

# Selected Aspects of AIDS among Homosexual Men

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## Introduction

Acquired immunodeficiency syndrome (AIDS) is now an enormous pandemic. As of September 1, 1988 the World Health Organization documents 111,854 [1] cases of AIDS worldwide and estimates that 250,000 cases have actually occurred. As of September 12, 1988 the United States reports 72,766 of these cases [2], and, as of September 30, 1988 Switzerland reports 605. Although AIDS is not a disease restricted to any one specific group, homosexual and bisexual men are a particularly important group with respect to the epidemiology of the disease in western nations. Because of the extensive literature on AIDS, especially concerning homosexual men, this report is not an attempt at a comprehensive review of homosexuals and AIDS, but a brief summary of some important and interesting points.

## History/Overview

The first reports related to what we now know as AIDS were in June of 1981 of the unusual occurrence of *Pneumocystis carinii* pneumonia (PCP) in Los Angeles [3] and in July of that same year of Kaposi's sarcoma (KS) and PCP in New York and California [4]; all the cases referred to in these two reports were young homosexual men. Shortly thereafter, reports indicated that cases were occurring among women and men other than homosexuals [5], but the majority of reports and research in the first several years of the epidemic focused almost exclusively on homosexuals. Prior to the term acquired immunodeficiency syndrome, the disease had been referred to at the "gay plague", "gay pneumonia", and "GRID" (gay related

immune deficiency) [6]. Although the first actual cases were reported in 1981, evidence exists that cases occurred in the decades prior to that time; the first such case was a man in 1952 in the United States [7].

While the scientific community now unanimously recognizes that AIDS is not just a problem among homosexuals, the early emphasis on homosexuals and the stigmatization of this group in many areas, irrespective of AIDS, have combined to lay a heavy burden of increased prejudice and social disruption among homosexuals throughout the world.

Of the 591 adult cases reported in Switzerland 55.3% (327) are among homosexual or bisexual men who do not use intravenous (IV) drugs; in Europe the figure is 55.1% (7,689 of 13,943) [8]; and in the United States it is 63% (43,908 of 70,044) [2]. In Switzerland there are an additional 2.5% (15) who are homosexual or bisexual and do use IV drugs; in Europe an additional 2.4% (337) and in the United States an additional 7% (5,116). The figures presented in the remainder of this paper concerning homo-bisexual men will exclude men who use IV drugs. (They could be included and no important points would change. However since there is evidence that in many areas the prevalence of AIDS and HIV infection is higher among IV drug users than among homo-bisexual men (including in Switzerland [9]), we felt that keeping these exposure ("risk") groups separate would make a clearer report; also there is another report in this issue concerning AIDS among IV drug users). In addition, we do not distinguish between homosexual and bisexual men in this report, but consider them as one group.

The risk profile in Africa is markedly different from

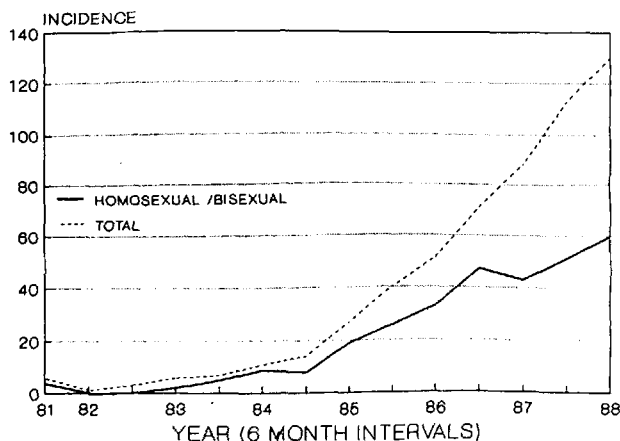


Fig. 1a. "AIDS Incidence in Switzerland".

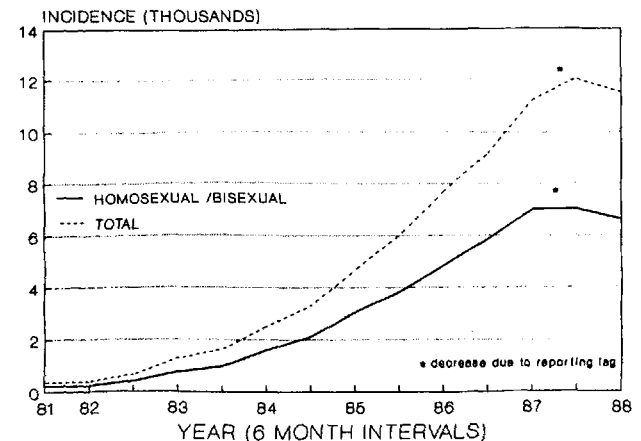


Fig. 1b. "AIDS Incidence in the United States".

the United States, Switzerland, or the rest of Europe. Africa is defined by the World Health Organization as a "pattern 2" area, where the sexual transmission of HIV is predominantly heterosexual [10]. From all available data, neither homosexual contact nor IV drug use appears to play an important epidemiologic role in HIV transmission in Africa.

Figure 1 shows the total incidence (number of new cases) and incidence among homo-bisexual men of AIDS for both Switzerland and the United States. In the United States there is a fairly steady rise in cases from 1981 on. In Switzerland the rise from 1981 to the middle of 1984 was much slower, but then began increasing rapidly. Figure 2 shows the proportion of all cases in each 6 month interval who are homosexual or bisexual. In Switzerland, the proportion rises to .82 in 1984 and then falls to .50 in the first half of 1988. While the decreasing trend from mid 1984 on is statistically significant ( $p = 0.0003$ , chi square trend test), the initial rise is not ( $p = 0.09$ ).

However, in the United States, the proportion of homosexual among all cases has remained remarkable

stable at around .63 and only in the most recent period appears to be decreasing (.58 in the first half of 1988). Because of the long time from HIV infection to frank AIDS (median estimates for homosexual men are around 11 years [11]), most of the observed AIDS cases to date were infected before prevention/education measures would be expected to have had an impact. Therefore the decrease in the proportion of homosexuals in Switzerland probably reflects later infection among other groups, notably IV drug users, or other factors rather than the impact of any prevention programs.

**Risk Factors**

Because AIDS was first recognized among homosexuals, and because they remain the dominant patient group, much of the understanding (and misunderstanding) of the risk factors for HIV infection is based on homosexual populations. After the first 70 cases were diagnosed the United States Centers for Disease Control (CDC) initiated a small case-control study of AIDS in 1981 [12]. This study generated evidence that AIDS was a sexually transmitted disease; numbers of male sex partners, and meeting such partners in bath-houses were the two variables most strongly associated with AIDS. Conclusive evidence now exists that AIDS in homosexual men is indeed predominantly a sexually transmitted disease. Other work around the same time [13] generated some evidence that amyl-nitrate inhalants (poppers) or other drugs were associated with infection. That association is now thought to be spurious. Poppers are associated with large numbers of partners, and large numbers of partners are associated with AIDS but, poppers are not causally associated with AIDS. Since then many studies have been initiated to investigate the epidemiology and natural history of AIDS and HIV infection.

The largest population based study of HIV infection is the San Francisco Men's Health Study (SFMHS) [14]. This study is being carried out in the area of San Francisco where the incidence of AIDS was the highest in 1983, the Castro district. In this study at baseline, June 1984 to January 1985, 48.5% (386 of 796) of all the homo-bisexual study subjects were HIV positive. The study documented, along with other studies, the strong association of large number of partners and HIV infection and the high risk of receptive anal intercourse as well as the low risks of insertive anal intercourse and insertive or receptive oral-genital intercourse. The study also indicated the significantly increased risk of infection associated with rectal douching, a finding observed in other studies and observed for risk of infection with hepatitis-B among homosexual men [15]. While no studies have demonstrated statistically significant increased risk of infection from insertive anal or oral intercourse, there have been a number of reported seroconversions among individuals who engaged in only these practices during the period of probable infection [16, 17]. Many

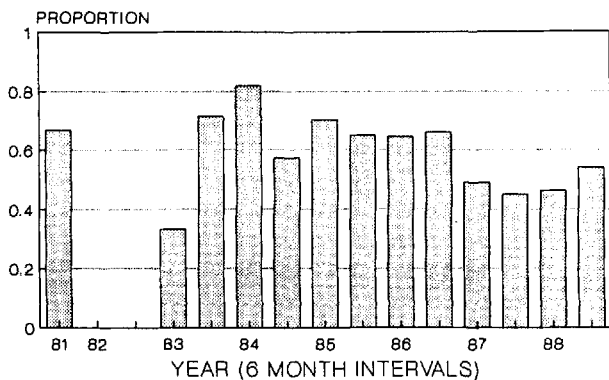


Fig. 2a. "Proportion of Homosexual Men Among All Swiss AIDS Cases".

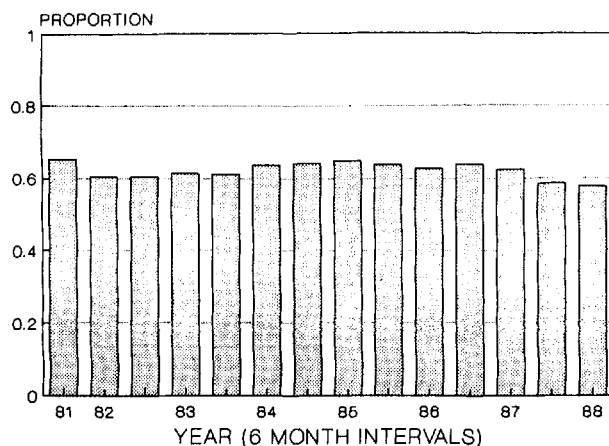


Fig. 2b. "Proportion of Homosexual Men Among All US AIDS Cases".

studies, including the San Francisco Men's Health Study, have also elucidated much of the clinical spectrum of disease associated with AIDS and HIV infection. It is a tribute to modern epidemiology that so much is already known about the epidemiology and natural history of AIDS and that this information has been disseminated in a way which has enabled its rapid incorporation into prevention and education programs.

### Education/Prevention

However, as has been well documented, the institutional response to AIDS, particularly in the United States was tragically slow [6]. Largely because of the stigmatization of homosexuality (and IV drug use) the response to the initial signs of a serious epidemic were almost non-existent. Although AIDS cases and deaths were rapidly mounting, the funding for AIDS research remained far less than that for the relatively minor problems of toxic shock syndrome or legionnaire's disease. However, some groups, including the Centers for Disease Control and homosexual men in San Francisco and New York, did organize early and pushed for increased research funding and quality treatment facilities. Because of the highly identified and politically powerful gay community in San Francisco, organizations, including the San Francisco AIDS Foundation and Shanti Project, quickly formed and developed effective education and prevention materials and support groups for homosexual men.

Among nations, Switzerland was active very early with its response to AIDS, including being one of the first nations in the world to send information to every household in the country (in March, 1986). In June, 1985 Swiss gay organizations, conscious about the need for organized prevention efforts among homosexuals, established the Swiss AIDS Foundation, now a nationwide organization involving drug abuse experts, prostitutes, hemophiliacs and others, as well as homosexual men. Soon after its founding, the Swiss Federal Office of Public Health became a member of the foundation, and has been the primary source of financial support since then. This close link of private and public institutions for health promotion is an historic development in Switzerland.

The Swiss AIDS Foundation prevention campaign for homosexual men consists of three clear items. (1) "The Hot Rubber Campaign", the promotion of condoms with marketing techniques specifically targeted at homosexual men; (2) "The Safer Sex Campaign" with two direct messages aimed as sexual behavior changes, "Don't screw without one", and "no sperm in the mouth" and; (3) "Let's talk campaign", the distribution of information by small group discussions. In 1986 the Swiss AIDS Foundation in collaboration with the Swiss Federal Office of Public Health also developed educational materials for the entire population and in 1987 initiated the large scale STOP AIDS campaign [18].

Although universal "safer sex" guidelines for homosexual men have not been established, there is agreement that intercourse with multiple partners, particularly anonymous partners, should be avoided and, that if anal-genital intercourse is practiced, a condom should always be employed (except within a monogamous couple where HIV serostatus is known as negative). The guidelines generally recommend avoiding oral-genital intercourse where semen is received orally.

Recent studies have documented decreases in "high risk" activities among homosexual men in San Francisco [19, 20], New York [21] and The Netherlands [22]. Some of the decrease is undoubtedly due to prevention/education materials and some is due to knowledge gained directly from the experience of the epidemic itself. In many areas many homosexual men, while having seen numerous pamphlets and programs on AIDS, have also known friends with AIDS and have seen them suffer and die. (Estimates indicate 40% of Swiss gay men know someone with AIDS and 60% know someone HIV positive) [23].

The San Francisco Men's Health Study has reported the dramatic drop in the sexual practices associated with the spread of HIV infection and the associated drop in the rate of new infection. If the serostatus of an individual's partner is unknown there are two main ways we can consider HIV being spread. Firstly, if an HIV infected man engages in insertive anal intercourse with his partner, he may infect his partner. Secondly, if an HIV non-infected man engages in receptive anal intercourse, he may become infected. Figure 3 shows the proportion of men in the SFMHS, by serostatus, engaging in these practices with 2 or more of their partners. At baseline 39% of the HIV positive individuals engaged in insertive anal intercourse with 2 or more of their partners. This dropped to 8% in the most recent time period. Similarly, at baseline 14% of the HIV negative individuals engaged in receptive anal

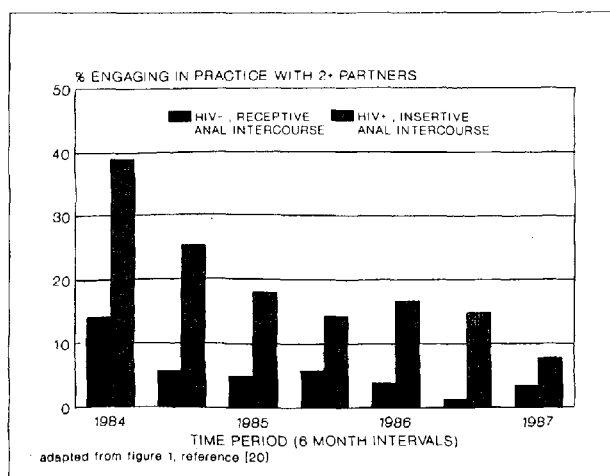


Fig. 3. "Practices Associated with the Spread of the HIV Epidemic: San Francisco".

intercourse with 2 or more of their partners and this dropped to 3% in the most recent period. The declines in both categories over the 7 six month intervals were highly significant ( $p < .0001$  for both). Along with these declines the study had documented declines in the (annualized) seroconversion rate. From an estimated rate of 18% in 1982 the observed rate fell to 6% in 1985 and further to the current rate of less than 1%. Similar drops in seroconversion rates associated with decreased high risk practices have been documented in other studies [22].

### Conclusion

The Swiss Federal Office of Public Health has consistently attempted to integrate our epidemiologic analysis of AIDS and HIV data with the prevention programs with which we are associated. Similarly, throughout many areas of the world where the wrath of AIDS has been felt, there has been productive cooperation between many disciplines of public health including epidemiology, biostatistics, health education, and behavioral sciences.

While hopeful progress has been made, a tremendous, coordinated effort will still be required for decades to come, particularly for groups less responsive to education measures than homosexual men. No vaccines or antiviral treatments for HIV are currently available. If none are found, a majority of individuals infected with HIV will develop AIDS [24] and virtually all AIDS cases will die within several years. Millions of individuals are already infected and these individuals are infectious for some, if not most of their period of infection. We are in the midst of a devastating plague and must learn from the experiences, strength and organization of homosexual and bisexual men.

### Summary

This report is a brief summary of important points concerning AIDS and homosexual men. We present the current overall figures of the cumulative AIDS incidence for Switzerland, the United States and the world and similar figures for homosexual men in Switzerland, the United States and Europe. A brief history of the epidemic is included with focus on the role of homosexual men. The main risk factors for acquiring HIV infection among homosexual men, including large numbers of sexual partners, receptive anal intercourse and rectal douching, are mentioned with emphasis on results from «The San Francisco Men's Health Study». The development of education and prevention programs is outlined along with the role in these areas of The Swiss AIDS Foundation and Swiss Federal Office of Public Health. Decreases in high risk sexual practices and decrease in seroconversion rates are also discussed.

### Résumé

#### Quelques aspects du SIDA chez les hommes homosexuels

Ce travail est un condensé des connaissances les plus importantes sur le SIDA et les hommes homosexuels: les données actuelles de l'incidence cumulée du SIDA en Suisse, aux USA et dans le monde, pour l'ensemble de la population et pour les hommes homosexuels sont présentées. L'histoire de l'épidémie de SIDA, avec un éclairage particulier sur le rôle des hommes homosexuels, est brièvement récapitulée. Les principaux facteurs de risque de contamination, tels

que le grand nombre de partenaires sexuels, l'analisme réceptif et le «rectal-douching» sont présentés à l'exemple de la «San Francisco Men's Health Study». Le développement des programmes d'information et de prévention est esquissé, ainsi que la part qu'y ont pris l'Aide suisse contre le SIDA et l'Office fédéral de la santé publique. Enfin, la régression des comportements à risque et la baisse du taux des séroconversions sont commentées.

### Zusammenfassung

#### Einige Aspekte von AIDS bei homosexuellen Männern

Die vorliegende Arbeit ist eine Zusammenfassung der wichtigsten Erkenntnisse über AIDS und homosexuelle Männer: Die aktuellen Daten der kumulativen AIDS-Inzidenz in der Schweiz, den USA und weltweit, insgesamt und für homosexuelle Männer, werden präsentiert; die Geschichte der AIDS-Epidemie, mit besonderem Augenmerk auf die Rolle der homosexuellen Männer, wird kurz rekapituliert. Es werden die hauptsächlichsten Risikofaktoren, die zu einer Ansteckung führen können, wie die grosse Anzahl Sexualpartner, der rezeptive Analverkehr und das «rectal-douching» am Beispiel der «San Francisco Men's Health Study» vorgestellt. Die Entwicklung der Aufklärungs- und Präventionsprogramme wird aufgezeigt, sowie die Rolle, welche die AIDS-Hilfe Schweiz und das Bundesamt für Gesundheitswesen dabei spielen. Schliesslich werden der Rückgang von Risikoverhalten und der Rückgang der Seroconversionsraten diskutiert.

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