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Social And Behavioural Aspects Of The Prevention Of HIV/AIDS In Australia: A Critical Review Of The Literature

Priscilla Pyett
Senior Research Assistant, Centre for Health Program Evaluation

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Social and Behavioural Aspects of the Prevention of HIV/AIDS in Australia: A Critical Review of the Literature

1 Introduction

This literature review refers to Australian studies published in academic journals and books during the years 1978 to 1990. The focus is on the social and behavioural aspects of the prevention of HIV/AIDS.

1.1 Method and scope of the review

The indexes in the following Australian data bases were searched, using CD-ROM:

- Australian Public Affairs Information Service (APAIS)
- Family (index compiled by the Australian Institute of Family Studies)
- Edline (index in the field of education)

As well, the following international data bases were searched:

- Social Sciences Index
- Sociofile
- Medline
- Education Resources Information Centre (ERIC)
- Psychological Abstracts

More than four hundred articles or book chapters were identified. These might not constitute the complete body of published material. For example, an article by Burcham *et al*, published in the *Medical Journal of Australia* in 1989, is cited in Connell *et al* (1989), but it did not appear in any of the data bases. It may be that Medline does not index Australian journals as thoroughly as it does other journals. It was decided to restrict this review to the material indexed on the above data bases, with the addition of some articles mentioned by other authors which appeared to be important but which had not been indexed.

Over half the articles that had been indexed as dealing with HIV/AIDS were excluded from this review because they were primarily about clinical aspects of HIV/AIDS, treatment and health care, costs, policy issues, ethics or legal aspects. About two hundred articles focused largely on the knowledge, attitudes and practices of the Australian population as a whole or of various sub-populations. Copies of almost all of these articles were obtained, as well as some conference papers which had been referred to by several authors and which therefore could be assumed to report important findings.

It would appear that current Australian research is not adequately covered by the published literature. There may be a number of reasons for this, apart from the inevitable delays in academic publishing. In some cases, researchers may have made their material available to interested individuals before it was ready for publication. A more thorough review of Australian studies would need to incorporate also unpublished research.

Another omission is that this review of Australian material has not been put in an international context. It would of course be of interest to establish whether overseas research into sexual and drug-using behaviours report similar findings to Australian studies, bearing in mind the differences in social, political, economic, legal and cultural factors.

1.2 The research questions

The studies were analysed to obtain answers to the following questions:

- What is known about the attitudes and behaviours that put people at risk of HIV/AIDS?

- What is known about specific groups of people whose behaviours may put them at risk of HIV/AIDS?
- What is not known? Which groups have not been researched? Which attitudes and behaviours are least understood?

1.3 Overview

As of October 1990, 87% of all known AIDS cases in Australia had occurred as a result of male homosexual transmission of HIV. This percentage has remained fairly constant for a number of years (National Centre in HIV Epidemiology and Clinical Research, 1990:5; Dowsett, 1990:186). Therefore, not unexpectedly, most of the published studies relate to homosexual or gay men, their knowledge of and attitudes towards HIV/AIDS, their sexual practices and changes towards safer sexual practices since the onset of the epidemic. The quality and usefulness of these studies varies considerably. Some were long-term and in-depth research studies, whereas others were poorly planned and hastily conducted surveys of non-representative samples of various population groups. Specific criticisms of methodologies are contained in Section 4.1, so only general comments are made here.

Some Australian social research into the transmission and prevention of HIV/AIDS has been methodologically innovative and extremely valuable. The Social Aspects of the Prevention of AIDS (SAPA) is a reflexive and practice-based study (Connell *et al*, 1989, 1990); the study of 'beats' (public places where men obtain casual sex) in Western Sydney (Bennett *et al*, 1988a, 1988b) and the study which made use of 'memory-work' in exploring heterosexual negotiation of sex (Kippax *et al*, 1990) are also notable.

However, there are serious methodological problems with many other studies. Whilst many of these problems are often recognised by the researchers themselves, others who use their findings frequently fail to point out these limitations. For instance, Abbott's (1989) survey of young women in the ACT is widely cited. Abbott herself warned that the study is based on a non-representative sample of female students in Canberra secondary and TAFE colleges. However, Greig and Raphael cite the study as a 'survey of 16-18 year old women from Canberra' and 'the Canberra study where 93% of the female teenagers...' (1988:25); and Waters cites Abbott in support of statements about teenagers in general (1989:26).

Given the perceived urgency of the HIV/AIDS threat, the rush to publish research that is admittedly flawed is perhaps justifiable, particularly when the authors advise caution. However, there is an unfortunate eagerness on the part of some researchers and commentators to cite and generalise the findings from samples that were not representative, and to describe attitudes or patterns of behaviour that have been identified through questionable or unreliable methods. For example, Wolk *et al* (1990) conducted a study of 181 intravenous (IV) drug users, most of whom were attending treatment agencies and were thus not representative of the total population of IV drug users. The authors recognise that:

> It is extremely difficult to extrapolate from some of the results of this study because of the small number of respondents after subdivision into groups such as seropositives and ex-prisoners (1990:456).

However, although there were only twelve HIV+ ex-prisoners in their sample they nonetheless decided to do an analysis of this sub-group. They report that 17% of the HIV+ ex-prisoners in their sample (2 of 12) had used IV drugs and shared injection equipment while in prison (1990:455).

For this review, the methodology of each study was assessed in order to establish the relevance of its findings. The findings reported in Section 2 are considered to be valid in relation to the group that was studied. Individual studies should be consulted before any generalisations beyond the particular study sample are made.

2 FINDINGS

Major pieces of research and key findings relating to the topic are discussed under each topic heading. Appendix I lists references cited in the review, and Appendix II lists additional references, both lists being organised under the same topic headings as in the review.

2.1 The general population

A literature

review was produced by the Australian Institute of Family Studies (AIFS) in 1989. Compiled by Rollins, it identifies the major changes in patterns of community behaviour, and the groups which are most at risk of HIV infection. Rollins (1989:56) concludes that

> community patterns of sexual behaviours have been changing since the 1950s and particularly since the marketing of the contraceptive pill and the sexual liberation movement of the early 1970s.

No single study stands out as particularly useful for comparative purposes, but data from various studies can provide insights into some of the sexual attitudes and practices of the Australian population or sections of it.

In Bell's 1974 Australian study of 1442 self-selected (and better educated) women of all ages, 72% said they had had coitus before marriage and at an average age of 18.5 years (in Rollins, 1989:3-4). In 1977, data supplied to the Australian Royal Commission on Human Relations revealed approximately 10% of boys and slightly fewer girls had had sex before age 16 (Rollins, 1989:4) while Kovacs *et al*'s 1981-2 study of young women attending a Family Planning Association (FPA) clinic (and thus likely to already be sexually active) found a similar figure of 10% of girls having had intercourse before age 15, and that 50% of the young women attending FPA for the first time had had intercourse before age 18 (in Rollins, 1989:8).

Possibly the most useful source of baseline data is the 1981-2 Australian Family Formation Study of the AIFS. This national survey of 2544 persons aged between 18 and 34 years showed over two thirds of all males and also two thirds of females born in Australia and other English-speaking countries and Western and Eastern Europe were sexually experienced by age 18, but that figures were lower for female respondents from other countries and for males from South-East Asia. Attitudes to marriage and to living in *de facto* relationships also differed according to ethnic origin (Khoo, 1985, in Rollins, 1989:7-8).

A 1988 longitudinal study of young people in four countries found that 80% of Australians between the ages of 18-34 years said they had had sexual experience by the age of 18 and 80% said they were 'coitally experienced' by age of 19 years (Goldman and Goldman, 1988, in Rollins, 1989:12). Rollins comments that the discrepancies between the Goldmans' findings and those of the AIFS study conducted during the same time period cannot be accounted for by the available data (1989:12).

Rollins discusses a number of Australian journalistic surveys of sexual behaviour which have serious

methodological deficiencies but which nevertheless contribute to our overall knowledge of Australians' sexual behaviour and attitudes. The *Dolly* magazine surveys are problematic not only because of sampling but also in the use of undefined, difficult and ambiguous terms (Rollins, 1989:53). The *Dolly* readership consists mainly of 11-19 year old females. Of those who chose to respond to the 1983 survey, 78% claimed to have had their first sexual intercourse between 14 and 17 years of age and in the 1988 survey, 89% of respondents claimed to have had sexual intercourse by 17 years and 95% by 18 (Rollins 1989:10). These figures are considerably higher than those in either Khoo's or Kovacs *et al*'s studies quoted above, which is particularly surprising in relation to Kovacs *et al*'s study of the already sexually active. The self-selected sample of *Dolly* respondents may represent the more sexually active young women in the population.

In 1985 a *Cleo* magazine survey analysed what it calls a 'cross section' of the 4000 women who were 'provoked' to respond. Of these women, 51% claimed to have experienced sexual intercourse by age 16 and 80% by age 18 (Rollins, 1989:11). The Adelaide *Advertiser* received 2343 responses from women to its 1988 survey which was, according to Rollins (1989:54), characterised by an element of bias toward negative heterosexual experience. Of the women who responded, 32.4% claimed they had been unfaithful during a long-term relationship and 16% said they knew their current partner had been unfaithful. Only 7% of the women said they had had 'one-night stands' in the past twelve months and only 27% of these said they had used a condom (Rollins, 1989:12).

Whilst a number of studies have explored various aspects of female sexual behaviour, research into male heterosexual behaviour has yet to be undertaken.

Rollins (1989:50-55) makes some valuable comments on the methodological problems inherent in research into sexual attitudes and behaviours as well as the particular methodological problems that characterise the Australian research (see below, 4.1).

The Australia Market Research 1987 survey of awareness, knowledge, attitudes and behaviour in Australia prior to the launch of the NACAIDS educational campaign (known as the 'Grim Reaper' campaign) was intended to provide benchmark information to assist the development and evaluation of the campaign. Although much of the survey deals with knowledge of AIDS, perceptions of and attitudes toward AIDS and AIDS risks, as well as toward homosexuals, drug users, AIDS sufferers and so on, some questions on sexual behaviour, condom use and drug use were included.

Using a 'sealed envelope' technique to obtain answers to these sensitive questions, the NACAIDS survey found that of 16-24 year olds, 74% of females and 80% of males said they had (ever)

had (heterosexual) sex and 72% of the females and 75% of the males said they had had (heterosexual) sex in the past 12 months. Only 25% of these young males and 9% of the young females said they had had multiple partners in the last 3 months. Of the total adult population, 90% said they had (ever) had (heterosexual) sex and 80% of males and 81% of females said they had had (heterosexual) sex in the past 12 months. Only 14% of adult males and 6% of adult females said they had had multiple partners in the past 3 months (Australia Market Research, 1987:32-3).

Asked about sex with a partner of the same sex, 6% of both 16-24 year old males and adult males said they had had sex with a male partner and 2% of the 16-24 year old males and 3% of the adult males said they had done so in the past 12 months. Only 1% of female 16-24 year olds and 4% of adult females said they had had sex with a female partner and only 1% of the adult females said they had done so in the past 12 months (Australia Market Research, 1987:32). Asked about their sexual preference, 92% of males and 87% of females said the opposite sex; only 5% of males and 3% of females gave the same sex as their preference and only 2% of males and 1% of females gave both sexes; some said 'neither' and 4% of females gave no response (Australia Market Research, 1987:104).

Only 4% of all respondents said they had had anal intercourse in the last month with very little difference between different age or sex categories (Australia Market Research, 1987:33,103).

A large-scale survey of the Australian population was conducted in early 1987 to investigate the prevalence of risk factors for HIV (Ross, 1988a). Ross acknowledges some of the problems with the reliability and validity of the data. Bennett *et al* (1989a:310) have commented on the very low non-response rate of 'less than 5%' of the total sample who were unable to be interviewed, noting that the market research company that conducted the research did not release details of the refusal or non-contact rates. The survey found 11.2% of men reporting ever having had homosexual contact and 6.1% of men reporting such contact within the past year (Ross, 1988a). These figures are higher than those of the Australia Market Research survey but still lower than had been estimated previously (and lower than Kinsey's estimates). Similarly low figures are given for men having had sexual contact with prostitutes - only 19.2% (compared with Kinsey's estimate of 68.7%).

Dowsett (1990) observes that homosexual behaviour is likely to be seriously under-reported in surveys such as these, particularly in Australia which is regarded as strongly anti-homosexual. The actual extent of male homosexual activity remains unknown, but Dowsett argues that there is a continuum of sexual practice with different proportions of homosexual activity and that sexual practice is likely to vary (in intensity, orientation and so on) in different stages of a man's life and according to his relationship status.

The

Macquarie University AIDS and Heterosexuality Project (Waldby *et al*, 1990) examines representations of women in AIDS policy and seeks an understanding of the role of women in the prevention of AIDS. A variety of methods - interviews, surveys and the use of 'memory-work' - were used to explore men's and women's experience of sexual practice and the impact of HIV/AIDS.

Findings point to a strong relationship between a woman's degree of sexual experience with a number of different partners and her capacity to successfully negotiate 'safe sex'. Other aspects of the research have been devoted to analysing the points of resistance to 'safe sex' practice presented by male sexuality. Waldby *et al* point out that the active/passive dichotomy of legitimate heterosexuality, which facilitates reproductive sex, acts likewise to resist the adoption of 'safe sex'. 'The men don't want their virility compromised by using condoms and the women don't like to insist' (1990:181). This is supported by Chapman and Hodgson's (1988) earlier study of heterosexual attitudes to condoms (see below, 2.5.3). Waldby *et al* comment on the problems posed by the limits of the heterosexual couple's verbal exchanges around sexual practice: 'While homosexuality has a vocabulary with which to negotiate a wide range of sexual practice, heterosexuality is comparatively silent' (1990:182). This has obvious implications for HIV/AIDS prevention education strategies.

2.2 Australians most at risk of HIV/AIDS

The 1987 NACAIDS survey identified 21% of the adult population of Australia as at 'high risk' and 14% in the 'very high risk' category (Australia Market Research, 1987:105-6). However, some of the behaviours which were used to define risk in 1987 may not be so defined today (such as 'used a prostitute').

Australians whose behaviours were most likely to put them at risk of HIV/AIDS were, according to Rollins (1989:57): homosexual and bisexual youths and men, especially those who were not associated with the gay community, those who were less well educated, those who lived in less affluent suburbs or who were geographically remote from gay support groups, those who were under 25 or over 45 years of age, those who had poor self-image, those who saw themselves (not necessarily accurately) as monogamous or non-promiscuous, those whose alcohol or drug use was associated with sex and those who had not known a person with an HIV-related illness. Bennett *et al*'s (1989a, 1989b) and Palmer's (1988) studies confirm that men who are not open about their homosexual or bisexual activities were more likely to engage in unsafe sexual practices, including behaviours that placed their partners (both male and female) at risk.

The highest risk behaviour is clearly that of male-to-male sex. The second highest risk behaviour is associated with injecting drug use when it involves sharing needles or syringes.

2.3 Homosexuality and HIV/AIDS

2.3.1 Cohort

studies

The Social Aspects of the Prevention of AIDS (known as SAPA) is the largest and most important Australian study of the social and sexual behaviours of homosexual and bisexual men. The research focuses on the dynamics of social relations and social change and explores the emotional as well as the practical responses of the men in the study. This is a long-term research project informed by current social theories of sexuality and social practice, involving very complex and time-consuming fieldwork and highly sophisticated methods of analysis. The researchers are particularly concerned by the tendency in AIDS research to abstract behaviours from the personal and social context in which they occur. Sexuality, they argue, must be understood to be *inherently social*, not merely a biological phenomenon with a social context (Connell *et al*, 1990:189). SAPA consists of a number of major and associated projects conducted jointly by the AIDS Council of NSW and social scientists at Macquarie University and the University of Sydney. There are currently seven SAPA Reports by Connell *et al* and Kippax *et al*, together with four published articles by Connell *et al*, Connell and Kippax and Kippax *et al*.

The first stage of the study involved interviews conducted in 1986-7 with 535 homosexual and bisexual men in Sydney and in urban and rural NSW and the ACT. The sample was obtained using a variety of techniques such as advertising in the mass media and in the gay press, contacting men at gay venues and asking respondents for contact with other men in their sexual network. Working class men and men from non-English-speaking backgrounds are under-represented in the study but the researchers report that other characteristics of the sample resemble the wider population of adult men (Connell *et al*, 1989:386).

The SAPA study makes a crucial distinction between changes in personal relationships that have a sexual aspect and changes in the way sexual pleasure is achieved. The study found that most of the men had changed their sexual practices towards 'safer sex'. They were, however, less likely to have changed how they had sex with their regular partners than with casual partners. The changes consisted of having less frequent sex, having fewer partners and engaging in less esoteric sex (Connell *et al*, 1989).

The researchers studied the wider social context in order to identify social and cultural factors that were associated with behaviour change. A particularly significant finding was that there was no direct correlation between accurate knowledge of safe sex and the adoption of safe sex practices (see below, 2.11). The study found that substantial numbers of men assumed unsafe practices were safe within a monogamous relationship, or took more risks within close relationships (Connell *et al*, 1989:395). This finding is supported by a number of other Australian and overseas studies. Further explorations of respondents' use of terms revealed that 'monogamy' often signalled 'a primary emotional commitment rather than a total absence of other sexual contacts'. Connell *et al* observe that whilst total celibacy or absolute monogamy

within an HIV-free couple will prevent sexually transmitted infection, such absolutes are, of course, hard to maintain (1989:400).

The emotional dimension of change is seen by SAPA researchers as an important issue for HIV/AIDS prevention work; many gay and bisexual men are having to face bereavement and the loss of sexual pleasure as well as the threat of HIV/AIDS itself. Connell *et al* (1990) point out that anal intercourse is not only a source of erotic pleasure but has symbolic significance both in repressive laws against homosexuality and in gay men's claims for sexual liberation. Indeed, anal intercourse has major historical significance in the social construction of men's homosexuality. Furthermore, sexual practice and sexual pleasure do not exactly coincide. Thus, there are complex personal and cultural explanations for some men continuing to engage in unprotected anal intercourse.

The SAPA study has found that homosexual and bisexual men were more likely to engage in unprotected anal intercourse when they perceived anal sex as important, when they classified their relationship as monogamous, when they had more opportunities for casual sex and when they frequented venues where the making of sexual contacts was informally but definitely institutionalised (such as saunas and 'beats'). Safe sex, on the other hand, was associated with men who had significant social or sexual links with gay community life, men who belonged to a social network that had safe sex 'norms', men who had high levels of personal contact with the epidemic and, although less significantly, men who had been exposed to media information about HIV prevention (Connell *et al*, 1990). In the light of the powerful collective response to the HIV epidemic, the work of SAPA researchers is particularly valuable in identifying specific forms and patterns of continued risk behaviour.

Another long-term study being conducted in Sydney is The Sydney AIDS Project or Sydney AIDS Prospective Study. This is the largest cohort study of HIV infection in Australia. Since its commencement in 1984, 1076 homosexual and bisexual men living in metropolitan Sydney have enrolled in this prospective immunoepidemiological study. Every six months the men have completed a self-administered questionnaire covering drug use and sexual contacts. They have also had six-monthly physical examinations and blood tests for HIV antibodies and T-cell count. The authors advise that the study population should not be considered representative of the homosexual population of Sydney but does constitute a large cohort of homosexual and bisexual men whose behaviour is characterised by a high prevalence of risk factors. Furthermore, they recognise that being enrolled in a major research study may affect the men's sexual practices. It is also noted that questions about sexual practices, sexual partners and condom use relate to the men in the study and their regular but not their casual partners (Sydney AIDS Study Group, 1984; Tindall *et al*, 1989).

In 1987, a sub-study of 420 of the men in the cohort found that 6.3% of the HIV+ men had had

unprotected insertive anal intercourse and may therefore be putting others at risk, while 13.5% of the HIV- men had had unprotected receptive anal intercourse and may therefore be putting themselves at risk. Further investigation revealed that some HIV- men did have unsafe sex with partners of unknown HIV status but did not have unsafe sex with regular partners who were HIV+. Similarly some HIV+ men did have unsafe sex with partners of unknown HIV status but did not have unsafe sex with regular partners who were HIV-. Some HIV- men used condoms or withdrawal during sex with regular partners who were HIV+. More condom use was reported by HIV+ men (Tindall *et al*, 1989).

A prospective study of factors influencing HIV infection in a cohort of homosexual and bisexual men in Melbourne (including some from Geelong and country Victoria) was carried out by Campbell *et al* in 1986-7. A non-representative sample of 369 volunteers was obtained from gay venues and from advertisements in the gay press. The researchers recognised that homosexual males are not a single cohesive community but were not able to obtain representative samples of sub-groups of homosexual men. Amongst their findings were that although approximately 40% of the men 'always' followed safe sex guidelines, some 20% continued with unsafe sexual practices. About 50% of subjects found sex with a condom satisfactory and 87% found oral sex without fluid exchange 'fun'. While 15% found 'safe sex' unsatisfying, 60% disagreed or disagreed strongly with this view. Findings similar to those reported in the SAPA study reveal that unsafe sexual practices occurred mainly within primary relationships and were much less frequent in other relationships, (Campbell *et al*, 1988). However, this was not found to be the case for homosexual and bisexual men who are not 'in' the gay community (see below, 2.3.2).

It should be noted that all three of the above cohort studies have an unusually high proportion of tertiary educated subjects in their sample: 40% in SAPA (Connell *et al*, 1989) and 60% in the Melbourne study had at least some tertiary education (Campbell *et al*, 1988) and 76% of the earliest sample in the Sydney AIDS Prospective Study had professional or tertiary qualifications (Sydney AIDS Study Group, 1984). Also, men from non-English-speaking backgrounds were under-represented in all these studies.

2.3.2 Homosexual behaviour outside the gay community

Since most studies of homosexual or bisexual men are based on clinical samples or samples of volunteers, most of the men are already at least relatively open about their homosexual or bisexual identity or behaviour. There have been very few studies of men who are not open about their homosexual activities, such as married men who also engage in male-to-male sex or men who frequent 'beats' for homosexual purposes. The demographic characteristics, attitudes and sexual practices of such men are virtually unknown. This presents a significant problem for HIV/AIDS education and prevention programs. Bennett *et al* sought to redress this in their innovative study of 'beat' users in Western Sydney (Bennett *et al*, 1989a, 1989b).

'Beats' are public places such as parks and public toilets that are known to be frequented by

men seeking sexual contact with other men. Sexual contact is often completely anonymous. In view of the dangers involved in frequenting 'beats' and the need to guarantee confidentiality for men in the study, interviewers were selected for their rapport with gay men or their familiarity with 'beat' culture. Twenty to thirty minute interviews were conducted by phone or face-to-face with 176 men who had had male-to-male sex in the past six months. Although 90% of these men described themselves as homosexual or bisexual, 12 men described themselves as heterosexual, despite clear evidence of past and current sexual contact with men. About two-thirds of the men were 'beat' users and these men tended to be older and more educated than the 'non-beat' users, to have more partners and to engage in more unprotected sex with casual partners. Of these 'beat' users, 12% were married or in *de facto* relations as were 7% of the 'non-beat' users (Bennett *et al*, 1989a).

In this study, men not 'in' the gay community were found to be having unprotected sex with casual partners (Bennett *et al*, 1989a). Of particular concern was the finding that of 19 men who were HIV+, 8 were still engaging in sexual practices that put their partners at high risk. Also, of 35 actively bisexual men who had regular female partners, 31 were having unprotected sex, including 7 who said they had anal and vaginal intercourse with these wives or girlfriends. Only three of these men used condoms. It is suggested by the authors that, since these findings were from self-reports, the figures for unsafe sexual practices amongst these men could be worse than was revealed (Bennett *et al* 1989b).

A Melbourne-based self-help group for men who are married and also engage in male-to-male sex has documented the demographic data and sexual practices of callers using their telephone counselling service in 1987-88 (Palmer, 1988). Palmer reports that 95% of the men were living with their wives, 88% were sexually active with their wives and 76% were sexually active with other men. Although 90% said they were concerned about AIDS, only 52% said they were aware of safe sex practices. At least 13% of the sample were practising unprotected anal intercourse and anal sex was the 'usual' homosexual activity for 33% of the sample. Since many callers were reluctant to discuss their sexual practices, Palmer believes the proportion of men who engaged in high risk activities was likely to be higher than his figures indicated. Palmer notes that bisexual men who call the counselling service fear exposure and are 'frequently very lonely and often very frightened by their own behaviour'. Although this study makes an important contribution to the scant body of knowledge that exists in relation to the sexual practices of married men who engage in male-to-male sex, it is necessary to recognise that the sample is representative only of men who contact this counselling service.

2.3.3 Other studies of homosexuality and HIV/AIDS

The behavioural factors associated with HIV seroconversion were examined in a sample of clients attending the Albion Street Clinic in Sydney (Morlet and Guinan, 1989). During a three year period (1985-88), a total of 51 clients were diagnosed HIV+ following an earlier negative result at the clinic. Fifty were homosexual or bisexual men and one was a fourteen-year-old girl. The behaviours of these 51 clients were compared with those of a control group of 100 randomly selected homosexual males who had initially tested HIV- and who had been for at least one follow-up test at the

clinic. Those who had become HIV+ were found to have had significantly more partners and tended to engage in unprotected receptive anal intercourse. The authors note that the persistence of high risk behaviour occurred against an overall reduction in risk-taking behaviour following the first test.

In an Adelaide study, Millan and Ross (1987) found that young gay males were at particular risk not only because of the vulnerability they share with all youth (see below, 2.6), but also because their problems in coming to terms with their homosexuality and identifying as gay may lead to feelings of guilt and denial and to their engaging in sex for money. The SAPA researchers also suggest that gay men entering sexual relationships for the first time require specific education and support programs (Connell *et al*, (1990).

A useful overview of AIDS education strategies for men who have sex with men is provided by Dowsett (1990). He divides education programs into two types and describes research findings which support both types of strategy. Firstly, there are community intervention strategies which introduce AIDS information and safe-sex ideas into existing gay community life. Secondly, there are 'community attachment strategies' which take the form of outreach programs and focus on men who do not identify with gay communities, such as men who are bisexual or new to gay sex, men from different class or ethnic backgrounds or men who live in rural or outer urban localities.

2.4 Injecting drug use

As of October 1990, only 1.5% of AIDS cases in Australia had been attributed to IV drug use, with a further 2.7% attributed to male homosexual or bisexual contact and IV drug use (National Centre in HIV Epidemiology and Clinical Research, 1990:5).

Estimates of IV drug users in the Australian population vary from 20,000 to 500,000 with a possible conservative estimate of 30,000 regular users (Rollins, 1989:31-2). While the incidence of AIDS and HIV infection amongst IV drug users is still much lower in Australia than in many other countries, research reveals continued risk behaviour amongst those surveyed.

Injecting drug use occurs in many forms and probably amongst all ethnic groups as well as at all socio-economic levels in Australian society. Those who are less well informed and have less access to clean needles and syringes are clearly more at risk than others. People who inject drugs whilst in prison are particularly vulnerable to HIV infection as are those injecting drug users who live on the streets and have less access to resources and less control over their living conditions.

The 1987 NACAIDS Survey reported that only 5% of all respondents said they had ever injected illegal drugs and only 2% said they had done so in the past 12 months. However, over half of those who said they had injected illegal drugs during the past 12 months also said they had shared needles. Of particular note is the difference between men and women who said they had shared needles: 71% of the women compared with 40% of the men (Australia Market Research, 1987:103). Non-English-speaking migrants were less likely to have used IV drugs in

the past 12 months (1% compared with 2% of the total sample) but 100% of these migrant users said they had shared needles (Australia Market Research, 1987:137). Figures from a household survey such as this are likely to seriously under-represent the proportion of injecting drug users in the total population not only because of people's reluctance to admit to drug use but also because itinerant and homeless drug users are unlikely to be represented in the sample.

Figures from Albion Street Clinic showed a very high rate of HIV+ test results amongst IV drug users from March 1985 to January 1989: 14.5% of IV drug users were HIV+. However, there was a significantly greater prevalence of HIV infection amongst male homosexuals in this clinical sample - 43.8% as against 5.3% of heterosexual men, 13.1% of bisexual men and 5.2% of all women tested (Morlet *et al*, 1990). Furthermore, as has been pointed out by Donovan *et al* (1990), these figures related to IV drug users who were actually attending the clinic for HIV treatment or testing and included those who had already been diagnosed HIV+; thus the high rate should be regarded with some caution. Adjusted for prior HIV diagnosis, the HIV seroprevalence rate of IV drug users presenting to the clinic during 1989 was 10.5%, a figure which is lower than the earlier 11.1% seroprevalence rate in IV drug users who presented to the clinic in 1985 (Guinan *et al*, 1990).

A study by Wolk *et al* (1990) suggests an HIV+ incidence of 9% amongst IV drug users although two thirds of these were homosexual or bisexual men. Only 4% of the other IV drug users in this study were HIV+. In this sample of IV drug users, 80% admitted to sharing injection equipment during their current period of drug use and 50% reported sharing daily or weekly. Seventeen people, only six of whom had known they were themselves HIV+ at the time, had shared with people who were HIV+ and four had known that their sharing partners were seropositive at the time.

McLaws *et al* (1990) report that findings from eight published studies of HIV seroprevalence amongst IV drug users vary from 0.7%-3.8% in heterosexual IV drug users.

In order to eliminate the transmission of HIV to persons who inject drugs and from injecting drug users to others, both sexual practices and drug using behaviours must be modified. Since the use of IV drugs is an illegal activity, contacting users for research purposes can be difficult. This is especially likely for those users who are outside the treatment network and those for whom recreational drug use is unproblematic. It has been suggested that education and support to encourage and sustain behaviour changes in this fragmented and difficult to reach population require the involvement of recovering or current users, as they are familiar with the drug 'scene' (Dolan and Winchester, 1987).

A peer-based community-based needle exchange program in Victoria reported a 70% return rate and found that 60% of clients were exchanging needles for more people than just themselves, thus suggesting that large numbers of users do care about their own and others' health. Workers have noted that clients who frequented the service were reducing unsafe behaviours and were influencing others to change their behaviour. Workers were also able to

assist users with other problems. This in turn may lead to a reduction in the clients' drug using behaviour (Groenhout, 1988). Peer-based community needle exchange programs can thus assist users to form an attachment to a community which provides support for the maintenance of safer behaviour.

2.5 Condoms

2.5.1 Use of condoms

Rollins (1989:19) reported that studies indicate very low rates of condom use by younger Australians (under 30) in the two years immediately preceding the identification of the first AIDS case in Australia - 1983.

The 1987 NACAIDS survey found that of those adolescents (12-15 years) who said they had had sex, 48% of the males and 62% of the females reported that they were currently using condoms every time or sometimes (Australia Market Research, 1987:67). In the same study, 74% of all males and 43% of all females said they had used a condom at some time. However, 63% of males said they never use condoms and 74% of females said they never ask their partner to wear a condom. Of those who said they used condoms, 2% of both males and females said it made sex better, while 69 % of males and 53% of females said it made sex worse (Australia Market Research, 1987:69). Asked if they personally ever buy condoms, 83% of the 16-24 year old women and 85% of the adult women in the survey said they never buy condoms (Australia Market Research, 1987:33).

In a study of men attending an HIV screening program, 70 homosexually active men were given two condoms and a lubricant sachet and asked on their return visit to complete a structured interview schedule. The researcher found that 41% of the men had no previous experience of condoms, while 6% reported extensive use and 38% moderate use (Ross, 1987).

In another study of 148 homosexually active men, Ross found that an assertive personality style and the ability to raise the issue of condom use in sexual encounters without fear of rebuff were the most significant personality factors associated with a positive attitude toward condoms (Ross, 1988b).

Researchers studying sexual behaviour change in the partners of HIV infected men found that although HIV infected men had reduced their level of risk-taking following counselling at the time of HIV testing, condom use was one practice not changed by knowledge of HIV infection. Thus, resistance to the use of condoms in a high proportion of sexually active homosexual men remained an important risk factor in the transmission of HIV (Guinan *et al*, 1988).

Condom use appears to be low amongst IV drug users. In Wolk *et al*'s study, 69% of the sexually active IV drug users in their sample reported minimal or no use of condoms during sex. Forty-six people had worked as male, female and transsexual prostitutes at some time since 1981. Although 76% of these said they regularly used condoms with their clients, only

20% (3 out of 15) of those who currently worked as prostitutes reported using condoms regularly with their casual or steady partners (Wolk *et al*, 1990). Once again findings point to unsafe sexual behaviour within a relationship that is perceived as safe or more intimate, as distinct from the sex-work relationship with the client.

2.5.2 Problems with condoms

Condoms had reportedly broken on more than one occasion for 13% of men and 9% of women in the 1987 NACAIDS survey. In the same survey, 3% of males and 1% of females said that condoms had broken often and 72% of males and 76% of females said they had never broken (Australia Market Research, 1987:69). The 1987 Sydney AIDS Prospective Study of homosexual and bisexual men found that 15% of the men who were HIV- reported condom breakage on 5.1% of occasions, while 11% of the HIV+ men reported breakage on 7.3% of occasions (Tindall *et al*, 1989).

In the Sydney 'beat' study, 45% of 'beat' users and 27% of men having male-to-male sex but who were not 'beat' users reported having trouble with condoms breaking, leaking or slipping (Bennett *et al*, 1989a). Of the 70 homosexually active men in Ross's (1987) study, 14% reported 'a few breaks', 13% 'many breaks' and 4% 'other problems' (although only 6% reported extensive use of condoms prior to the provision of two free condoms for this study).

2.5.3 Barriers to condom use

In a study of 15-35 year old heterosexuals in Adelaide, focus group discussions were held to explore attitudinal barriers to condom use. Awareness of AIDS risks to themselves was universal amongst this 'high-risk' heterosexual sample but attitudes to condoms were seriously inhibiting their use. Such attitudes were characterised by widespread dislike of condoms, by the belief that condoms break, by the view that condoms are an insult to one's sexual partner and by feelings of embarrassment regarding the purchase of condoms (Chapman and Hodgson, 1988). Similar findings regarding perceptions of unreliability, inconvenience and reduced satisfaction were reported from the NACAIDS Survey (Australia Market Research, 1987:65).

Ross (1988c) has examined attitudes towards condoms amongst homosexual men, and found they differed from the attitudes of heterosexual people. However, major dimensions of homosexual men's attitudes to condoms were that condoms were viewed as unreliable and unerotic, as protection from infection, as unavailable when needed and as interrupting sex. Condoms were sometimes associated with a sense of responsibility for others and an attitude of comfort with condom use was the dimension most strongly associated with reported actual use of condoms. A further finding was that factors influencing condom use differed for oral and for anal intercourse.

In another study, reported only as work-in-progress, Ross (1988b) has explored personality factors associated with negative attitudes toward condom use. Lack of assertiveness skills, abasement, deference and tension-anxiety were associated with negative attitudes towards condom use.

2.6 Youth (adolescents)

A number of articles comment on the particular factors that place young people at risk of HIV infection. These include: their sense of invulnerability and tendency to engage in risk-taking behaviours, their susceptibility to peer pressure, their high levels of sexual activity, their tendency to experiment with sex and drugs, their characteristic resistance to adult pressures and to authority, their reluctance to postpone pleasure, their disinterest in what they perceive as a future rather than immediate risk and the prevalence of parental ignorance of or 'blindness' to their children's behaviour (Greig and Young, 1989; Greig and Raphael, 1989; Waters, 1989; Turtle *et al*, 1989; Rosenthal *et al*, 1990).

Matthews (1990) notes that homeless youth are at increased risk because of less accurate knowledge, higher rates of unprotected sex, prostitution and sharing of needles and syringes, and lower levels of perceived risk. In 1987 only four cases of AIDS in Australia had occurred amongst adolescents, but 6% of homeless teenagers surveyed by an outreach program had been found to be HIV+ (McLaws and Cooper, 1988; Millan and Ross, 1987).

The 1987 NACAIDS survey found that 19% of males and 7% of females aged between 12 and 15 years reported that they had had heterosexual intercourse, and 11% of the males said they had had sex with more than one female partner. Amongst the fifteen-year-olds, 44% of the males said they had had sexual intercourse and 34% of these said they had had it with more than one female partner. No females aged between 12 and 15 years said they had had sex with a female and only 2% of the males said they had had sex with a male, and none with more than one male. Australia Market Research found a connection between young people having had sexual experience and engaging in other 'fast' behaviours, such as regular use of alcohol, cigarettes or marijuana, as well as with knowing people who injected drugs or who were homosexual or bisexual (Australia Market Research, 1987:36-7).

Cubis and Raphael found that 27% of 14-16 year olds had had sex and 52% of the females had used some form of contraception, not necessarily condoms (in Greig and Raphael, 1989). A number of studies of university or college students demonstrate that in spite of accurate knowledge about the transmission of HIV and about ways of avoiding infection, these young people had not changed their sexual practices (Turtle *et al*, 1989; Abbott, 1989; Moore and Barling, 1988).

Rosenthal *et al* (1990) conducted a survey of college students in Victoria to explore ethnic differences in adolescents' responses to AIDS (see below, 2.10). The sample was drawn from 1778 respondents from a wide range of fifteen post-secondary institutions in Victoria. The authors advise that the sample is not random and caution against generalisation from results, especially beyond the student population. Findings revealed relatively high levels of risky sexual behaviours, such as having sex with multiple partners or without condoms. Anal sex without a condom was occurring with sufficient frequency to be noteworthy. A more encouraging finding was the reasonably high level of communication with potential sex partners about issues relevant to HIV/AIDS prevention. As with a number of other studies,

findings indicated that greater knowledge was not related to safer sexual behaviour (see below, 2.11).

2.7 Women

In 1988, the ratio of male to female AIDS cases in Australia was 26:1 and 67% of the women with AIDS had become infected with HIV through blood products (compared with only 3% of men with AIDS). Of AIDS cases attributed to heterosexual transmission, the ratio of females to males was 6:2 (Dalle-Nogare and Whyte, 1988). By October 1990, the ratio of male to female AIDS cases in Australia was 32:1 and 50% of these women had become infected through blood products (or tissue). In October 1990, only 13 women who were IV drug users and 12 women who had acquired HIV through heterosexual contact had been diagnosed with AIDS. Less than 3% of known diagnoses of HIV infection in Australia were amongst women (National Centre in HIV Epidemiology and Clinical Research, 1990:5,12).

One way of contributing to knowledge of the prevalence of HIV amongst women in the general population is to conduct screening of post-partum women. A study was conducted in Sydney in 1989. The post-partum women in this study do not, of course, represent women in the general population nor heterosexually active women in general; nor do they represent even pregnant or post-partum women since only women attending hospital to give birth were included in the sample. Nevertheless, if HIV transmission were widespread amongst the heterosexual population of Australia a large sample of postpartum women might be expected to indicate seroprevalence. Not one of the sample of 10,217 births in Sydney in 1989 was found to be HIV+ (McLaws *et al*, 1990). McLaws *et al* suggest that the low prevalence may be related to the relatively low number of IV drug users in Australia who are infected with HIV.

A 1988 survey of women from Western Sydney found that 49% of the women reported having only one sexual partner in the last six years and only 9% reported having more than 6 (McLaws *et al*, 1988). Of those who answered the sexual-practices questions in this study, 9% reported practising anal intercourse occasionally. Asked how to avoid AIDS when considering sex with a new partner, 31% said they would not have sex, 80% said they would use condoms and 12% said they might use condoms (McLaws *et al*, 1988).

Although heterosexual transmission of HIV is a major factor in other countries and incidence of HIV amongst women is much higher in other countries, it appears that in Australia the incidence of HIV and AIDS in women have remained very low. However, this may not always be the case. There are a number of factors which render women particularly vulnerable. Some issues raised by researchers relate to the social construction of gender in our society, women's social and sexual passivity, women's lower socioeconomic status and powerlessness relative to men, women's romantic attachment to partners who may be IV drug users or covert bisexuals, as well as to factors which inhibit women's capacity to negotiate safe sex (Reid, 1988; Waldby *et al*, 1990).

In the Macquarie University AIDS and Heterosexuality Project (discussed above, 2.1), representations of women in AIDS policy and the role of women in the prevention of AIDS were

examined by means of interviews, surveys and the use of 'memory-work'. As previously mentioned, findings from this study pointed to a strong relationship between a woman's degree of sexual experience with a number of different partners and her capacity to successfully negotiate 'safe sex' (Waldby *et al*, 1990).

Abbott's (1989) study of young women in secondary and TAFE colleges in the ACT revealed a high level of understanding of transmission of HIV yet less than half of these young women had made changes towards protecting themselves. Further study would be needed to find out the extent to which these young women's responses were rational at a time when the prevalence of HIV infected individuals in the ACT would have been extremely low.

2.8 Prisons

Prisons present a scenario for potentially rapid and uncontrollable spread of HIV for a number of reasons. Increasing numbers of prisoners are confined for crimes associated with drug use; drug use is said to be widespread within prisons and there is little opportunity for obtaining clean needles and syringes or cleaning equipment; male-to-male sex between consenting adults as well as sexual assault occur in prison populations and condoms are not made available to prisoners; and there is widespread resistance from prison officers to the provision of condoms or clean needles. Prison officers argue that many prisoners are violent and disturbed men and that prisons are often dangerous places to work.

Prisoners are characterised by low levels of education and a tendency to come from low socio-economic backgrounds. Australian prison populations are ethnically diverse with a high proportion of Aboriginals. These socio-economic and cultural factors need to be taken into account in planning and implementing HIV/AIDS education and prevention programs (Scagliotti, 1988). From the prisoners' point of view, drug use represents a particular form of escape or release. Despite knowledge of HIV/AIDS, prisoners are highly likely to continue unsafe sharing practices. An inmate of a maximum security prison in NSW is quoted as saying: 'There are two fits in the whole joint. We share one amongst five crims. The rest of the jail shares the other fit' (Matthews, 1988).

In Wolk *et al*'s 1987 study of IV drug users, 30% had been in prison since 1981. Half of these (27 out of 54) had used IV drugs and shared needles while in custody, and seven men had engaged in male-to-male sex while in prison (Wolk *et al*, 1990). Gaughin *et al* (1990) surveyed a volunteer sample of prisoners and a systematic sample of prison officers at a maximum security male prison in Adelaide, to explore knowledge of HIV/AIDS and attitudes to possible prevention strategies. Both prisoners and officers believed that in spite of having basic knowledge of HIV infection prisoners had not substantially reduced risk behaviours, particularly IV drug use. There were differences of opinion between prisoners and officers about the detection of drug use by urine testing.

2.9 Prostitution

Incidence of HIV amongst women working as prostitutes in Australia is very low and prostitution has been removed from the categories of exposure to risk in national HIV

surveillance. While this may be attributable to successful community education and support programs, little research has been carried out to explore the work practices of sex industry workers in Australia or the relationship between injecting drug use and prostitution for both males and females and for young people living 'on the streets'.

Figures for 'hard core addiction' of between 30% and 75% have been suggested from research on inner city prostitutes but the NSW Parliamentary Committee on Prostitution suggested that only 10% of prostitutes in the whole state had an addiction to hard core drugs (Philpot *et al*, 1989). Of course the relationship between drug use, prostitution and risk of HIV infection relates to regular and occasional use as well as to 'hard core addiction'. Furthermore, it has been suggested that sharing is more likely to occur amongst occasional users.

Philpot *et al* (1989) studied the drug use of women seeking HIV testing at a Sydney STD clinic in 1987. One hundred and fifty of these women had worked as prostitutes. Philpot *et al* note that the sample is not representative of women who attend STD clinics since all the women had identified themselves as at risk of HIV infection and therefore probably constitute a higher proportion of IV drug users. Furthermore, only 4 of the 150 women who had worked as prostitutes worked on the streets, where drug use is expected to be much higher than in parlours and brothels, since managements often exclude women who are known to be IV drug users. The researchers found slightly higher rates of IV drug use amongst women who had not worked as prostitutes, although needle and syringe sharing was more frequent among those who worked as prostitutes (Philpot *et al*, 1989).

In Morlet *et al*'s (1990) study of IV drug users presenting to the Albion Street Clinic for HIV testing or treatment, 15.5% reported working as prostitutes. A significantly higher proportion of male IV drug users who had worked as prostitutes were HIV+ (33.3%), compared with 5.5% of the female IV drug users who had worked as prostitutes and four of the seven transsexuals who had worked as prostitutes. Since the sample included a significant proportion of IV drug users who had already been diagnosed HIV+ these figures should be regarded with caution. Adjusting for prior HIV diagnosis, only 1.8% of female IV drug users who had worked as prostitutes were HIV+ (Guinan *et al*, 1990).

As has been pointed out in a number of studies, many prostitutes have little or no control over their work practices and are vulnerable to pressure from management and clients to engage in unsafe sexual practices (Taylor, 1986; Bates, 1988).

2.10 Ethnicity

There appear to be only two published Australian studies focusing on ethnicity and HIV/AIDS (Rigby *et al*, 1988; Rosenthal *et al*, 1990) and no other studies in which ethnicity is even a significant factor of analysis. In view of the ethnic diversity of the Australian population, it is astonishing that so many researchers continue to pay so little attention to this crucial cultural variable.

Rigby *et al* (1988) comment on the absence of research focusing on the ethnic diversity of the

Australian population. They conducted interviews with a purposive sample of 20 people with strong links to their ethnic communities. The ethnic groups were Greek, Italian, Polish, Vietnamese-speaking Vietnamese and Chinese-speaking Vietnamese. The researchers investigated the interviewees' views of their respective ethnic groups' attitudes and behaviours. These views cannot be said to represent the views of the ethnic groups since the interviewees are representative only of the leaders of their communities. The interviewees were highly educated (90% had tertiary qualifications) with an average age in their late 30s, and 60% were male. According to their views, people from these ethnic groups may be less well informed than Anglo-Australians about HIV/AIDS, may engage in less risky behaviours but be less likely to change their behaviours for safer sexual practices. The interviewees revealed less liberal and more moralistic attitudes than Anglo-Australians. A further stage of this research was planned in order to study larger, more representative samples of the ethnic populations involved.

Rosenthal *et al* (1990), in their study of 1778 volunteer post-secondary students in Victoria, found more similarities than differences between Anglo-Australian adolescents and those from Greek, Italian and Chinese backgrounds. However, Anglo-Australians were more sexually active and more informed about AIDS than adolescents from other ethnic groups. Two-thirds of both male and female Anglo-Australian 17-20 year olds claimed to be non-virgins. Figures for males and females from other ethnic groups differed, with more females claiming to be virgins, while more Greek males than any other group claimed to be non-virgins. Respondents perceived the same sexual behaviours to be less risky with a regular than with a casual partner. Anglo-Australians nominated a significantly shorter period (7.63 months) for a regular relationship than other respondents (Greek - 12.55 months; Italian - 13.85 months; Chinese - 12.93 months).

2.11 Behaviour change

A number of studies (Chapman and Hodgson, 1988; Connell *et al*, 1989; Turtle *et al*, 1989; Waldby *et al*, 1990; Abbott, 1989; Rosenthal *et al*, 1990; and Kippax *et al*, 1990) have demonstrated that knowledge does not of itself lead to behaviour change. Waldby *et al* (1990) argue that work must be directed towards specifying alternative mechanisms for social change that do not rely on simple notions of attitudinal change or on force.

Using a self-administered questionnaire in a cohort of homosexual and bisexual men, Tindall *et al* (1989) found that education and information were more effective in leading to behaviour change than were testing and knowledge of one's HIV status. In a study of homosexual and bisexual men living in a city defined as low risk for HIV infection, Frazer *et al* (1988) found that HIV testing combined with counselling was not sufficient to effect behaviour change.

Connell *et al* (1989) found no direct correlation between accurate knowledge of safe sex and the adoption of safe sex practices amongst homosexual and bisexual men in the SAPA study. Adopting safe sex was strongest amongst groups closest to the epidemic and amongst men who were most likely to get social support for adopting the safe sex strategy as part of gay identity. Safe sex was less frequently adopted by men reporting themselves 'monogamous'.

Although attachment to the 'gay community' has been found to be associated with behaviour changes toward safe sex, SAPA researchers found that the particular forms of attachment are significant and a further report will explore the different empirical forms of 'community' attachment (Connell, in Daly and Willis, 1990:29). Findings from the SAPA study point to the need to foster group support for change and to develop collective social strategies of change with the aim of moving whole networks of people towards safer sexual practices and encouraging the social processes necessary to sustain a safe-sex regime (Connell *et al* 1990:205-6).

Borland and Lewis (1989) report that a sense of community assists behaviour change; it follows that homosexual men who are not 'in' the gay community and men who engage in male-to-male sex as 'beat' users are less likely to change their behaviour. People at risk from unsafe injecting drug use behaviour are also less likely to feel a sense of community that might assist in maintaining behaviour change. In Wolk *et al*'s study of IV drug users, most of whom were attending treatment agencies, there was considerable discrepancy between knowledge and behaviour. Perception of personal risk was low and HIV risk-taking behaviour was frequent (Wolk *et al*, 1990).

Ross (1988b) has suggested that in order to make attitudes toward condoms more positive, educative efforts should be directed toward assertiveness training for sexual encounters rather than providing information on the efficacy of condoms. However, Ross observes that attitudes are not strongly associated with behaviour change. Ross and Rosser (1989) reviewed the literature on the role of education and information in preventing transmission or infection with HIV, and the relationship of attitudes and beliefs to knowledge and appropriate behavior change. The authors report that information on its own, without modification of attitudes towards or perceptions of AIDS will have no effect on knowledge or behavior. The potential importance of perceived norms and social supports for behavior change are acknowledged as predisposing and reinforcing factors.

2.12 Evaluation

Very little evaluation has been published, which is perhaps particularly surprising in view of the large amount of government money that has been allocated to a wide variety of educational and other interventions aimed at reducing and preventing the further transmission of HIV/AIDS. Unpublished evaluation studies may be available from state and Federal health departments and from community-based organisations.

Taylor's (1987) report of a mid-campaign evaluation of the 'Grim Reaper' (8 weeks after) claims that 97% of respondents had seen the 'Grim Reaper', 95% thought it had increased public awareness, 81% thought it had increased people's knowledge, 61% thought they had learned something personally and 44% reported changes in their attitudes or behaviour. The very high - almost universal - levels of awareness of the campaign are almost unprecedented but suggestions of attitude or behaviour change are marginal and unsupported by any other evidence. However, Taylor notes that the 'Grim Reaper' advertisement was 'purely and simply a device to gain attention', its

principal goal being 'to shock people out of a dangerous apathy' (1987:8). That it had a major impact can scarcely be in doubt. Even the beginning of behaviour change can be regarded as a positive, if unintended, outcome of this stage of the campaign, which was to be followed by a number of subsequent stages devoted to the widespread dissemination of information and to support for community groups.

In a study conducted five months after the 'Grim Reaper' campaign was launched, Rigby *et al* (1989), were critical of the earlier evaluation of the campaign, claiming that it measured only short-term and perceived effects. However, they also found that 93.5% of respondents could recall seeing the 'Grim Reaper' five months earlier and 33.9% claimed that they were *personally* influenced. The major findings from their Adelaide survey were that levels of concern showed no overall increase and even some decrease amongst older people and people who were married or in *de facto* relationships. There was very little increase in knowledge about AIDS except with regard to the safety of blood transfusion.

While the 'Grim Reaper' and other campaigns have been extremely successful in increasing awareness of HIV/AIDS, there is little evidence that they have effected changes in attitudes or behaviours. Ross and Rosser's (1989) literature review (discussed above, 2.11) examined issues relating to HIV/AIDS prevention. The major health education models, including the taxonomy of educational objectives, health belief model, theory of reasoned action, and PRECEDE model were reviewed. As well, predictors of behavior change, specific interventions to reduce risk behavior, media campaigns and AIDS education are discussed. Ross and Rosser found that knowledge of AIDS was unrelated to behaviour, without the modification of attitudes and beliefs. They also concluded that the social and interpersonal context was of critical importance in generating motivation. Similarly, though not claiming to be an evaluation, Dowsett's (1990) literature review (see above, 2.3.3) provides an overview and assessment of educational strategies for men who have sex with men.

In February 1988 Lenehan Lynton Bloom Blaxland (1988b) conducted ten group discussions in Sydney amongst a total of 95 individuals to provide a general up-date on, and overview of, public perceptions and attitudes towards AIDS and to assess public reactions to the second, educational phase of the NACAIDS campaign that was launched late in 1987. The research aimed to explore the attitudes of the very young (those coming to a stage where they may begin to engage in sex), of older teenagers and young adults, and of the parents of teenage children.

3 SUMMARY OF KEY FINDINGS

In Australia, homosexual behaviour has moved towards the adoption of safer sexual practices; rates of new infection are slowing and this is attributed to the success of educational interventions and community support, much of which has been funded by the Federal government. The spread of HIV/AIDS into the wider population in Australia has been less than was anticipated. This is probably attributable at least in part to success in containing the

spread. Neither the so-called heterosexual population nor the injecting drug using population are showing rapid increases in rates of infection with HIV or in cases of AIDS in comparison with overseas figures.

However, the persistence of unsafe sexual and drug using practices continues to cause concern, particularly where such unsafe behaviour occurs in spite of individuals having accurate information and understanding of the risks involved. Unsafe sexual behaviour has been found to occur within relationships described as monogamous, or with regular rather than casual partners. Some people continue to practise unsafe sex with casual partners. Most serious are the findings that there are some people who are HIV+ who continue to put others at risk by their unsafe practices.

It has been demonstrated in numerous studies that knowledge does not of itself lead to behaviour change. A variety of additional factors assist but most important is a high level of community or interpersonal support. For individuals who may engage in risky behaviour but who have no community support relating to their activities, interventions that facilitate attachment to some form of community or peer support groups have been found effective.

There are still categories of people who may not have been adequately reached by educational interventions and who do not have adequate support for making and sustaining the necessary behaviour changes. Such people include: men who have sex with men but do not identify as gay or even as homosexual or bisexual and who are not attached to the gay community; homosexual and bisexual men in geographically isolated situations; homosexual and bisexual men from different ethnic backgrounds; bisexual men, particularly those who are married and whose sexual activities with men are necessarily covert; young men still unsure of their sexual orientation or preference and experimenting with homosexual activities; wives and female partners of bisexual men; injecting drug users and their partners; people from different ethnic backgrounds, particularly those who are non-English-speaking; Aborigines in both urban and rural locations.

4 PROBLEMS WITH THE RESEARCH

4.1 Methodology

It appears that the urgency of the perceived threat of HIV/AIDS together with the recognition of the poverty of knowledge about those behaviours responsible for the transmission of the virus has resulted in some very weak research being carried out and unreliable or invalid findings published. The tendency to generalise from inadequate data and from findings relating to non-representative samples was mentioned in the Overview at the beginning of this review (1.3).

Survey research and studies relying on self-administered questionnaires dominate this field of study. Goot (1988) has severely criticised the use of poll-type research into 'behaviour change'. Goot discusses problems associated with double-headed questions; with vagueness and lack of clearly defined terms (such as 'making sex safer', 'taking precautions', 'fewer', 'changed sexual practices'); with confusion on the part of researchers between attitudes and behaviours which often refer more accurately to knowledge or awareness; with reliance on self-reporting

which assumes knowledge, accuracy of recall and willingness to co-operate on the part of respondents; and with the likelihood of respondents having faulty recall or actually falsifying details of their sexual histories.

Rollins (1989:50-52) also noted methodological problems related to confusion between attitudes and behaviours; to interviewer and respondent effects which are particularly pertinent to explorations of sexual behaviour and drug use but which are seldom acknowledged and even sometimes denied; and to the many problems associated with sampling in these areas. Rollins comments on the prevalence of convenience or probability samples, samples of volunteers and clinical samples; the homogeneity of many sample populations that do not reflect the diversity of the wider population, and the under-representation of ethnic, rural and working-class groups; and the absence of attention paid to the social context. On the other hand, Rollins commended the ingenuity and persistence of some Australian researchers in obtaining a study population in this difficult field of study.

Connell (in Daly and Willis, 1990:9-13) has raised a number of issues in criticism of the large amount of survey research that has been conducted in the attempt to explore issues relating to the transmission and prevention of HIV/AIDS. Samples have been too often merely opportunistic and have therefore provided no useful information about any definable population or situation. The self-administered paper-and-pencil questionnaire has been widely and inappropriately used in the area of HIV/AIDS research which is an area fraught with emotion, hypocrisy and threat. The class and cultural biases of such questionnaires severely restrict their usefulness, and the meanings of respondents' answers have rarely been examined and have been little understood by the researchers. Analysis has been generally superficial and has ignored the social processes involved, often relying on frequency tabulations and seldom examining the patterns of relationships between variables. The 'individual' or piece of 'behaviour' has been analysed as if quite detached from any social setting, cultural dynamics or institutional processes.

As the British AIDS researcher Tony Coxon has pointed out, researching the area of HIV/AIDS means dealing with groups of people and behaviours that are socially stigmatised, and to sexual activities that are personal, sometimes illegal and often socially invisible (in Aggleton and Homans, 1988:128). There is a need to question the reliability and validity of conventional data-collection procedures, particularly when data concerning sexual behaviour has been collected in clinical settings. The issues relating to HIV/AIDS demand the use of sophisticated research skills. Coxon suggests that epidemiological studies

> which take at face value the self-reports which individuals give concerning the frequency and types of sexual acts they participate in may be seriously flawed in the predictions they make. The social context in which data is collected as well as the expectancies about the uses to which it is to be put both influence the reliability and validity of the self-reports that people give (in Aggleton and Homans, 1988:126).

Problems with self-reports may be partially alleviated by guaranteed confidentiality which has

been found to improve the validity of such data (Wolk *et al*, 1990). Concurrent validity or recourse to observational corroboration is seldom possible or even appropriate in the areas of people's sex and drug use. Researchers have tended to rely on people's willingness to *report* sexual behaviour in order to make inferences about the quality and quantity of the information provided. Studies that depend on people's recollections of sexual behaviour need to incorporate some means of checking for selection, distortion and inaccuracy. Coxon also discusses definitional problems, such as how different people interpret questions about numbers of sexual partners and what researchers and respondents mean by terms like 'sexual partner' and 'sexual acts' (in Aggleton and Homans, 1988:126-32).

A number of Australian researchers have recognised the problems posed by differing meanings and there are now several studies exploring the meanings of language and practices associated with sexual behaviour, as in those studies by researchers associated with the SAPA project. It appears that ethnographic approaches, which could make an extremely valuable contribution to knowledge in this area, have rarely been used by Australian researchers.

Dowsett (1988:159-63) has pointed out that Australia has produced a great deal of survey information about homosexual identity and practice and that there is a need for in-depth interviews to investigate the gaps in survey knowledge and to explore behaviours identified by surveys. The ethnic populations of Australia have been notably absent from survey work, but, Dowsett argues, there are more appropriate methodologies that should be used to obtain reliable demographic and behavioural data on people from different ethnic backgrounds. Such studies must take account of the social and cultural setting.

It is widely acknowledged that both cohort studies and samples of volunteers result in inevitable biases and most researchers recognise these biases in their own work. The fact and experience of being included in a cohort is likely to affect subjects' behaviours and responses so that it can be said that cohort studies describe only the behaviour of members of a cohort. In the case of HIV/AIDS there are obvious therapeutic possibilities offered to those belonging to a cohort and a motivational effect likely to accrue from regular contact with and examination by the researchers. Samples of volunteers depend on the willingness of subjects to enrol and remain in a study and it has been found that such subjects are likely to be more educated than the wider population and better informed about the topic under research. In the case of HIV/AIDS such subjects are more likely to be middle class, Australian born and already aware of the risks of HIV/AIDS. They are also almost certainly already more open about their homosexual or bisexual identity or behaviour. Furthermore, those who present for HIV testing may also be those who are more likely to change their behaviour. The majority of subjects in most of the research reviewed are people who have presented for, or agreed to, HIV testing.

Due to the illicit or stigmatised nature of the behaviours associated with risk of HIV infection, people engaging in these behaviours are often difficult to identify, difficult to contact and may also be difficult to retain in a study of any duration. Populations that are difficult to sample require specific and often imaginative solutions; the difficulties and the non-representativeness

of the sample must, however, be acknowledged and conclusions modified accordingly.

The Australian research into adolescent behaviour is marked by a tendency to study available populations of university or college students and to assume a degree of generalisability to all youth which may well not be justified if the social context were taken into account.

Sexual practices and drug using behaviours are not infrequently assumed to be the same in the Australian population as in countries such as the US or UK and research from overseas is presumed to be transferable to the Australian context without consideration of cultural and population differences.

4.2 Research not yet undertaken

In spite of the vast amount of attention it has received in the media since the onset of the HIV/AIDS epidemic, there is still no major study of the sexual behaviour of the Australian population. It should be noted that both the British and United States governments have halted proposed studies of the sexual behaviour of 20,000 people in each country. Such studies have apparently been seen as 'an invasion of privacy' or as 'dirty knowledge' (Holland *et al*, 1990:507-8). Australia has, in the words of former Commonwealth Minister for Community Services and Health, Neal Blewett, 'turned a very brave, bold and determined face to AIDS; we have found and shown a national maturity and strength' (1988a:63). It is to be hoped that Australia, unlike Britain and the USA, can accept the challenges posed by an investigation into the sexual behaviour of its people. It is to be hoped that a high quality research proposal for such a study might soon be forthcoming.

While there has been a great deal of attention paid to homosexual behaviour since the realisation of its significance in the transmission of HIV, and the sexual behaviour of women has traditionally received attention in relation to prostitution and pregnancy, it appears that male heterosexual behaviour has very rarely been the specific focus of study, and indeed this literature review reveals no such studies. As youths, male heterosexuals are likely to be sexually experienced at an earlier age than females and to be more sexually active and have more sexual partners than their female age peers; as husbands, a considerable number of men are likely to have sexual partners (both male and female) outside marriage or to be clients of prostitutes (both male and female). It appears that research into the sexual attitudes and practices of heterosexual males is long overdue.

It became apparent very early in this literature review that there was no research on Aboriginal populations. Apart from one or two news items, only three references mentioned Aborigines: one was merely a report of an interview which covered Aboriginal issues in relation to HIV/AIDS (Hudson, 1988); one was a discussion of legal issues (Buchanan and Godwin, 1988); and one was a conference paper which dealt with audiovisual materials used in an Aboriginal health education campaign (Batty, 1988).

Similarly, ethnic diversity, although a significant characteristic of the Australian population, is rarely a central or even secondary focus in any published research (with the exceptions of

Rigby *et al*, 1988; and Rosenthal *et al*, 1990); nor are the attitudes and behaviours of individual ethnic populations investigated in any of the published literature.

While education and behaviour change are the major focus of HIV/AIDS prevention strategies, there is very little research investigating learning processes or the relationship between education and change. There is a paucity of high quality evaluation studies of education and prevention strategies, although it is understood that evaluations of particular programs that have been carried out have not been published in academic journals. Connell has observed that 'there is a worrying absence from the AIDS research agenda of substantive and sophisticated educational research' that should include 'questions about how to change the functions of institutions, such as hospitals, universities, schools' (in Daly and Willis, 1990:11-12).

There is a clear need for more qualitative research to investigate behaviours identified in survey research and to examine relationships between variables. Overseas researchers are conducting high quality ethnographic studies of difficult-to-reach populations, such as street-working prostitutes (both male and female) (McKeganey, Barnard and Bloor, 1990). There is an indisputable need for such work in exploring the sexual and drug using behaviours of sex workers and injecting drug users in Australia, where the particular locality and social context will vary from state to state and can be expected to affect group norms and practices.

4.3 Research that needs updating

Finally, it should be noted that the field of HIV transmission and prevention is characterised by rapid and unpredicted changes: changes in the perceptions of populations defined as at risk, in the identification of behaviours responsible for transmission, in the understanding of such behaviours, in responses to the epidemic and to government and community initiatives, in those initiatives themselves and in the perceptions of the relative efficacy of various interventions and educative strategies. Research can hardly be expected to keep up with the pace of such change, but research must endeavour to do so. Therefore, it is clear that much of the research into HIV prevention is in need of constant updating.

5 CONCLUSION

Australia's response to HIV/AIDS has, in many ways, been amongst the best in the world. The Federal government, together with some state governments, acted swiftly and effectively. There has been a high level of co-operation and collaboration between government bodies, the medical profession and community groups. Well-organised community and self-help groups of gay and bisexual men, of sex industry workers, of drug users and others have received government support and funding. Representatives of community groups have been on national

planning and management committees. There have been pioneering programs in education and prevention in Australia, such as our needle exchange programs.

There is evidence to suggest that the spread of HIV has been to some extent contained. It is certainly less than was widely predicted in 1987, at the time of the launch of the 'Grim Reaper' campaign. Prevalence of HIV/AIDS amongst injecting drug users, women and prostitutes is very low in Australia compared with figures in other countries. Cases of AIDS that have been attributed to heterosexual transmission are still low.

However, this literature review suggests that, with few notable exceptions, the response of academic social, behavioural and social epidemiological researchers in Australia has been, to say the least, disappointing. It would appear that Australia's response to HIV/AIDS has not been fuelled by the findings of published academic research. It may well be that unpublished research conducted in association with the communities affected constitutes a significant source of knowledge about the social and behavioural aspects of the transmission and prevention of HIV/AIDS. This body of research has yet to be examined critically. It is to be hoped that a review of the unpublished research in this area will be conducted in the near future.

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