

Figure 2e

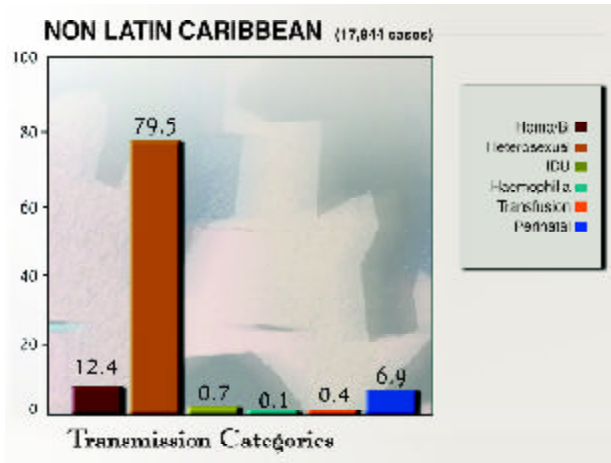
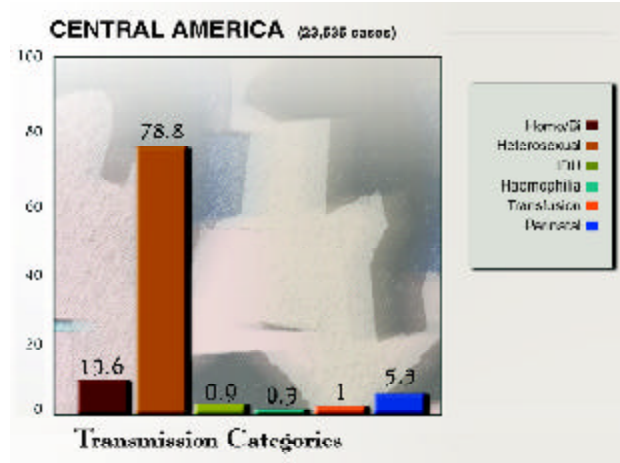


Figure 2f

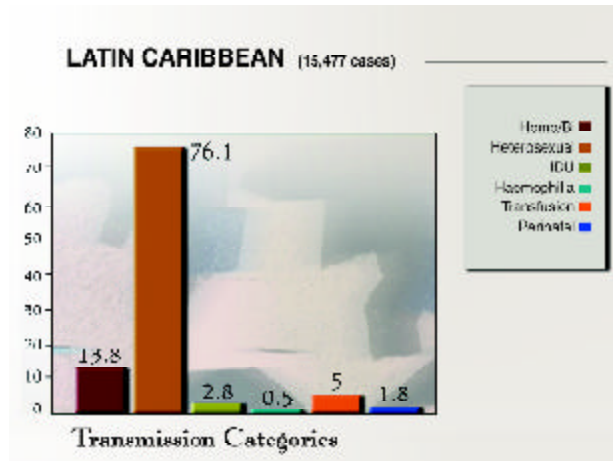
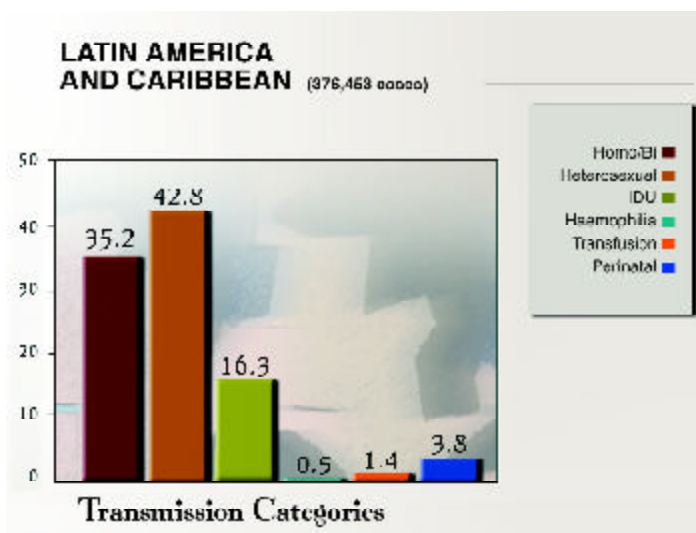


Figure 2g

Based on this diversity of situations, we find that sexual transmission at the regional level accounts for 78% of cases with information about probable mode of transmission (Figure 2h), and that heterosexual and homosexual cases represent 55% and 45% of that figure, respectively. Injection drug use represents 16% of cases in the region, and perinatal and other forms of blood transmission account for 6%<sup>5</sup>.

Historically, throughout the 1990's, the proportion of AIDS cases categorized as MSM has decreased due to an increase in the number of female cases. However, the total number of MSM has remained steady; in other words in relative terms their number may have diminished, but in absolute terms it has not.

Figure 2h



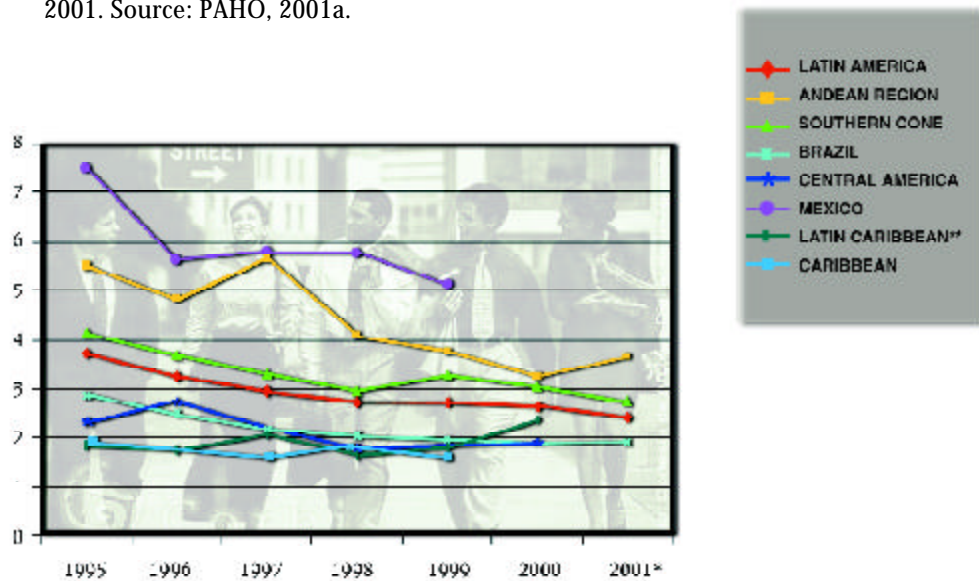
The largest increase has been among injection drug users in Brazil and, most particularly, in the Southern Cone. The escalation of the epidemic in injection drug users is creating bridges to the heterosexual population more effectively

<sup>5</sup> As we do not have data for Mexico on the proportion of cases without information on probable cause of infection, we cannot determine the proportion of cases at the regional level that are probably due to homosexual transmission (out of the total cases with information on mode of transmission) from a weighting that considers absolute totals of homo-bisexual cases by sub-region, calculated from the sum of total cases per sub-region and the proportion of those reported as caused by homo-bisexual transmission. Accordingly, we have opted here to estimate the proportion by assuming a uniform proportion of cases without information on probable means of infection across the different sub-regions.

than the epidemic in MSM. The result has been a slight to moderate rise in the proportion of perinatal cases. Conversely, a reduction in the proportion of blood borne cases is consistent with much improved prevention strategies at health facilities.

**Cumulative Male:Female Incidence Ratio.** Figure 3 shows the ratios for number of reported male cases to number of reported female cases for each sub-region and for Latin America as a whole, by year, from 1995 to 2001 (according to PAHO, 2001a). The chart highlights the difference between, on one hand, Mexico and the Andean Region, whose ratios, though descending, remain above three; and, on the other, Central America and the Caribbean, where the ratios are

**Figure 3:** Cumulative Male:Female Incidence Ratio of AIDS cases in Latin America and the Caribbean, 1995-2001. Source: PAHO, 2001a.



\* Information is incomplete due to delayed notification.

\*\* Cumulative ration for the Latin Caribbean does not include Puerto Rico.

around two. Despite these differences, and perhaps with the exception of Honduras, Belize and the Dominican Republic, it is worth drawing attention to the fact that the Central American countries, in addition to Cuba (in the Latin Caribbean), have male:female ratios of nearly three, which is not congruent with the markedly heterosexual epidemiological patterns suggested by the case reporting. This discrepancy implies, once again, that many cases that have probably resulted from homosexual transmission in these countries have been reported as heterosexual cases.

**Young MSM Risk.** We do not have a demographic breakdown of cases among MSM in the region. However, while in countries like Peru AIDS is diagnosed in MSM between adolescence and old age; most cases occur in the 25-34 year-olds. It follows, then, that many such cases are the result of infections that probably occurred towards the end of adolescence, which leads us to underline two points: a) there are MSM of all ages, and all may be at risk (in fact, many MSM in the region become infected before reaching majority of age); and b) when we refer to «youths» we tend to assume that they only have heterosexual relations; however, it is important to recall that many also engage in homosexual relations, and some even identify themselves as homosexuals.

## HIV Seroprevalence Data

We can make a rapid assessment of the historical impact of the epidemic on a population and its health services by analysing reported cases; however if we want to gauge the current and future impact of the epidemic on a given group and on the health system we must examine the data provided by seroprevalence studies. Table 3 contains the available seroprevalence data for MSM in the region. It is difficult to determine how comparable the data are, in that there is limited information on the conditions under which many studies were carried out, particularly with respect to sample selection. Having said that, the information suggests prevalences that vary between 5% and 20% for MSM in most capital cities in the region, a clear indication of an *epidemic concentrated in MSM*.

Table 3: HIV Seroprevalence among MSM in Latin America and the Caribbean.

SUB-REGION	COUNTRY	LOCATION	DESCRIPTION OF POPULATION	HIV PREVALENCE	SAMPLE SIZE	YEAR(S)	REFERENCE	OBSERVATIONS
ANDEAN AREA	Bolivia	La Paz	«MSM»	14.6	48	99/00	Russell, 2000b	
	Colombia	Bogotá	«MSM»	20.4	643	99/00	Russell, 2000b	
	Colombia	Bogotá	«Bisexual»	15.8	N.E.	1994	García et al., 1996	
	Ecuador	Quito	«MSM»	10.7	244	99/00	Russell, 2000b	
	Ecuador	Guayaquil	«MSM»	28.4	102	99/00	Russell, 2000b	
	Peru	Lima	«Homos./bisex.»	11.2	98	1985	Rojas et al., 1986	Mean age: 29
	Peru	Lima	«Homos./bisex.»	6.5	124	1988	Cáceres et al., 1991	Jan - April 1988
	Peru	Lima	«MSM»	13.3	2158	2000	Russell, 2000b	
	Peru	Lima	«MSM»	14.2	4883	1999	Russell, 2000b	
	Peru	Provinces	«MSM»	5.5	3101	2000	Russell, 2000b	
	Peru	Provinces	«MSM»	4.9	1413	1999	Russell, 2000b	
	Venezuela	Isla Margarita	«Gay men»	25.0	N.E.	1994	Castro de Batánjer 1996	
	Venezuela	Not specified.	«Homosexual»	30.8	315	1992 (2)	Echevarría 1992	
BRAZIL	Brazil	B. Horizonte	«Homos./bisex.»	6.6	167	1994	Viana 1996	18 - 59 a. Oct. 1994
	Brazil	B. Horizonte	«Homos./bisex.»	9.0	570	1994	Carneiro 2000	Baseline Preval. in Cohort
	Brazil	R. de Janeiro	«Homos./bisex.»	9.2	98	1994	Lago 1996	Age 18 - 50
	Brazil	R. de Janeiro	«Homosexual»	8.9	313	1996(?)	Surratt 1996	Age 18 - 50 Until June
	Brazil	R. de Janeiro	«Homos. IDU»	32.2	59	1996	Surratt 1996	
	Brazil	R. de Janeiro	«Homos./bisex.»	11.0	753	1995-1997	Ramos 199	Baseline Preval. in Cohort
	Brazil	Salvador	«Homos./bisex.»	10.0	550	1989-90	Ribeiro 1993	Jan 87 - Nov 90
	Brazil	Sao Paulo	«Homosexual»	13.9	453	1990-94	Luna 1996	Aug 94 - May 96
	Brazil	Sao Paulo	«Homos./bisex.»	10.8	1082	1994	Carvalho 98	Baseline Preval. in Cohort
	CARIBBEAN <sup>1</sup>	Cuba	Nationwide	HIV + Contacts	5.2	710	1986-88	Galbán 1989
Dominicana		Sto. Domingo	«Bisexual»	7.7	234	1994	Tabet 1996	Nov - Dec 94
Dominicana		Sto. Domingo	«Homosexual»	11.7	77	1994	Tabet 1996	Nov - Dec 94
Jamaica		Not specified.	«Homos./bisex.»	15.0	100	1986	Gayle 1993	
Jamaica		Kingston	«Homos./bisex.»	9.6	125	1985-86	Murphy 1988	
Martinique		Not specified.	«Homos./bisex.»	39.1	23	1988	Chout 1989	Age 17-70, Aug 87 - Jan 86
Tr. & Tobago		Not specified.	«Homos./bisex.»	40.0	100	1983-84	Bartholomew 1987	

«AIDS and Male-to-Male Sex in Latin America: Vulnerabilities, strengths and proposed measures»

Table 3: (continued)

SUB-REGION	COUNTRY	LOCATION	DESCRIPTION OF POPULATION	HIV PREVALENCE	SAMPLE SIZE	YEARS(S)	REFERENCE	OBSERVATIONS
CENTRAL AMERICA <sup>1</sup>	Costa Rica	San José	«Homos./bisex.»	4.9	143	1994	Bonifati 1994	Age 18-50, Jan - Mar 1994
	Honduras	Tegucigalpa	«Homosexual»	14.0	n.s. <sup>2</sup>	1989/92	Nuñez 1993	Age 18-89, 1992
	Panamá	Panamá city	«Homosexual»	3.1	287	1984/86	Reeves 1988	
MEXICO	México	Nationwide	«Homos./bisex.»	15.5	973	1991-96	Magis 1997	Epidemiological surveillance
	México	C. de México	«Bisexual»	2.6	884	1993-95	Terán 1996	CONASIDA Test center
	México	C. de México	«Homosexual»	31.6	1,444	1993/95	Terán 1996	CONASIDA Test center
	México	Guadalajara	«Homosexual»	29.2	267	1990	Preciado 1991	
	México	Nationwide	«TSM» <sup>3</sup>	13.6	712	1991-96	Magis 1997	Epidemiological surveillance
SOUTHERN CONE <sup>1</sup>	Argentina	Bs. Aires	«MSM»	13.3	724	99/00	Russell, 2000b	
	Argentina	Rosario	«Homos./bisex.»	11.2	659	1987-89	Rubio et al., 1989	
	Argentina	Not specified	«Homos./bisex.»	12.8	1,020	1991	Fay et al., 1991	
	Paraguay	Asunción	«Homosexual»	8.8	182	1987-90	Cabello et al., 1991	
	Uruguay	Montevideo	«Bisexual»	3.2	252	1996	Berriolo 1996	Age 18-65 April 1 - June 30
	Uruguay	Montevideo	«Homosexual»	2.6	154	1996	Berriolo 1996	Age 18-65 April 1 - June 30
	Uruguay	Montevideo	«MSW» <sup>3</sup>	13.4	187	2000	Russell, 2000b	
	Uruguay	Montevideo	«MSW»	17.8	241	1999	Russell, 2000b	

Sources: HIV/AIDS Surveillance Database, U.S. Bureau of the Census; publications of NMRCD, Lima; National Bureau on STD/AIDS, Brazil.

<sup>1</sup> There was no information available on HIV prevalence among MSM from Belize, El Salvador, Guatemala and Nicaragua, in Central America; from Chile in the Southern Cone; and from Anguilla, Antigua and Barbuda, Aruba, Bahamas, Barbados, British Virgin Islands, Cayman Islands, Dominica, Dutch Antilles, French Guiana, Grenada, Guadeloupe, Guyana, Haiti, Montserrat, St. Kitts and Nevis, St. Lucia, Surinam, St. Vincent and the Grenadines, and the Turks and Caicos Islands in the Caribbean.

<sup>2</sup> Not specified.

<sup>3</sup> Male sex workers.

In the Andean Region, studies on several populations, including MSM, have recently been conducted in Bolivia, Colombia, Ecuador and Peru by the US Naval Medical Research Center, Lima, in cooperation with local institutions (*Russell et al., 2000b*). Studies on MSM mostly show prevalences that range from 5% (in the provinces of Peru) to 28% in Guayaquil, Ecuador. The prevalence was 15% in La Paz, Bolivia (n= 48), 20% in Bogotá, Colombia (n= 643), 11% in Quito, Ecuador (n= 244), and 14% in Lima, Peru (n= 4883).

In Brazil, baseline surveys for three cohort studies carried out in Rio de Janeiro, Sao Paulo and Belo Horizonte found prevalences of 9 to 11% between 1994 and 1996 (*Ramos et al., 1999; Carneiro et al., 2000*). In the Caribbean, the best data come from the Dominican Republic, where the prevalence was 8 to 12% for 1994 (*Tabet et al., 1996*). In Central America, the most recent data we have is limited. The prevalence in Costa Rica was estimated at 5% in 1994 (*Bonifati, 1994*), and was reportedly as high as 14% in a sample in Tegucigalpa, Honduras (*Núñez, 1993*).

In Mexico, the most significant data come from sentinel studies in the framework of a nationwide epidemiological surveillance program. Prevalences were reported of 16% for homo/bisexual men and 14% for male sex workers for 1991 to 1996 (*Magis et al., 1997*). Finally, in the Southern Cone, the US Naval Medical Research Center, Lima, has also conducted studies in Argentina (the HIV prevalence was 13% in a group of 724 MSM in Buenos Aires) and Uruguay (on 241 male sex workers in Montevideo, with an estimated prevalence of 18% in 1999) (*Russell et al., 2000b*). We have no relevant data for Chile or Paraguay.

**Comparing seroprevalence in MSM populations with that found in heterosexual populations.** The seroprevalence data in Table 3 may be compared with available data for heterosexual populations or with those for the subpopulations typically used to assess the situation of the heterosexual population. For instance, the results of studies on pregnant women in several countries in the region listed in the HIV/AIDS Surveillance Database (*U.S. Bureau of the Census, 2001*), showed that in most countries (except Brazil, Dominican Republic, Jamaica, Honduras, and a few others with figures of 2% or 3%) seroprevalence figures are below 1%. This fact suggests that in the majority of the countries the epidemic cannot be considered *generalized*, and is *concentrated in MSM populations* (and, in countries like Argentina, Brazil and Uruguay, also in IDUs).

## HIV Seroincidence Data

Information on HIV seroincidence is available for Brazil and Peru only (see Table 4). In Brazil, three cohort studies were implemented in the cities of Rio de Janeiro (Praça Onze Cohort [Ramos *et al.*, 1999]), Sao Paulo (Bela Vista Cohort [Carvalho *et al.*, 1998]) and Belo Horizonte (Horizonte Cohort [Carneiro *et al.*, 2000]) from 1994 to 1999. The estimated incidence densities were 3.1 per 100 persons-year for the study in Rio (in a cohort of 753 men), 1.51 in Sao Paulo (in a cohort of 1,028 men), and 1.99 in Belo Horizonte (in a cohort of 470 men). In Peru, 1,140 men monitored in the Alaska Cohort from 1998 to 2000 showed a seroincidence density of 3.3 per 100 persons-year of observation (based on 5,166 persons-month) (Sánchez *et al.*, 2000). The estimated incidences in the four studies suggest moderately high HIV transmission rates in MSM in these countries, which underlines the need for continuous and more effective programmatic action.

Table 4: *HIV seroincidence density among MSM in Latin America and the Caribbean*

SUB-REGION	COUNTRY	LOCATION	DESCRIPTION OF POPULATION	DENSITY INCIDENCE <sup>a</sup>	SAMPLE SIZE	YEAR(S)	REFERENCE	OBSERVATIONS
ANDEAN REGION	Perú	Lima	«MSM»	3,3	1140	98/00	Sánchez et al, 2000	Alaska Cohort
BRAZIL	Brazil	Río de Janeiro	«MSM»	3.1	752	95/97	Ramos et al, 1999	C. Praca Onze Cohort
		Sao Paulo	«MSM»	1.51	1028	94/99	Carvalho et al, 1998	C. Belavista Cohort
		Belo Horizonte	«MSM»	1.99	470	94/99	Carneiro et al, 2000	C. Horizonte Cohort

<sup>a</sup> Number of new cases per 100 persons-year of observation.

## Generating better data: Strategies for HIV surveillance among MSM

In order to monitor the emergence and evolution of the HIV epidemic among MSM populations in Latin America, to have an idea of behavioural patterns that may increase transmission of the virus from MSM to other populations, and to have a record of the impact of future interventions, it is very important to improve access to quality information. Consequently, building on the logic proposed by UNAIDS for the development of second-generation epidemiological surveillance systems, we put forward guidelines for organizing epidemiological surveillance of HIV in MSM populations, in particular for the consideration of countries in the region that do not already do so or that do not obtain the necessary information from the systems in place<sup>6</sup>:

### Formative Research

It is not possible to implement a standardized surveillance system without first conducting formative research to identify variety and diversity of behaviours, determine points of access, and establish partnerships with organizations and individuals that are trusted by significant MSM populations. Therefore it is necessary to apply ethnographic approaches designed to provide a better understanding of the complexity of the sexual cultures of MSM. Such research typically includes observation, discussion groups, and in-depth interviews with key informants. Members of MSM communities should be involved at all stages.

«It is also essential to build key partnerships with institutions and individuals who can help facilitate access to MSM populations»

<sup>6</sup> The ideas mentioned here have been summarized and adapted from a section of *Surveillance among men who have sex with men*; McFarland, W, and Cáceres, C.. *AIDS* 2001, 15 (suppl 3): S23-S32 [15].

Since classic ethnographic research requires a lengthy time frame, the use has been popularised of rapid assessment procedures (RAPs) to generate information at the pace that public health measures demand. These procedures, which are fairly narrowly targeted, combine adapted standard anthropological techniques (interviews, observation, discussion groups) with small-scale surveys and secondary analysis of quantitative data. In preparation for HIV surveillance among MSM, RAPs are particularly helpful for reaching the community and also make it easier to design more representative surveys.

Formative research also makes it possible to identify a «universe» of points of access to MSM populations. This universe of social spaces (e.g. bars, discotheques, saunas, libraries, video clubs, public meeting areas, magazines catering for MSM, and internet web sites and chat rooms) can be used to prepare a sampling frame for probabilistic quantitative studies. It is also essential to build key partnerships with institutions and individuals who can help facilitate access to MSM populations (e.g. activists, gay and lesbian rights organizations, owners of commercial establishments frequented by MSM, AIDS services organizations and other community-based organizations, sexual health services, health authorities, and local governments).

## HIV/AIDS Case Reporting

AIDS case reporting is obligatory in almost every country in the region. The same is also true throughout most of the region for reporting cases of HIV infection that do not meet AIDS diagnosis criteria. However, many of these systems are, in practice, passive, due to a combination of low prioritisation and limited resources. Detection of HIV infections that do not qualify for an AIDS diagnosis occurs in a very small proportion of cases, for which reason it is not reported to any significant extent. As AIDS is diagnosed far more frequently, and because it is attributed greater importance, the value of case reporting statistics is higher; nevertheless, such value is limited to indications of very long-term trends in HIV transmission. Case reporting provides a numerator (AIDS cases) without a reference denominator. Improving reporting forms so that they can provide better information about probable mode of transmission would be ideal, as would be training those who diagnose or record cases to notify the health authorities, so as to avert a tendency toward either under- or over-diagnosis.

## Sentinel Surveillance

‘Sentinel surveillance’ refers to the implementation of reproducible, serial cross-sectional serosurveys on populations (in this case at risk from HIV), generally with samples selected on the basis of convenience (for example, STD clinic users). Frequently such surveys are anonymous, that is, they do not identify the participant, and are generally conducted on samples obtained in other studies in order to reduce biases resulting from the self-exclusion of some persons (for example, those who assume they will test positive and do not want to know the result). However, such strategy is considered unethical by those who think that HIV testing should not be conducted without providing counselling to participants before and after they receive the results. Linked (i.e. non anonymous) studies, on the other hand, make it possible to acquire information on sexual behaviour. It is generally assumed that samples included in sentinel studies belong to populations (in this case MSM) at risk from infection, and that monitoring them helps characterize trends in the general MSM population.

## Seroprevalence studies

The problems with finding suitable institutional forums for conducting sentinel studies with MSM, together with the difficulties of establishing the condition of MSM in such a way as to ensure the freedom and security of interviewees and interviewers, make it important to conduct baseline studies on HIV seroprevalence at the community level, with broader and/or more representative samples, aimed at validating estimates made using less expensive techniques; although the cost of these studies means that it is possible to carry them out only at certain intervals. Diverse sampling strategies may be used: *convenience sampling* (in accessible populations that are prepared to participate, although they may not be the most exposed to risk); *snowball sampling* (of persons referred by previous participants, particularly when homosexual behaviour is very stigmatised, or with very marginalized target groups); *quota sampling* (when the target group is segmented into significant subgroups and a fixed or minimum number of persons is used); *venue-based sampling* (which involves mapping places where MSM may be sampled sequentially or systematically); or *random time-place sampling* (in which the time variable is combined with the previous method if the ‘typical’ population varies according to day, week or time of

day). *Population-based sampling*, which contacts households in person or by telephone, has been designed for 'gay' neighbourhoods in North America but is not possible with MSM in the region because such neighbourhoods do not yet exist with the necessary population density, or the social climate in them does not permit generation of sufficiently valid information to justify the investment.

## Seroincidence studies

The interpretation of serial cross-sectional data (in other words, data which come from successive prevalence surveys) assumes that prevalence trends reflect recent trends in transmission, and that the relative prevalence of infection determines the relative risk of its acquisition. Frequently, these assumptions are not mirrored in MSM populations, making it necessary to measure infection incidence over time. The classic epidemiological research method for measuring incidence is the cohort study, which requires recruitment of large numbers of individuals at-risk, together with periodic serological follow-up to detect seroconversions. Obviously, owing to their high cost and the complex logistics involved, such studies are not very common. Fortunately, more and more alternative techniques are becoming available that enable acceptable incidence estimates, including testing of samples stored over time provided by groups of individuals (secondary retrospective cohorts: for example, samples collected for evaluation of reactivity to syphilis); joint analysis of samples collected from specific individuals over time at voluntary HIV testing centres (individually identified in an unambiguous manner, for example, with initials and date of birth); and, above all, *detuned* testing, which combines two enzymatic immunoabsorbent assays (EIA or Elisa) of different sensitivities, so that the less sensitive one (usually an older generation EIA) does not detect lower levels of HIV antibodies typical at the start of seroconversion, while the more sensitive one detects both older and recent infections. The estimated number of new cases makes it possible to calculate incidence. Despite its limitations and the fact that large numbers of samples are needed, this assay permits cross-sectional incidence estimates that have been validated in cohort studies.

## STI surveillance and behavioural surveillance

«...monitoring sexual behaviour trends, particularly those connected with risk practices, sexual partner recruitment patterns, and condom use, is a valuable source of information that, even in the absence of laboratory data, can make it possible to determine with a degree of accuracy the risk levels in a community...»

Sexually transmitted infections (STIs) are an 'objective' indicator of sexual risk, as well as a facilitating factor for HIV acquisition and transmission. Accordingly, measuring their incidence serves various purposes as regards monitoring the epidemic. STI surveillance has not been adopted as standard by most countries in the region, and when it is carried out information about sexual orientation is not usually requested. An HIV surveillance system among MSM could consider recording gender of the partners of persons who seek care for STIs, as well as better exploration of the possibility of rectal STIs and the inclusion of STIs in epidemiological studies carried out with MSM. In addition, in the framework of second-generation surveillance, monitoring sexual behaviour trends, particularly those connected with risk practices, sexual partner recruitment patterns, and condom use, is a valuable source of information that, even in the absence of laboratory data, can make it possible to determine with a degree of accuracy the risk levels in a community, contexts of greatest risk (usually associated with conditions of greatest social vulnerability), and the behavioural impact of preventive interventions. Behavioural surveillance may be tackled using the methods suggested above for seroprevalence studies.

## Estimating the size of the MSM population

The validity or broad applicability of surveillance data is limited when the size of the MSM population at-risk or of specific subpopulations is not known. The reason is that since the population denominator is unknown the scale of the phenomenon remains uncertain and, for the same reason, since the

subpopulation denominators have not been identified, it is hard to determine an appropriate proportion for each of them in the sample in order to arrive at a realistic estimate. Unfortunately, the social exclusion of homosexuality and the self-censorship it still implies, together with the diversity of identities and practices, and factors like migration and high mortality, make it enormously difficult to estimate the size of this population. In spite of that, there are a number of useful approaches that have been used in North America and northern Europe: a) the assumption that MSM constitute a fixed proportion of the adult male population, according to data from population studies on sexual behaviour that study homosexual experience; b) the capture-recapture method, which for specific locations (for example, the streets of a particular area of a city) uses two independent samples in which the proportion of coincidences (individuals contacted in both surveys) depends in part on how big the population is, making it possible to estimate its size; c) methods that combine various sources of data, such as the Holmberg component model, which included a census of homes inhabited by single male couples, epidemiological surveillance data on MSM living with HIV/AIDS; MSM who seek counselling and antibody testing services, number of services provided for the gay population, epidemiological surveys and expert opinion polls; (4) inclusion of this objective into broader random household surveys.

«Unfortunately, the social exclusion of homosexuality and the self-censorship that it normally implies, together with the diversity of identities and practices, and factors like migration and high mortality, make it enormously difficult to estimate the size of this population.»

## Ethical concerns

Despite its enormous importance, the generation of information on the HIV epidemic in MSM and other socially excluded populations should take into account their vulnerability and avoid causing negative repercussions to them as individuals (for example, physical, emotional, or legal consequences as a result of the loss of privacy) or in the community (for example, political repression resulting from publication of ethnographies of sexual activity in public spaces, or the limitation of resources to 'punish' MSM populations for their 'promiscuity'). For both ethical and technical reasons the health authorities should always bear in mind the potential repercussions of their activities, particularly their media

policy. Furthermore, if promises were made in order to gain access to a population, honouring them is crucial to ensure the legitimacy and sustainability of surveillance among MSM populations. It is necessary to look beyond the academic interests of research at social responsibility, in order to improve the epidemiological situation described here. Therefore, information should be shared with all those who can use it to implement positive interventions, starting with the communities directly involved.

«Special ethical considerations are required with particularly vulnerable MSM, such as minors, ethnic minorities and migrants, prison inmates, transvestites and transsexuals, sex workers, and drug users.»

Efforts should also be made to offer individual participants benefits to reward them for their service to society (for example information, counselling, treatment of HIV infection and associated illnesses). Given that in much of the region universal access to highly active antiretroviral treatment (HAART) does not exist, consensus should be reached with local MSM communities to establish the standards of treatment that should be available to those who find out about their infection through their participation in surveillance programs. Special ethical considerations are required with particularly vulnerable MSM, such as minors, ethnic minorities and migrants, prison inmates, transvestites and transsexuals, sex workers, and drug users. In areas where the legal framework does not adequately protect their human rights, measures should be avoided that might expose them to any undesirable situation.

## Conclusions

- Analysis of the HIV epidemic in MSM in Latin America and the Caribbean points to a complex scenario in which stigma and social exclusion have fuelled an epidemic which, given the proportion of this population that has become infected, developed AIDS, and died, could be fairly described as devastating. Gay men and other men who have sex with men have been the group most severely affected by this pandemic in the region, and they remain the most vulnerable to HIV infection and the disease and death that are the secondary consequences thereof. Despite being a minority they have accounted for a high number of AIDS cases and there are firm indications that many cases reported as the result of heterosexual transmission were probably caused by male homosexual transmission.
- The HIV epidemic, defined by UNAIDS as *concentrated* in MSM populations in the majority of urban centres, with prevalences ranging from 5% to 20%, and still high incidence rates that fluctuate between 1.5 and 3.3 infections per 100 persons-year of observation (in the countries for which such data are available), urgently requires a clear, effective, and concrete response. Moreover, failure to implement a timely intervention to deal with the epidemic in MSM may permit synergies to develop with parallel HIV/AIDS epidemics (particularly among female partners of some MSM).
- There is very little reliable information about HIV prevalence and incidence, STIs, and, in general, about sexuality, risk, and vulnerability in this population. All of this points to the need to continuously generate more and better information based on rigorous and culturally appropriate research conducted in accordance with the recent UNAIDS recommendations on *second-generation surveillance*. Such information would make it possible not only to monitor trends in the epidemic, but also obtain a better idea of the circumstances that favour its expansion and collect evidence of the impact of any interventions carried out.
- Epidemiological surveillance should be organized on the basis of proper formative studies. It is also essential to involve the community in the surveillance. Furthermore, recognizing the limited value of case reporting (which, at any rate, requires review and improvement), it is

necessary to use sentinel studies and, where possible, seroprevalence studies that are more representative; it is also important to explore the option of measuring HIV incidence (especially if the possibility exists of employing new techniques that use cross-sectional methods to obtain estimates), and to incorporate components of STI monitoring and surveillance of behavioural trends.

- Any surveillance measures should, however, avoid causing harm at the individual or community level as a result of the stigma associated with homosexuality or HIV, and their legitimacy should be ensured by using the information produced to take action in concert with MSM communities. Where possible, individual benefits should be offered to participants, including an acceptable standard of care for HIV infections detected by the system (in countries where no universal treatment exists), with special care taken with the more vulnerable MSM groups.

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