countries - injecting drug use in China, Malaysia, Vietnam and Myanmar and sexual contact - essentially heterosexual - in other countries. In one country, India Manipur, North-East India, the epidemic was mainly confined to injecting drug users in Manipour in the North East with 77% of IVDU found HIV positive, while in two other cities, Bombay and Tamil Nadu, the HIV epidemic is essentially among female sex workers and STD patients.

***SLIDE 9      Reported HIV by Risk Exposure Category - Western Pacific Region - 1987/1998***

Also, risk exposure category are evolving with time - In the Western Pacific region, the main risk exposure category of HIV/AIDS cases reported was essentially homosexual contact ten years ago. It became IVDU in the beginning of the 90's and is now increasingly heterosexual transmission - reaching 33% in 1998. The same pattern has been observed in Thailand and is now observed in India, Myanmar and China.

***SLIDE -      10      HIV seroprevalence among IDUS in Manipur***

Once the HIV virus is introduced in the population of IVDUs, the rates of HIV infection increase very rapidly, reaching more than 50% in a couple years and then stabilizing, as illustrated on these data from Manipur.

***SLIDE 11      HIV prevalence among IVDU Asia***

As a result, HIV rates among IVDU in Asia are now extremely high as illustrated on this slide.

***SLIDE 12      HIV sentinel surveillance Phnom Penh, Cambodia 1991-1998***

The same observation is made for sex workers. These data are from Cambodia and you can see that within a couple year the rates reached as high as 40% and then stabilized at this level.. Often HIV spread to the general population is also occurring , although at a lower rate as seen on this slide.

***SLIDE 13      Average HIV prevalence rates selected countries - Asia***

The same patterns are observed in India, Thailand and Myanmar, where the rates of HIV infections among sex workers are. reaching 50% in selected areas., up to 50 times higher than the rates of infection in the general population.

***SLIDE 14      Rapid vs Slow epidemic- determinants***

Behavioural surveillance in selected countries has been extremely instructive in understanding some determinants of the epidemic.

This slide shows the higher number of clients the sex workers have per day, the higher is the prevalence of HIV infection among sex workers . Also, the average HIV prevalence rate in the general population appears to be closely linked to the use of sex workers made by young people.

Clearly, IVDUs , sex workers and clients are playing a major role in the diffusion of the HIV infection in Asia and all efforts should be directed to these groups to prevent larger spread to the general population.

## **Encouraging results**

### ***SLIDES 15 The Percentage of Men Reporting Sex with a Female Sex Worker in the Past Year in Selected Population Groups in Thailand***

Many countries in Asia have initiated intensive prevention programmes - One of the main indicator showing the impact of these programmes is the increasing usage of condom observed among sex workers . clients and young sexually active adults in general. The most impressive example is Thailand, where behavioural surveillance combined to serological surveillance has helped to define risk behaviours, population at risk, design intervention programmes and monitor the impact.

One of the component of the Thai prevention programme was to reduce the use of prostitution by young men and you can see on this slide that surveillance has been able to document an impressive impact among various group of men in a few years.

### ***SLIDE 16 Clients Using Condoms and STD Cases Reported - Thailand***

Another component of the Thai programme was to promote condom use in the sex industry. Here , again , surveillance was able to show the impact - measured on the number of STD cases reported - that the programme had.

### ***SLIDE 17 Sexual behaviour, STDs and HIV in 21-year-old men, Northern Thailand, 1991–1995***

This slide document the three previous components , use of sex work, use of condom, prevalence of STD - and document the impact it finally had on the HIV prevalence in young men in Northern Thailand

### ***SLIDE 18 Trend of HIV Prevalence Rate in Conscripts and Pregnant Women in Thailand***

Another set of data had been able to document the impact that the programme had on the genral population, as reflected by the decreasing HIV prevalence for the past 4 years among pregnant women

## **The future**

### ***SLIDE 19 Estimated / projected HIV prevalence rate selected countries - Asia - 1980-2000***

It is not expected that rates of infection in the general population in Asia will reach rates observed in Africa. It is predicted that most epidemics have reach a peak or are going to reach a peak in the next few years -

***SLIDE 20 Estimated / Projected HIV Prevalence Adults - Asia***

HIV prevalence might stabilize around 10 million individuals living with HIV/AIDS by the year 2000, with almost two thirds in India - while it was almost ten times lower in 1995.

***SLIDE 21 - Increase of HIV Prevalence in Asia 1995-2000***

It is predicted that the highest increase of HIV prevalence will be observed in India and then China. The evolution of the epidemic in these countries will determine the overall picture in Asia.

***SLIDE 22 - Estimated/Projected AIDS Incidence Adults - Asia***

It is also predicted that the number of yearly new cases of AIDS will reach half a million in 2000 and will continue to increase substantially the following years. We will now start observing the "epidemic of AIDS cases" in many Asian countries. Most of the AIDS burden will be in India and, to a lesser degree in Myanmar and Thailand

***SLIDE 23 Increase of AIDS Incidence in Asia 1995-2000***

The highest increase of AIDS cases is predicted in China, Vietnam and Nepal,

## **Conclusions / current perspective for surveillance**

***SLIDE 24 Conclusion***

Good, reliable data is crucial in developing, guiding, monitoring and evaluating our work.

HIV/AIDS surveillance systems have evolved fast in Asia / Pacific. Over the past few years the quality of HIV epidemiological data has improved in many countries, which is in turn improving the accuracy and effectiveness of HIV estimates and projections as well as the design and monitoring of interventions.

We now know that sex work and intravenous drug use play an essential role in the HIV epidemics in this part of the world. We know that the epidemic is concentrating on a few countries - India, Thailand, Myanmar Cambodia and maybe China and that we do not have a single HIV epidemic, but many smaller epidemics. Each of these have their own dynamics, which inter-relate to each other.

Also, we know that quite a number of countries in Asia are still not experiencing large-scale HIV epidemics - and many are not likely to do so. This is both a reflection of the positive realities of these countries, and also the outcome of some good preventative work.