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Toward a more Effective Policy Response to AIDS

David Anderson

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Introduction

Policy & Research Papers are primarily directed to policy makers at all levels. They should also be of interest to the educated public and to the academic community. The policy monographs give, in simple non-technical language, a synthetic overview of the main policy implications identified by the Committees and Working Groups. The contents are therefore strictly based on the papers and discussions of these seminars. For ease of reading no specific references to individual papers is given in the text. However the programme of the seminar and a listing of all the papers presented is given at the end of the monograph.

This policy monograph is based on the seminar on 'Aids Impact and Prevention in the Developing World: the Contribution of Demography and Social Science' organized by the IUSSP Working Group on AIDS, the Fondation Marcel Mérieux and the Centre Jacques Cartier, held at the Centre Les Pensières, Annecy, France, from 5 to 9 December 1993

The rationale for that seminar lay in the observation that preventing unwanted children and avoiding infection with human immunodeficiency virus (HIV) have much in common. As an obvious example, social marketing to promote regulated sexual activity and condom use is an important strategy for achieving both goals. This being the case, the specialized research techniques that were developed to inform successful family planning programmes throughout the developing world can contribute much to understanding and combating the pandemic of HIV and AIDs.

Seminar participants presented and discussed 27 studies. Most were conducted in Africa and Southeast Asia. All applied sexual practices survey techniques and qualitative investigative methods to key problems in HIV and AIDS. The findings point the way for AIDS policy and planning to move beyond the current status quo.

Beyond Present Policy Constraints

Policies to minimize the impact of AIDS must address three contexts: the response to prevention and control measures; the morbidity, mortality and social consequences resulting from HIV infection; and the current and future trends of the pandemic. At present, outstanding questions limit decision-makers' ability to act effectively in all three.

Control and prevention: The most successful policies and programmes to date have markedly lowered rates of new infection in small well-defined populations or have slightly inhibited the growth rate of new infections in general populations. None has rolled infection rates back sharply in a large or general population.

How can programmes transcend this limitation of scale? A conception of target groups which includes of broad sociological dynamics as well as epidemiologically proximate behaviours brings into play more factors which affect AIDS transmission and are potential loci for interventions (Figure 1). Numerous examples of this principle are discussed below.

Measuring consequences of infections: The World Health Organization (WHO) estimates that people infected with HIV currently number 14 million. Ninety percent live in the developing world, primarily in Sub-Saharan Africa and South Asia. AIDS-related mortality has already reversed infant and child mortality gains in some countries and will undoubtedly slow population growth in some. Some analysts maintain and others deny that national HIV seroprevalence may reach 30% in some countries, a level which would produce enough AIDS deaths to reverse population growth and cause population decline. Given the very existence of such a discussion, how can policy-makers hope to fit their response to the magnitude of the epidemic? There is also a dearth of understanding of how current and future infections will affect the individuals who suffer them, their families and the higher order social institutions to which they belong.

Newly refined methods of demographic analysis translate data on epidemiologic variables such as HIV seroprevalence rates into population consequences that policy-makers can use to plan their responses. In addition to morbidity and mortality rates for whole populations and groups, they shed light on what may happen to such important processes as fertility, migration, orphanhood and dependency, marriage and household formation.

Measuring trends: Despite all that is known about the determinants of vulnerability to HIV infection, epidemiologists have not been able to anticipate where the disease will go next. Scientists in Europe and the United States do not understand why well-established epidemics have remained sequestered in homosexual, intravenous drug-using and prostitute populations. In contrast, epidemics have taken many other nations by surprise.

How can governments tailor prevention programmes appropriately to the size of the threat? Sexual practices surveys and studies of sexual networks can provide the data necessary to convert epidemiologic models from merely theoretical cons-tructs to sound bases for policy-making.

Control and Prevention

In the absence of a medical cure, the only way to curtail most AIDS-related morbidity and mortality is to prevent new cases. With no effective vaccine on the near horizon, the only available means to achieve this goal is to identify personal behaviours that promote transmission of human immunodeficiency virus (HIV) and persuade people to change them.

WHO recommends that AIDS control programmes centre their efforts on teaching people to be selective in their choice of sexual partners and to use condoms. Some populations - for example, North American and Australian homosexuals - have adopted both behaviours. Prostitutes in Thailand have responded extremely well to condom marketing campaigns, with one brothel reporting 93% protected intercourse during the week previous to a recent survey. Ugandans have largely rejected condoms, but may have reduced their sexual contacts. Studies presented in Annecy explored the social factors that determine such varying responses. The findings revealed powerful and intricate social dynamics which can help or hinder the success of prevention programmes.

A high rate of acceptance of condoms for family planning in Thailand undoubtedly set the stage for Thai prostitutes' and their clients' readiness to use them. The background in Uganda was very different. In a 1987 survey in a rural area, only one man in 10 and only one person in 25 had ever used a condom.

Prostitutes anywhere may be well disposed to using condoms at work. Male and female prostitutes interviewed in sites as diverse as England, Brazil and the Dominican Republic said they used condoms with clients upwards of 79% of the time. Some clients, however, resist. In Thailand, some agreed to condoms but surreptitiously broke them. As prostitutes are at high risk for acquiring and transmitting HIV, finding ways whereby they can require clients to use condoms may have a substantial effect on case incidence. Such programmes will have optimal leverage where laws against buying and selling intercourse are equally strong.

Some evidence suggests that commercial sex workers may represent the extreme example of a more general principle: In any population, individuals who engage in relatively profuse sexual activity - a critical group for HIV prevention - may be more likely to heed messages to protect themselves with condoms. The impressive modification in sexual behaviours among homosexual men in North America provides an example. As an example from the developing world, in Ife-Ife, Nigeria, where 18% of men and less than 3% of women were currently using condoms, 57% of men who reported having had five or more sexual partners said they had used a condom at least once. Men's condom use was associated with a history of sexually transmitted disease (STD), and women were more likely to use condoms to avoid STD than for family planning.

Higher prevalence of condom use by prostitutes and others with numerous sexual partners, especially individuals who have had STDs, exacerbates a problem of condom social marketing. People may shun condoms because they associate them with promiscuity and degraded relationships. In fact, even prostitutes in the three-country study cited above felt that not using condoms with a steady lover was an important signifier of the special intimacy of the relationship. Even to attempt to use one might be construed as a sign of betrayal. Another study found that Tanzanian men who maintained one primary relationship while also taking other lovers held similar attitudes and patterned condom use accordingly.

In rural Uganda, investigators documented a persistent 'gross distrust' of condoms linked to cultural and religious beliefs, including an association with promiscuity. Despite a fierce epidemic and intensive AIDS educational campaigns, a study cohort attested to a mere six-point rise in the prevalence of condom use between 1987 and 1992. Although high migration rates among infected people and the advancing age of the cohort renders the interpretation somewhat uncertain, they apparently preferred partner reduction. Compared to 1987, in 1992 only

half as many of the men who remained in the cohort (12% versus 25%) reported having intercourse with two or more partners during the previous half year.

The variability of responses to condom and partner reduction campaigns highlights the need to attune policies and programmes to the reigning attitudes and beliefs in each specific cultural and social setting. An immediate implication is the crucial importance of including representatives of target groups in goal setting as well as programme design and implementation. A cluster of studies illuminated issues influencing the impact of policies directed at three important groups: women, adolescents and commercial sex workers.

Women

Worldwide, the majority of women who have HIV were infected by their husbands. This inference emerges clearly from a compilation of national studies of extramarital sex. The data showed that, compared to men, women were one-half to one-third as likely to have had sex with someone who was not their spouse.

Wives have very limited ability to autonomously control their personal risk of HIV. When researchers in Ife-Ife, Nigeria, asked men and women to name ways they might protect themselves from AIDS, both sexes cited alterations in male behaviour. Men said they could avoid infection by using condoms with outside lovers. Women said they would be safe if men stayed away from outside lovers. These women, like a group asked a similar question in northeast Thailand, did not identify any changes they could make on their own.

Wives' restricted ability to reduce their vulnerability to HIV is one manifestation of the relative powerlessness of women in general to avoid exposure to the virus. Limitations on women's control over their own and male family members' sexuality - as well as varying degrees of defenselessness against unwanted sex - exist in nearly all societies. Frequently, they intertwine with rules constraining women's rights to hold property, to perform work outside the household, and to vote and exercise other legal rights of adults.

Box 3: Women and Contraceptive Promotion

Many campaigns have focused on women as promoters of condoms, based on a widespread impression that women who were able to do so would impose condom use on their men. Yet a consideration of the various motives for having intercourse, together with the various costs of using condoms, suggested that depending on the setting, women may or may not favour condoms more than men do. At least one study bears this out. Researchers in Kwazulu/Natal found that male and female teenagers faced equally strong opposition when they tried to persuade sex partners to use condoms.

Roles and activities for women in HIV prevention have not been well defined. After extensive communal discussion, villagers in northeast Thailand decided to use funds provided by the government to produce and broadcast audio dramas aimed at fostering women's authority to inquire about their husband's sexual activities and insist upon use of condoms. Overall evaluation of the results of the programme are still pending, but researchers reported that some individual women have reported positive changes. Despite this encouraging result, the assumption that women are more eager to use condoms than men may not always hold (See 'Women and contraceptive promotion', in Box 3)

Clearly, policy-makers need to seek ways to increase women's capacity to keep themselves free of HIV. Given the antiquity and complexity of gender rules, planners need communal guidance to identify workable options. Women will provide the most salient critiques of the pertinent social arrangements. Men need to participate too, inasmuch as improvements in women's status imply alterations in men's situation.

Adolescents

Adolescents who become infected with HIV will die as young adults, given current survival rates. It is ominous that the young adult mortality rate is one of the indicators most heavily affected by AIDS. These deaths are crucial for the social impact of AIDS. Just when society has paid the final instalments of its investment in the child, they cancel the anticipated return in workers, parents, citizens and leaders.

Every year about 100 million youths become sexually active. The partnering patterns they develop at the start of their sexual lives have enduring significance for their risk of HIV. The younger a person is at first intercourse, the more partners he or she is likely to take at all ages. In light of this fact, certain social norms have ominous significance. For example, male youths in northern Thailand typically spend time with prostitutes as a rite of passage. In some African cities, schoolgirls exchange sex with older men for money for school fees and extras.

Box 4: Making Abstinence Appeal

Fashioning an abstinence message to be coherent with existing social mores can be problematic. An analysis of data from Demographic and Health Surveys (DHS) regarding women's sexual initiation in seven sub-Saharan countries illustrates why. Women in these countries today wait longer to marry than did their elder sisters. The average girl remains a virgin longer, presumably because of this rising age at marriage together with social disapproval of premarital sex in some of the countries. Yet overall, today's unmarried young women engage in more sexual activity than past generations. That's because the emphasis on premarital absti-nence has lost ***some*** *of its force.*

In such fluid social contexts, campaigns that attempt to dissuade young people from early sexual activity must speak explicitly of the danger of infection with HIV and other STDs. Some young people may respond to messages encouraging them to place a traditionally high value on virginity before marriage, but such a message runs counter to pervasive trends. Further, tradition usually inveighs much less against male than female sexual activity in this as in other stages of life.

A potentially very powerful policy is to attempt to persuade young people to delay their sexual initiation. In communities which permit the dissemination of sexual information to children, the optimal programme begins by addressing preadolescents. Choosing the right message can be a delicate affair (See 'Making abstinence appeal', in Box 4)

Sooner or later, youths will begin having sex. Steps must be taken to provide them with information about HIV and ways to protect themselves. Peer groups may be especially strong mechanisms for inducing adolescents to modify their behaviour. The injunction to calibrate interventions to the prevailing culture and engage target group members in goal-setting is highly pertinent with adolescents. Researchers in Kwazulu/Natal tried school assemblies and peer focus groups as means to influence a teenage population with high rates of sexual activity to use condoms. They attributed the poor response to the subjects' having absorbed attitudes from their parents and the society at large. These included celebration of male sexual prowess and a focus on fertility as the emblem of female identity.

Commercial sex workers

Commercial sex workers in certain settings have HIV infection rates as high as 70% or more. Their extreme vulnerability can result in their own decimation and affect the rate of spread of infection in other groups. This remains true in countries where HIV infection has reached overall levels sufficient to sustain the epidemic in the general population.

Reducing the size of the commercial sex industry will have an important limiting effect on the HIV epidemic and is a plausible policy goal. Trade in sex exists everywhere, but its intensity is nevertheless sensitive to events, laws and social norms. In Thailand, for example, there has been an explosive increase in commercial sex work since the 1960s. In this period, policies concentrating economic growth in the cities have produced extensive poverty in the countryside. Many women from rural areas cannot get enough work locally to make their traditional contributions to family income. Those who migrate to cities find few opportunities compared to men, but most can make some money and some can earn high incomes as prostitutes. Typically, parents or the women themselves accept a cash advance in return for a specified term of service in a brothel.

Stimulation of the rural economy and expansion of women's job options may begin to curb the influx of Thai women into prostitution. Analogous economic and social policies will be appropriate in many places where a link can be drawn between regional or class poverty and recruitment into prostitution. There will be a need to work extensively in some communities that traditionally have sent young women into prositution (See 'Communal roots of prostitution', in Box 5).

Commercial sex workers comprise a strikingly heterogeneous group. Men and women interviewed in England, Brazil and the Dominican Republic told researchers about their niches in the sex trade. Variously motivated by financial need, financial ambition and the satisfaction of exciting desire, they offered services to their own or the opposite sex or both. Working full time, part time or only during intermittent financial crises, they found clients in brothels, bars or in the streets. They conceived of their sexual identities according to their choice of primary partner, who might or might not be of the same sex as their clients. In the Dominican Republic, women who resorted to prostitution occasionally to obtain extra money for their families experienced little social stigma. In contrast, a group of physically marked women called 'scarfaces' were outcasts sought out by violent clients.

Box 5: Communal Roots of Prostitution

A study conducted in Bangkok concluded that programmes to expand women's economic opportunities in areas of recruitment for prostitution may have relatively superficial impact unless the communities also reexamine some of their values. Of 678 commercial sex workers inter-viewed, a few said they had been deceived into their present situation and 10% could find no other work, but three out of every four professed to be positively motivated by a desire to earn money. Seventy-seven percent said they sent money home to parents, siblings or relatives, sometimes for necessities, but often for the purchase of consumer items - such as refriger-ators and television sets - that confer prestige. They felt little or no social stigma attached to their work. Given these attitudes, elevating the standard of living in these women's home villages might raise the price of commercial sex work without greatly reducing the labour supply.

Policy-makers need to direct communal attention to the ways that value systems - such as consumerism in northern Thailand - contribute to the toll of HIV. They can initiate and assist communities in discussion, even though the communities themselves must ultimately find their own ways to reformulate social codes that have adverse human and health conse-quences.

The heterogeneity of types and conditions of commercial sex work complicates access and approaches to HIV prevention in sex workers. Policy-makers have easiest access to those with highly structured situations, such as those who work in brothels. One strategy for promoting condoms, treatment of STDs or other practices, is to persuade brothel owners to make them policy. Some owners exercise near-total control over their workers' lives. They may cooperate out of consideration for their workers' health or from skittishness when confronted by authorities.

The heterogeneity of sex work also creates gradations of risk of HIV. Sex workers who charge less and rely on a higher volume of clients to make their living are likely to have higher rates of infection with all STDs, including HIV. They also tend to be the most difficult for planners to reach with prevention efforts.

An essential component in every programme to promote behavioural change is an effort to learn how the target population conceptualizes HIV and AIDS. Every group harbours some notions that can impair a programme's success if they are not refuted. In Nigeria, for example, survey respondents believed that AIDS might be acquired from mosquitoes, kissing, and various other casual and indirect contacts. Obviously, people will feel less motivated to take inconvenient precautions such as the use of condoms as long as they believe they may still get HIV in so many other ways.

Radio, television and newspapers are handy ways to reach a great many people and obvious tools for disseminating information and exhortations about HIV and AIDS. Caveats apply to mass media campaigns in developing countries. They may reach only a limited and selective public. In Tanzania, for example, 74% of men listen to radio every week and 46% read newspapers, but the corresponding figures for women are only 46% and 25%, respectively. Before starting a campaign, national planners can refer to their country's Demographic and Health Survey for data on the proportions of their population that are literate or listeners.

After a 1987 survey revealed that many Mexicans were uninformed or mis-informed about HIV, the governmental agency CONASIDA initiated an educational campaign on television. They created and broadcast a series of messages, ranging from rather vague to quite explicit, to inform people about modes of viral transmission. Follow-up surveys demonstrated that people could repeat the content of the messages, but that they had not adopted safer sexual behaviours. The lesson to be learned is that mass media campaigns need to be supplemented with grass roots, face-to-face interventions to persuade people to translate their new knowledge into actions to lower their risk of HIV infection.

The use of mass media maximizes the danger that some groups or individuals will take offense at open discussion of subjects which violate their standards of decency or decorum. In Mexico, for example, the Catholic church sued to suppress CONASIDA's campaign. The agency's experience illustrates that political courage is a clear prerequisite for any programme that attempts to communicate with masses of people about sensitive and deeply embedded behaviours such as those that determine HIV transmission. Ministries of Health require commitment from central governments to be able to carry out programmes of sufficient scope to slow the epidemic. When such backing is given, controversies may actually facilitate educational efforts. CONASIDA found that publicity about the church's lawsuit resulted in vastly increased awareness of the infomercials.

In addition to behavioural change programmes, WHO recommends concerted efforts to diagnose and treat all STDs. Not only is AIDS itself a fatal STD, but HIV transmission during a sexual act is estimated to be 10 to 100

times more likely if one of the partners has some other STD. The high prevalence of STDs in the developing world thus makes them a major contributor to the spread of HIV.

Arguments have been advanced for combining family planning, maternal and child health and STD services in comprehensive reproductive health facilities. The idea has a sound basis in the overlap of themes, concerns and techniques - such as the use of condoms - in family planning and STD prevention. Provision of STD diagnosis, advice and counselling at such centres would extend these services to the large number of women who avoid existing freestanding clinics because of concern for their reputations or fear of their husbands.

These considerations notwithstanding, each nation and area needs to decide what configuration of STD, family planning and women's health services is best suited to its own mores. The potential needs to be weighed that the stigma of STDs will be extended to family planning if the two services are combined. The limitations of both material and human capacities are also highly relevant.

However they are organized, family planning services need to be able to provide answers to women who have questions about HIV. Any clinic that provides family planning without reference to STDs and HIV fails to provide its clients with necessary information. For example, couples cannot make a fully informed selection of a contraceptive method unless they take into account condoms' relatively weak protection against pregnancy **and** their superior efficacy at preventing STD transmission.

Measuring Impact

The AIDS pandemic poses problems in myriad dimensions for ministers in charge of all sectors:

- Today, two-thirds of the hospital beds in some African cities are occupied by AIDS referrals. Health ministers with limited budgets confront difficult dilemmas of how to care for these patients as well as patients with other illnesses for whom few beds remain.
- The generation of AIDS orphans is unrelenting. Social services and education ministers must arrange housing, care and education for these youths.
- The disease is reducing the work force. Labour and economics ministers must prevent these losses, together with the corresponding increase in the dependency ratio, from reversing progress.
- The pandemic creates helplessness and distress that are potentially conducive to discrimination, exploitation and social unrest.

To mount an effective response, planners must know how many people are infected and how many are dying. The best system for attaining accurate sero-prevalence estimates consists of ongoing sentinel surveillance in antenatal clinics supplemented by additional sampling in high-risk populations. The proportion of pregnant women who are infected is usually slightly higher than the overall rate of infection in the general population, which includes children and older people whose risk is lower because they are sexually inactive or less active. Supplemental serum sampling in populations at enhanced risk documents important deviations from the overall rates.

The most direct way to estimate mortality from a disease is to register and count deaths. As many as 98% of AIDS deaths in the developing world may go unrecorded, however, because people don't seek hospital care, or migrate back to their home villages to die, or entreat their doctors to falsify the death certificate to spare their families from potential stigma. Women, children and rural people are often least likely to be recorded as having died of AIDS.

The second best technique for estimating death rates from AIDS is to pool data on seroprevalence and the average time between infection and death. This interval is divided into two segments, the average incubation time to development of symptoms, and the average survival time with symptomatic disease. In the developing world only the incubation period matters, however, because survival time with AIDS is negligible.

The scant data collected to date suggests that AIDS incubates much faster in developing than in developed countries. In rural Uganda, researchers documented a death rate of 44.7% among subjects who were infected 1987 and whose whereabouts could be determined in 1991. Forty percent of the original infected group was lost to follow-up, moreover, and there are good reasons to suspect that deaths may have been even more common among these missing individuals. Based on these figures, the researchers estimated the average AIDS incubation period among their subjects to be seven years. Studies in other populations have put the figure at less than five years.

Planners can obtain a rough estimate of impending mortality from AIDS simply by dividing the seroprevalence by the average time to death. For example, suppose the infection rate in a population or group is 10% and mean life expectancy with the disease is five years. Then it is likely that 2% of the group will die during the next five years. This method assumes that the infection rate in the group remains stable during the five years. If it rises, more will die.

The death rate that usually changes the most due to AIDS is that among young adults, which will double or triple in any area with 10% HIV seroprevalence. This same seroprevalence among childbearing women will result in enough intrauterine transmission of HIV and resultant child deaths to reverse most countries' recent gains in child mortality. Some areas have already experienced increases of 40 to 50 annual deaths per thousand children under five years of age.

A full measure of AIDS mortality includes deaths the disease causes indirectly by driving up tuberculosis infection rates, depriving small children of their parents, straining the health care system and numerous other mechanisms. To date, little has been learned about the size of these effects.

The social and human consequences of AIDS will be even more imposing than the morbidity and mortality. The disease exerts its most immediate and devastating effects within households. A study underway in three countries - Ivory Coast, Burundi and Haiti - is built around 360 individuals with symptomatic AIDS. The researchers intend to chart the fortunes of the patients' families during one year. Their preliminary report draws attention to the decline in income as the patient loses economic viability and family members devote increasing time to care.

Another new study is focusing on funerary practices and other indicators of the household impact of AIDS in 51 Tanzanian villages. Preliminarily, there are suggestions that people are increasing participation in traditional cooperative savings schemes and abandoning some funerary traditions in an attempt to cope with the economic costs associated with AIDS. Where communities possess such mechanisms of adjustment, planners may avail them for efficient delivery of assistance.

Orphans are a major concern. Sixty-seven of 131 orphans found in a rural area in Uganda had lost their parents to AIDS. The researchers noted that children of HIV-infected mothers were actually most likely to die while their mothers were still alive. The reason was that the mother became too sick to care for her children some time before succumbing to AIDS, but the community waited until after her demise to step in and help them. Findings like this, when relayed back to communities, can stimulate quick action to remedy gaps in care. The same study found evidence that the extended family system in the village was beginning to be overburdened by the large number of orphans. School attendance had declined and discipline was breaking down in some families.

Studies in Tanzania and Nigeria independently found that men and women were infected with HIV in equal proportions, but women were infected at younger ages. This pattern may be general throughout Africa. It is fraught with implications for family structures and fertility.

Estimating How the Epidemic Will Move

In the 12 years since the discovery of HIV disease, the virus has typically invaded national populations in two stages. An abrupt establishment of high levels of infection in special subgroups is followed by linking up of these local epidemics into a general pandemic. The Botswanan experience of a trebling of national seroprevalence from 11% to 33% over only three years is characteristic of the swiftness and intensity of the initial onslaught, which has also been observed unfolding in Thailand, Nigeria, Trinidad and elsewhere. In Thailand, sero-prevalence among intravenous drug users leaped from 3% to 53% in the same time period.

The only available tools for scientifically forecasting the spread of HIV and AIDS are epidemiologic disease models. These mathematical constructs can generate accurate estimates of future HIV infection rates in a population. To do so they require input on two critical variables: the **population exposure rate** and the **disease transmission rate**.

Population exposure rate

The population exposure rate measures the frequency with which people who do not yet have HIV infection - and who therefore are susceptible - engage in activities where HIV might be transmitted to them. Worldwide and in developing countries, the main determinant of the population exposure rate is the frequency with which people who are infected with HIV have sexual intercourse with people who are not yet infected and therefore susceptible. Blood transfusions given in locales where the blood supply is contaminated and gestations in the wombs of mothers who have the virus are the next most common types of exposures.

Exposures are most likely to occur when a person who belongs to a group with a high prevalence of infection has sexual intercourse with someone from a group with a low prevalence. When both partners come from high-risk groups, a relatively strong likelihood exists that both are already infected. When both come from low-risk groups, the chances are better that neither has the virus to pass on to the other.

Most whole populations have rather low prevalence of infection. Nevertheless in many countries in Africa and some parts of Asia rates of infection in the general public are probably at a high enough level to sustain the epidemic independently of contact with the higher-risk groups. Hence controlling the epidemic within higher-risk groups will not eliminate it from the general population.

Disease transmission rate

The disease transmission rate measures an uninfected person's probability of becoming infected during each episode of an activity that carries a potential for exposure. Determinative factors include the practice of anal or vaginal sex, the concentration of virus in the infected person, the virulence of the viral strain and whether or not either partner has a sexually transmitted disease other than HIV. The geographic pattern of AIDS in Africa has fuelled the hypothesis that lack of male circumcision may be a cofactor.

To know where these two rates stand is to comprehend where the pandemic is heading. In practice, they are difficult to estimate with any confidence because each represents the net effect of many factors. Whether or not a person is exposed to HIV and whether or not HIV is transmitted to him or her depends on complex interactions between viral properties, personal characteristics and behaviours, group dynamics, social conditions and cultural traditions.

The models nevertheless identify the most important areas for study. On a population level, the concept of exposure lends great significance to information about sexual networks.

Consider a young woman who migrates from her birthplace in northern Thailand to work in a Bangkok brothel. Upon arrival she is the representative of a relatively low-risk population to one with high risk, and she is likely to be quickly exposed to HIV. Like many women, she returns to her home village after a few to several years in the city. Now she is a member of a high-risk population - commercial sex workers - in a community with relatively low risk. When she has intercourse, there is again a relatively high index of risk of exposure.

To the extent that this woman's course is common among women of her background, she typifies a sexual network that will directly affect rates of HIV in her village. Of course, her network also interlinks with those of everyone with whom she engages in intercourse.

The sexual practices survey techniques developed in connection with family planning can be elaborated and used for investigating sexual networks. The questions are more sensitive and the approach accordingly more cautious. Sampling clusters are less dense in order to keep neighbours from learning the subject of the inquiry. Fewer interviewers have the knack of establishing a rapport with respondents that elicits answers. People demand a more personal and solid reason why they should participate.

With these stipulations, most people are willing to answer detailed personal inquiries about intercourse. They only need assurance that their answers will be kept strictly confidential and used to help people avoid contracting STDs.

Faulty recall and other problems can bias the results of surveys of sexual practices related to HIV. These technical problems parallel those that arose and were solved during the development of surveys related to family planning. A review of large-scale studies using several alternative validation methods concluded that the results appeared solid.

Conclusions

Individual avoidance of risky behaviours is ultimately the only way tens of millions of people can safeguard themselves and their loved ones from HIV and AIDS. Yet the limited success of HIV programmes to date underlines the fact that people can modify their behaviours only so much while their circumstances and the social pressures that impinge upon them remain unchanged.

Social scientists have begun to supply the detailed information programme designers need to define target groups and send the right messages in the right ways to the right people. A fundamental principle is to involve representatives of target groups in goal-setting and programme design. At the same time, the objectives and approach must be based on sound epidemiological principles.

Demography is well positioned to capitalize upon the insights of ethnography and epidemiology. Sexual Practices and Knowledge, Attitudes and Practice (KAP) surveys situate epidemiologic truths in the complexity of human behaviour. Simultaneously they parlay ethnographic observations into population profiles that set the stage for practical interventions. With additional demographic input, policy-makers can anticipate the effects of AIDS on populations and societies and make sound preparations for the future.

Aids Impact and Prevention in the Developing World: The Contribution of Demography and Social Science

List of the papers presented at the Seminar on 'Aids Impact and Prevention in the Developing World: the Contribution of Demography and Social Science' organized by the IUSSP Working Group on AIDS, the Fondation Marcel Mérieux and the Centre Jacques Cartier, held at the Centre Les Pensières, Annecy, France, from 5 to 9 December 1993

Keynote addresses

- 'AIDS: State of our knowledge: the epidemiology of HIV/AIDS' by Arnaud Fontanet
- 'HIV transmission and the balance of power between men and women: a global view' by Karen Oppenheim-Mason

Session 1: Direct and indirect effects of AIDS on mortality and households

- 'The impact of HIV/AIDS on adult and child mortality in the developing world' by John Stover
- 'The impact of AIDS in a Ugandan community over a 5-year period' by Joseph Konde-Lule, A. Sebina, G.W. Kibirige
- 'Impact of adult deaths from AIDS and other fatal illnesses on the cultural practices of local people in the Kagera area, Tanzania' by George K. Lwihula, Mead Over
- 'Impact of AIDS on household and family structures and economics' by Nathalie Bechu, Eric Chevallier
- 'Mathematical model simulations and empirical estimates of the impact of HIV-1 on orphanhood in Sub-Saharan Africa' by Simon Gregson, G. Garnett, Roy M. Anderson, R. Shakespeare, G. Foster

Session 2: Sexual behaviour: Issues of measurement and reliability

- 'Reliability and validity of survey data on sexual behaviour: preliminary results of field tests' by Lola Dare, John Cleland
- 'The evaluation of surveys of sexual behaviour: a study of couples in rural Senegal' by Catherine Enel, Gilles Pison, Emmanuel Lagarde
- 'Measure of sexual behaviour: lessons from recent studies' by Benoît Ferry

Session 3: Cross-cultural variations in sexual behaviour

- 'Reported extra-marital sex: a cross-national study: implications for STD/HIV transmission' by Michel Carael, John Cleland
- 'Sexual initiation and premarital childbearing in Sub-Saharan Africa' by Dominique Meekers
- 'Six years of AIDS campaigns in Mexico: sounds of silence or bridge over troubled waters?' by M. Bronfman, B. Rico, C. del Rio

Session 4: Sex workers and their clients

- 'Trust, power and responsibility: a study of sexual behaviour, prostitution and HIV in three cultures' by Pamela Gillies, Maudemarie Clark
- 'AIDS risk behaviours and sexual networks of male and female sex workers in Bali, Indonesia' by Kathleen Ford, P. Fajans, D.N. Wirawan
- Session 5: Migration and commercial sex in Thailand
- 'The role of migration in the spread of HIV/AIDS in rural northeast Thailand' by Ann Larson, M. Haswell-Elkins, D. Elkins, E. Maticka-Tyndale, et al
- 'Migration and the commercial sex sector in Thailand' by Kritya Archa-Vanitkul, P. Guest
- 'Sociocultural context of commercial sex workers in Thailand: an analysis of their family and client relations' by Chai Podhisita, Anthony Pramualratna, Uraiwan Kanungsukkasem, Maria Wawer, Regina McNamara
- 'Northern Thai male culture and the assessment of HIV risk' by Graham Fordham

Session 6: The social dynamics of HIV transmission in Africa

- 'The nature and limits of the Sub-Saharan AIDS epidemic: evidence from geographical and other patterns' by John C. Caldwell, P. Caldwell
- 'Gender and the lost generation: the dynamics of HIV transmission among black Southern African teenagers in Kwazulu/Natal' by Eleanor Preston-Whyte

Session 7: Future research priorities: Panel discussion

- Panellists: John Caldwell, Michel Carael, Chai Podhisita, Joseph Konde-Lule

Session 8: Relationships between HIV-prevention, family planning programmes and health delivery systems

- 'Relationship between AIDS and family planning programmes: a rationale for developing integrated reproductive health services' by Saroj Pachauri
- 'Sexual behaviour, social change and family planning among men and women in Tanzania' by Naomi Rutenberg, Ann Blank, Saidi Kapiga
- 'Patterns of sexual behaviour and condom use in Ife-Ife, Nigeria: implications for AIDS/STD prevention and control' by Lisa Messersmith, Thomas Kane, A.I. Obebeyi, Alfred Adewuyi

Session 9: Experiences with HIV prevention campaigns: case studies

- 'A case study of the peer education model in AIDS prevention in the Philippines' by Aurora Perez
- 'A research-based HIV health promotion intervention for the mobilization of rural communities in Northeast Thailand' by Eleanor Maticka-Tyndale, Melissa Haswell-Elkins, David Elkins, Thicumporn Kuyyakanond, Monthira Kiewying
- 'Experience with HIV prevention campaigns in Uganda: a case study of the Rakai project' by K. George-Washington

Session 10: Policy implications: panel discussion

- Panellists: David Anderson, Katele Kalumba, Werner van den Bulk