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March 1996

EPPI-Centre

REVIEW OF EFFECTIVENESS OF HEALTH PROMOTION INTERVENTIONS FOR MEN WHO HAVE SEX WITH MEN



Evidence for Policy and Practice
Information and Co-ordinating Centre



The EPPI-Centre is part of the Social Science Research Unit, Institute of Education, University of London

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Maintaining and raising the standards of systematic reviews

This review collates evidence about effectiveness intended to help people make better decisions about health promotion. It is obviously important that every effort (within the resources available) is made to ensure that the sources of information and methods used to collate evidence of effectiveness maximize the likely validity of the review's conclusions.

Anyone wishing to suggest how methods for systematically reviewing health promotion literature may be improved, or able to comment on judgements in this review is invited to contact the EPI-Centre.

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SUMMARY

This study identifies and critically reviews health promotion interventions in HIV prevention and sexual health for men who have sex with men (MWHWSM), in order to inform future prevention strategy in the UK.

MWHWSM are the largest group of people affected by HIV/AIDS in the industrialized west. There are indications that the behavioural changes of the early 1980s in the direction of safer sexual behaviour have not been maintained.

A total of 320 references to studies concerned with MWHWSM were retrieved from the EPI-Centre's bibliographic database. Twenty four of these were evaluations assessing the impact of one or more HIV prevention interventions on attitudes, knowledge or behavioural outcomes. A methodological review was undertaken to identify the subgroup of studies with sufficient methodological strengths to generate reliable conclusions as to effectiveness. Five of the outcome evaluations were judged to be methodologically adequate according to the criteria of using an equivalent control or comparison group, providing pre- and post-intervention data and reporting on all relevant outcomes. All five studies were carried out in North America and all reported effective or partially effective interventions. The evidence of the five studies taken together is that relatively brief interventions consisting of small group sessions with some individual counselling, and which have some credibility in the gay community, are an effective way to reduce risk behaviour, at least in the short term.

The major finding in this study is that there is very little well evaluated HIV prevention intervention work with MWHWSM. Although there is considerable intervention for this group in the UK, particularly at the community and local level, much of it is service-led, and research and evaluation are at best an after-thought and at worse absent.

Our main recommendation is that interventions aimed at influencing behavioural factors relevant to HIV/AIDS transmission targeted at MWHWSM *should* be evaluated. Where feasible the best evaluation approach, the randomised controlled trial, should be employed. We also suggest that future interventions should be targeted at particular groups within MWHWSM, particularly young, working class and ethnic minority men, and should be tailor-made for those groups. Prior ethnographic research should be undertaken to identify the cultural context, values, beliefs, social mores and community norms of the targeted group, in order to provide the basis for the content and design of the intervention. We highlight the importance of *not* isolating HIV/AIDS prevention strategies from the broader context of knowledge and understanding about health and the social and material context in which MWHWSM live. There should be greater co-ordination between researchers, programme developers, and practitioners in producing interventions for MWHWSM. Finally, we suggest that a demonstration project should be initiated,

drawing on the suggestions in this report, to establish the ground rules for developing and evaluating interventions for MWHSWM and provide an example of good practice.

AIMS

This report is the first of a new series from the Centre for the Evaluation of Health Promotion and Social Interventions (EPI-Centre) at the Social Science Research Unit (SSRU), University of London Institute of Education. The overall aim of the report series is to assemble and analyse available scientific evidence as to the effectiveness of health promotion and other social interventions in improving the health and wellbeing of the community. The work of the EPI-Centre is funded by North Thames Regional Health Authority and the UK Department of Health. These grants support a research team and the development of a specialized computer database (EPIC) for storing bibliographic and other details of relevant studies.

The overall aim of the study reported in this review is to increase the efficiency with which human, physical, scientific and financial resources are deployed in HIV prevention and sexual health education by identifying the most effective approaches to encouraging people to limit relevant risk-taking behaviours. The particular focus of the report is the field of preventive interventions for men who have sex with men (MWHSWM). We use this term to include gay and bisexual men and those who have sex with men but do not identify as either gay or bisexual. As McKevitt *et al.* (1993:11-12) note, the term is not entirely satisfactory; it may alienate gay and bisexual men who identify with these positions without helping to empower those who do not. Nonetheless, it does usefully indicate the group which is the target of most of the health education work in this field.

Specific aims of the study were:

1. To locate and describe available (published and ongoing) health promotion interventions covering both individual and community behaviour change and targeted at attitude, knowledge and/or behavioural outcomes for men who have sex with men.
2. To undertake a critical review of the quality of these interventions, focusing on the ways in which they have been evaluated and the conclusions about effectiveness that can reliably be drawn from them.
3. To summarize the state-of-the-art with respect to evaluating different types of preventive interventions for MWHSWM, and indicate future research, policy and practice needs.

The approaches used in the review follow the model for reviewing health care interventions established in the Cochrane Collaboration (Cochrane Collaboration 1994), and the work of other reviewers in the health,

education and social welfare fields (Loevinsohn 1990; MacDonald *et al.* 1992). The present report builds on previous reviews carried out at SSRU looking at the ways in which health promotion and other social interventions have been evaluated (Oakley *et al.* 1994a; see also France-Dawson *et al.* 1994; Fullerton and Oakley 1995; Holland *et al.* 1994; Oakley and Fullerton 1994; Oakley *et al.* 1994b; Oakley *et al.* 1995a; Oakley *et al.* 1995b; Oakley *et al.* 1995c).

These reviews consider two basic questions: how do we know what works in the field of social and behavioural intervention; and what evidence is there for the effectiveness of different interventions?

INTRODUCTION

These questions about the knowledge-base of health promotion work are crucially important in the HIV/AIDS field, since medical science has so far had little success in finding a cure or an appropriate vaccine, despite some advances in secondary prevention and in the treatment of opportunistic infections (Sittitrai *et al.* 1990; Cohen 1993). As a recent editorial in The British Medical Journal noted, 'Data describing the efficacy of biomedical efforts either to cure AIDS or to prevent the disease through use of vaccines are not encouraging. The realization has been spreading within gay male communities that we are fated to live with the continuing consequences of the AIDS epidemic for the indefinite future, and perhaps for the rest of our lives. The best hope of gay communities for surviving the epidemic in some relatively intact form depends on efforts to support consistent safe sex over indefinite periods of time' (Stall 1994:686).

HIV is transmitted by specific patterns of risk behaviour, and it is possible for people to avoid such behaviour, or to adopt safer variants of it. It is for these reasons that interventions designed to prevent the transmission of HIV by reducing risk behaviour are critically important: they remain the main way of limiting the spread of the epidemic.

Gay men were identified from early in the epidemic as being at particular risk of infection with HIV. With the passing of time, other groups in the population also came to be recognized as being at risk, including, increasingly, those who could be infected by heterosexual transmission. But in the United States and many Western countries, HIV/AIDS has disproportionately affected MWHWSM. In the UK in 1993 72% of those who died of AIDS were homosexual or bisexual men. Sexual intercourse between men has accounted for 75% of the total number of reported AIDS cases (Hoolaghan and Eisenstadt 1994).

Risk factors

Epidemiological studies suggest that the sexual behaviours carrying the highest risk of HIV transmission among men who have sex with men are receptive and insertive anal intercourse (Friedland and Klein 1987). The

use of condoms has been shown to reduce the risk of HIV transmission by about 70% (Weller 1993). The other behavioural factor consistently associated with HIV transmission is the number of sexual partners (Sittitrai *et al.* 1990). Accordingly, most health promotion intervention strategies have the goal of reducing anogenital sex, increasing condom use and reducing the number of partners.

Time trends in sexual practices

Over the course of the last decade much work has been carried out assessing trends in sexual practices among gay men; for example, the Multicenter AIDS Cohort Study (Beltran *et al.* 1993); the AIDS Behavioural Research Project in the USA (McKusick *et al.* 1990); Project SIGMA (Socio-sexual Investigations of Gay Men and AIDS) in the UK (Weatherburn *et al.* 1992); and the Amsterdam Cohort study in the Netherlands (de Wit *et al.* 1993)(see also Aggleton 1995 for a list of ongoing cohort studies). These studies monitor changing patterns of behaviour and attempt to identify predictors of risk.

In a study in Switzerland, Dubois-Arber *et al.* (1993) carried out surveys in 1987 and again in 1990 using similar procedures. Self-administered questionnaires were distributed in the gay press and completed by 795 men in 1987 and by 720 men in 1990. Information was gathered about lifestyle and homosexual experience, behaviour and protection, changes in behaviour since the AIDS epidemic as well as attitudes to risk reduction and to AIDS prevention campaigns. Proximity to AIDS was found to have changed in the three years, as more respondents in the 1990 sample had immediate contact with someone with AIDS. The majority of the sample in both surveys practised safer sex, but a quarter (31% in 1987) did not use a condom every time they had anogenital sex. Unprotected sex was more likely if intercourse was with a known or steady partner. Interestingly, in both surveys the respondents appeared to be satisfied with prevention messages.

Early research indicated that MWHWSM were reducing unsafe sexual practices as a response to the HIV/AIDS epidemic, but more recent research suggests that these behavioural changes are not being maintained (van Reyk 1994). Towards the end of the 1980s, the cohort studies began to find rising levels of STDs among gay men, particularly rectal gonorrhoea (taken as a proxy marker for high risk sexual behaviour) (Singaratnam *et al.* 1991), a rising incidence of HIV-1 infections in gay men (Evans 1993), a continuing high prevalence of infection in gay and bisexual men in England (Hart *et al.* 1993), and increasing levels of self-reported risky behaviour.

There is evidence that the epidemics of HIV infection and AIDS seem likely to continue in the UK amongst men who have sex with men, rising to an estimated annual incidence of 1505 AIDS cases by 1997 in men for whom transmission occurs through homosexual intercourse (Communicable Disease Report 1993). This figure is based on current

estimates of the number of men who are now infected with HIV who will go on to develop AIDS. The back projections for HIV incidence are approximately five hundred per annum between 1986 and 1991, which means that the situation will deteriorate in terms of AIDS in gay men - many of whom became infected in the early/mid-eighties - and MWHWSM will remain at high risk of contracting and transmitting HIV.

Predicting risk?

Many researchers have attempted to identify predictors of high risk sexual behaviour. Much of this work has made use of theoretical models of health behaviour derived from other fields of health promotion and education. Several different models have been used, sometimes in combination, but there is a core of conceptual elements common to most of them. These are: personal efficacy; assessment of personal risk; belief in the possibility of behaviour change; the costs and benefits of changing behaviour; degree of personal contact with the disease; and sense of control over health. Studies using these variables have varied in their findings. While several have found a positive relationship between supportive social norms and behaviour change (see e.g. Emmons *et al.* 1986; Joseph *et al.* 1987; McKusick *et al.* 1990; McCusker *et al.* 1992), these same studies produced contradictory findings for the significance of personal efficacy, assessment of risk, and degree of personal contact with the disease. Studies have also examined the link between knowledge of HIV status and behaviour change (see e.g. Frazer *et al.* 1988; McKusick *et al.* 1990; Bochow 1992; van Reyk 1994). Overall the findings suggest that there is no straightforward relationship between knowledge of one's HIV status and changing one's behaviour. When behaviour change does occur, it is not necessarily in the direction of safer behaviour.

Wiktor *et al.* (1990) explored the effect of knowledge of HIV status on risk behaviour among 134 gay men in New York and Washington and 139 men in two Danish cities - Copenhagen and Aarhus. The men were questioned about their sexual practices and knowledge of their own HIV status over the previous 12 months. Knowledge of HIV status alone did not have a significant effect on rates of anal intercourse, numbers of partners, or condom use. About a quarter in each cohort asked partners about HIV status, but those who did were very unlikely to choose a partner with opposite status. Danish men were more likely to have unprotected anal sex, but were also more likely to be in a monogamous relationship. Fifty two percent of the US cohort and 31% of the Danish cohort had had sex with a partner whose HIV status was unknown to them.

There are significant differences in terms of findings between studies carried out in the United States and those based in the UK and Australia. In the UK, Dawson *et al.* (1992) carried out a cohort study using the Health Belief Model, a model examining the relationship of a number of social-psychological factors to health behaviour. They found little

association between the key variables of the model and risk behaviour, but a strong association between relationship status and unprotected anal intercourse. The authors suggest that one of the reasons for the failure of the health belief model in their study, and in the whole area of sexual behaviour, is that this model was designed with the behaviour of *individuals* in mind (see, for example, studies of smoking cessation or cardiovascular risk). But sexual interactions involve more than one individual. This difference reflects a different stress in US studies, which tend to emphasize individual factors in behaviour change and maintenance, and in British and Australian research which, by comparison, put a stronger emphasis on community change, and on the complex nature of sexual negotiations.

Overall, the findings of the research into predictors of high risk sexual behaviour are inconsistent and confusing. But some factors do appear to be strongly correlated with unsafe sex. One such factor is relationship status. Gay men in an exclusive or regular relationship seem to be much more likely to engage in unprotected anal sex (Davies 1992). This has been widely interpreted as reflecting a level of emotional commitment to the relationship. Another key factor is the extent to which peer norms are supportive of behaviour change. In a Norwegian study, gay men engaging in unsafe sex were significantly less likely than those engaging in safe sex to report a supportive social environment (Priour 1990). Thus, interventions which aim to change community norms may be a more effective way to reduce high risk behaviours than attempting to bring about change on an individual level.

Repeat HIV testing

Little is known about the predictors of HIV testing, particularly repeat testing, or about the implications of this for HIV prevention. Repeat testing may be used as a substitute for safe behaviours, or it may promote safe behaviours by reinforcing the effectiveness of risk reduction. The focus of the cross-sectional study by Phillips *et al.* (1995) was on predictors of repeat HIV testing in two bar-based samples of gay/bisexual men in two cities in Arizona and Oregon. Over half the sample had been tested three or more times. Men at higher risk were more likely to report repeat testing, as were those who perceived social norms as favouring secondary prevention and who communicated most often with their sexual partners about testing. However, different men used repeat testing for different purposes. Some used it as a response to lapses into unsafe sex, while some described it as a method of confirming HIV negative status.

This means that policies about repeat testing need to be sensitive to the different uses made of it. There are important questions about cost-effectiveness. In 1993, a Swedish study of HIV testing put the cost of an individual test involving information and counselling at about \$30 (Blaxhult *et al.* 1993). The cost for each case of HIV seropositivity found

was estimated at \$1.2 million for screening blood donors, \$96,000 for anonymous blood screening of pregnant women and \$18,000 in screening for sexually transmitted diseases.

A problem of 'relapse'?

The term 'relapse' was introduced into behavioural research to describe the behaviour of the minority of men who had initially adopted safer sex behaviours but, at some point during follow-up, had had at least one episode of unprotected penetrative anal intercourse (Stall *et al.* 1990). This finding highlighted an additional challenge for health promotion initiatives. Encouraging people to reduce risk is not a once-and-for-all exercise, but a matter of sustaining their commitment to this over time.

The methodological and conceptual bases of the concept 'relapse' have been criticized (see e.g. Hart *et al.* 1992; Davies 1992), and a lively debate continues over the appropriateness of this term (see e.g. Kippax *et al.* 1993a, 1993b; Ekstrand *et al.* 1993; Davies *et al.* 1993). The term does, however, serve to capture the individualized focus of much behavioural work in the AIDS field generally, and with gay men in particular. It is in common use in medicine, particularly in the treatment of substance misuse, when periods of abstinence (where the person is 'drug free') may be followed by a return to drug use. Outside medicine, the term is more clearly pejorative, referring to 'backsliding', a return to bad behaviour as a result of individual moral weakness. One result of this individualistic approach, so far as health promotion initiatives are concerned, is the recommendation to introduce interventions targeting the 'morally weak' who cannot sustain safer sex (Hart *et al.* 1992). For example, in a recent campaign in San Francisco, gay men were challenged to identify 'excuses' for relapsing or engaging in any unsafe sex, and asked to call an AIDS counsellor at the end of a free phone-line (Watney 1993).

Appeal to the concept of 'relapse' and studies focused on individual behaviour both divert attention from other means of assessing and explaining sexual behaviours. They do not engage with the difficult, but important, task of locating individuals in social networks and communities of interest, which can be examined in order to determine features encouraging or militating against the adoption of safer sex behaviours. Individuals are not isolated units acting without reference to their surroundings, but people whose risk activities or exposures can be explained in terms of their social location and context. The more complex picture afforded by taking social context into consideration can help to explain a range of different behaviours and different reasons for those behaviours classified by the term 'relapse'. In the context of the sexual encounter, these might include each of the partners' attitudes towards condoms, the desire not to offend a new partner, responding to a partner's request, misunderstanding the desires or requests of a partner, being in a mutually monogamous relationship, being in love, the desire to have exciting sex, the use of alcohol or drugs, power relations and

negotiating skills. All of these may affect the practice of safer sex (Gold *et al.* 1991; McKusick *et al.* 1990; O'Reilly *et al.* 1991).

The study of 'relapse' has had important implications for the development of targeted interventions. These interventions include programmes which involve skills training and self management and assertiveness training, as well as including programmes which aim to eroticize the use of condoms in both casual and established relationships.

EVALUATING HIV/AIDS PREVENTION INTERVENTIONS

The ideal requirements of adequate intervention development, implementation and evaluation have been described by Zaslow and Takanishi (1993) as follows:

- (1) a descriptive (qualitative) phase of understanding the norms and range of behaviours of the target group;
- (2) based on these data, the development of specific hypotheses and theories about why such behaviour occurs;
- (3) the design and implementation of theory-driven intervention strategies;
- (4) full documentation of the programme;
- (5) evaluation of its short-term impact by using random assignment to groups and proven behavioural outcome measures conceptually related to the hypotheses under test;
- (6) distinguishing short-term effects;
- (7) trying to describe underlying processes;
- (8) longitudinal studies to determine the extent to which the effects are sustained over time.

The Panel on the Evaluation of AIDS Interventions convened by the U.S. National Research Council defines three types of evaluation: *formative*, *process*, and *outcome* evaluation (Coyle *et al.* 1991). *Formative* evaluations involve small-scale efforts to identify issues and relevant strategies prior to, or independently of, designing and implementing programmes of intervention. *Process* evaluations study the ways in which services or interventions are delivered; they are designed to

describe what goes on rather than to establish whether it works or not. Only the third type of evaluation, *outcome* evaluations, are designed in such a way that they can generate answers to questions about the effectiveness of particular interventions in changing specified outcomes.

Finding 'the best possible interventions'

Discussing problems in evaluating HIV/AIDS promotion programmes, Bye (1990) suggests that, 'It may never be possible to evaluate the efficacy of alternative prevention strategies rigorously. To do so would require carefully designed experiments, which are not possible given the need to make the *best possible interventions* accessible to the maximum number of individuals at risk of HIV infection, and the state of flux that exists generally in the area of AIDS prevention program design and evaluation' (Bye 1990:167 italics added).

In the context of the debate concerning the ethics of evaluation, Bye's use of the term '*best possible interventions*' appears to be contradictory. How are the best interventions identified in the absence of rigorous evaluation? Should the term 'what are believed to be the best' interventions replace 'the best'?

Outcome evaluations can have different designs. They can be prospective or retrospective. They may involve the use of control or comparison groups or they may not. Generally speaking, prospective experimental studies with control or comparison groups offer the best evidence as to the likely effectiveness of different interventions, because these designs minimize the bias that may be introduced with other approaches. Randomised controlled trials (RCTs) represent the gold standard design here, because they should ensure that experimental and control groups are socially equivalent; by distributing unknown factors capable of influencing outcome equally between study groups; and reducing the possibility of researcher bias (Chalmers *et al.* 1989; Chalmers *et al.* 1983; Schwarz *et al.* 1980; Silverman 1985).

The design of an RCT offers the best chance of any post-intervention outcome differences between the randomly selected groups being due to the effects of the intervention itself. The most efficient approach statistically is to randomise individuals, but group randomisation is also possible, and may be the only feasible approach in some fields.

Quasi-experimental and matched control designs, in which people are selected into intervention and control groups on the basis of criteria other than random assignment, do not provide the same quality of evidence as RCTs. The complexity and multiplicity of factors which influence health attitudes and behaviours strengthen the case for properly designed RCTs. The primary condition for an RCT is uncertainty about the effectiveness of a particular intervention. If there is certainty, based on sound scientific evidence, then an RCT is both unnecessary and unethical. In the face of *uncertainty*, an RCT is ethical, although what is ethical may not be possible for practical or political reasons.

RCTs as the gold standard

Issues about the practicality and ethics of using the method of the randomised controlled trial in the area of HIV prevention intervention for MWHWSM have been raised in the literature. Stevenson *et al.* (1993) discuss some of these issues.

There is considerable disagreement in the health promotion community about the value of RCTs generally. Probably the most important counter-argument is the contention that RCTs are unethical because they withhold a treatment from the control group(s); yet uncertainty about the value of the treatment being 'triallyed' is the only sound ethical basis for conducting such a study. In general, it seems that the more urgent a health problem is considered to be, the less likely are RCTs to be used in evaluating possible treatments for it. This understandable response made RCTs particularly unpopular as approaches to intervention evaluation in the early years of the HIV/AIDS epidemic. The AZT drug trials provide an example of how wishful thinking hinders the establishment of sound scientific evidence. The uncertainty about the drug's effectiveness was seen to be secondary to the possibility of a cure (Melton *et al.* 1988). Through concern that a possible cure was being withheld from the control group, participants in the experimental group were reported to have given the experimental drug to the control group.

Other designs continue to be advocated in place of RCTs, with widespread confusion between *scientific* reasons for and against RCTs, and the issue of acceptability of the design to the *target research population* (see e.g. Stimson and Power 1992). Some of the opposition from target communities, particularly in the HIV/AIDS field, draws on an unfortunate tradition of controlled trials conducted without participant consent (see e.g. Anderson 1993; Editorial 1991). There is clearly a very crucial difference between RCTs implemented on the basis that participants all know what the trial is for, and what taking part in it will mean, and have agreed to be part of it on this basis, on the one hand, and those studies in which only some, or no, participants have been provided with the necessary grounds for an informed decision, on the other.

Another common argument against RCTs is that they cannot be used in community settings, and that they therefore rule out a category of intervention that may be particularly important with hard-to-reach groups (see e.g. Nutbeam *et al.* 1990). Some of the work reviewed later in this report shows that this view is mistaken. RCTs may also be dismissed as too expensive, though the costs of different types of intervention evaluation are at present unknown; there are simply very few data on this. It may be contended that RCTs omit valuable qualitative data, though this is in fact not a necessary feature of the method itself (see Oakley 1992), and the most comprehensive studies use an experimental design and collect both qualitative and quantitative data related to processes and outcomes. Discussing 'the worldly science' of programme evaluation, Cook and Shadish (1986:201) note another more worrying reason for the

unpopularity of RCTs; the politics of implementation. Programme implementors and evaluators may not want systematic information on effectiveness, but, rather, data supporting the particular approach they have chosen to take.

METHODS USED IN THIS REVIEW

This review of HIV/AIDS health promotion and education interventions for MWHWSM has involved five main stages of work:

- (1) Identifying studies in the area;
- (2) Collecting reports of relevant studies;
- (3) Reviewing the methodologies used in the studies;
- (4) Entering information onto a specialized computer data-base;
- (5) Generating descriptions of the field and formal reviews from the computer database.

The review relies mainly on reports available in the English language, and is restricted to the developed world, with a focus on the UK within the context of European and North American work.

The main aim of the literature searches was to identify soundly designed outcome evaluations of health promotion interventions for MWHWSM. Interventions for other high risk groups such as injecting drug users were not included in the review.

The bibliography of the studies reviewed in the previous report (Holland *et al.* 1994) was extended by systematic hand-searches for recent studies using the following journals and issues: AIDS (January 1994-August 1995); AIDS Education and Prevention (February 1994 -August 1995); The American Journal of Public Health (January 1994-September 1995); Health Education Journal (March 1994-September 1995); Health Education Quarterly (Spring 1994-August 1995); Health Education Research (March 1994-September 1995); The Journal of Adolescent Health (January 1994-August 1995); The Journal of School Health (January 1994-August 1995); and Adolescence (Spring 1994-Fall 1995).

Assessing methodological quality

Studies classified as outcome evaluations were reviewed for the presence/ absence of eight methodological qualities. Two reviewers with backgrounds in quantitative social science independently assessed each study. Any disagreements were discussed and resolved with a third reviewer. The eight methodological qualities were: 1) clear definition of intervention *aims*; (2) a description of study design and intervention

content sufficiently detailed to allow *replication*; 3) inclusion of a *randomly allocated control or comparison group*, or a *control/comparison group demonstrated to be socially equivalent to the intervention group on socio-demographic and outcome variables*; 4) provision of data on *numbers of participants* recruited to each condition; 5) provision of *pre-intervention* data for each condition; 6) provision of *post-intervention* data for each condition; 7) attrition reported for each condition; 8) findings reported for *each outcome measure* as described in the aims of the study.

A subset of four criteria were considered to identify 'sound' studies, from which some conclusions about effectiveness can be drawn. These criteria are:

- (1) employing an equivalent control or comparison group;
- (2) providing pre-intervention data;
- (3) providing post-intervention data;
- (4) reporting on all outcomes.

The selection of the methodological quality criteria followed practice in other reviews of health and social care intervention. A more detailed discussion of their rationale is to be found in other reports (see France-Dawson *et al.* 1994; Oakley *et al.* 1994a, 1994b; Oakley and Fullerton 1994; Oakley *et al.* 1995c).

A final element in the reviewing process for the studies defined as methodologically sound consisted of judging the effectiveness of the programme from the information provided in the published papers, and comparing these conclusions with those provided by the authors themselves.

RESULTS

In the previous report, electronic searches located just under half of the total studies included in the review. Some electronic database searches proved more fruitful than others. The AIDS Compact Library (AIDSLINE) on CD ROM identified nine of the reports. PsycLIT, also on CD ROM, produced 35, while 71 came from the Social Science Citation Index (BIDS) and ERIC on CD ROM generated four references. Approximately one third of the studies identified emerged in more than one search. In addition to studies found by electronic searches, a further 96 were generated by hand-searches, and by contact with other researchers and professionals in the UK and abroad. All the additional studies reviewed in this revised report were found through the hand-searches described above.

Table 1 shows the number of relevant studies on the EPIC database and the subgroups which have the design of outcome evaluations, and were considered as a result of the review process to be reports of soundly designed evaluations. A total of 320 references responded to the

keywords 'bisexual men', 'gay', 'homosexual(s)/ity/homosexually active' and/or combinations of these keywords. Only 25 of these (8%) proved to describe outcome evaluations. The total of 25 outcome evaluation reports included three pairs of reports, each pair of which described the same study, and two series of three reports relating to the same study. Separate outcome evaluations therefore totalled 18. The 25 outcome evaluation reports are listed in Appendix I, and are starred once * when referred to in the text.

When the 18 separate outcome evaluations were reviewed according to the criteria listed above, five studies were judged to be methodologically 'sound' and 13 were considered 'flawed'. The sound outcome evaluations are starred twice ** when referred to in the text.

Table 1 Framework for describing studies

References keyworded as 'bisexual', 'gay', 'homosexual'	N=320
Reports of outcome evaluations	N= 23
Separate outcome evaluations	N= 19
Soundly designed outcome evaluations	N= 6

Table 2 gives information about all the outcome evaluations. Most (15/19) of the evaluations were carried out in North America, and most (10/19) were reported in 1991 or later. Eight had the design of trials with control or comparison groups. Nine consisted of pre- and post-test surveys only.

Table 2 Outcome evaluations: characteristics

Country:	UK	1
	Other Europe	2
	North America	15
	New Zealand	1
Year:	1990 or before	9
	1991 or later	10
Design:	trial with control or comparison group	8
	pre- and post-test survey	9
	post-test survey only	2

Table 3 (at the end of the report) lists details of all the outcome evaluations. These are discussed below, followed by sections which describe other types of evaluations, and community-based initiatives. A final discussion, conclusion and recommendations section condenses the main pointers to be drawn for the future of research in the field of HIV prevention and MWHSWM.

The methodologically sound studies

Five of the outcome evaluations were judged to be methodologically sound. Two were considered to report effective interventions, and three partially effective interventions. The judgement about soundness was made for two studies which had the design of a controlled trial with waiting list control groups, though it is to be noted that, strictly speaking, once the intervention has been introduced into the control community, the design is no longer that of a controlled trial.

Kelly et al. (1989)** tested the effectiveness of a behavioural intervention which included AIDS education, cognitive-behavioural self-management, and sexual assertion training and the affirmation of social support, on the AIDS related knowledge and risk practices of high risk gay and bisexual men in a U.S. metropolitan area. Participants were randomly assigned either to the experimental condition or to a waiting list control group, and were asked to complete self reports on sexual behaviour and to keep a record of risk behaviour over a four week period. In addition, each participant took part in a series of role play exercises designed to assess assertiveness in potentially coercive risk situations. The intervention consisted of twelve 75-90 minutes weekly group sessions led by two clinical psychologists and two project assistants. The group sessions covered : information about AIDS and HIV transmission and risk reduction techniques; the high risk activities of the participants; assertiveness and relationship skills; and social support development. After the intervention, both the intervention and control groups underwent assessment procedures, and at this point the control group was offered a shortened version of the intervention over seven weeks followed by a three month

booster and a follow-up assessment eight months later, but with no control group for comparison **Kelly et al. (1990**)**.

The authors assessed the interventions as effective, since they found reductions in the frequency of risky behaviours in sexual practices (anal intercourse) and increased use of refusal skills following the intervention. The reviewers concur with this judgement for the original intervention, but suggest that the findings may be restricted to white gay/bisexual men, as there was a high attrition rate among the ethnic minority men in the study. The lack of a control group in the second study means that conclusions cannot be drawn about the effectiveness of the shortened course.

Another study by the same research team (**Kelly et al. 1991** 1992****; **St Lawrence et al. 1994****) used opinion leaders to endorse HIV/AIDS risk reduction behaviour change among gay men in one intervention city and two comparison non-intervention cities in Mississippi and Louisiana. People who were identified as popular opinion leaders among gay men in a small city were recruited to serve as behaviour change endorsers to their peers. The opinion leaders acquired social skills for making these endorsements and complied in talking frequently with friends and acquaintances. Before and three and six months after the intervention, surveys were conducted of men patronising gay clubs in the intervention city and in the two matched comparison cities. The authors judged the intervention as effective, since the proportion of men who engaged in any unprotected anal intercourse in a two-month period decreased from 37% to 28% with a reduction from 27% to 19% for unprotected receptive anal intercourse in the intervention city. They also reported a 16% increase in condom use during anal intercourse and an 18% decrease in the proportion of men with more than one sexual partner. Little or no change was observed among men in the comparison cities over the same period of time. The reviewers agree that there was evidence to suggest behaviour change.

In a report of three year follow up data, **St Lawrence et al. (1994**)** found continued reductions in unprotected anal intercourse and multiple sexual partners in all three cities. However, they note that other factors could have been responsible for these changes. At this point the comparison between the intervention and non-intervention cities has been lost, because all have had the intervention, and the question at issue is the decline of risk behaviours over time in three communities which have all received a similar intervention.

Kegeles et al. (1995, in press)** developed a community-level peer-led programme to promote a norm of safer sex in the target group of young gay and bisexual men (18-28 years) in the USA. The intervention was based on social learning theory and a diffusion model of social change, and employed a variety of social, outreach and small group activities with the intention to reduce high risk behaviour. The evaluation design was a pre- and post-intervention mail-back survey in both the intervention (193 subjects in Eugene, Oregon) and control community (110 subjects in

Santa Barbara, California). The authors judged the intervention as effective in changing behaviour (reduced unprotected anal intercourse), and increasing communication skills (related to high exposure to the intervention). The reviewers thought the high attrition rate raised doubts about these conclusions.

The aim of the study by **Tudiver *et al.* (1992**)** was to assess the effectiveness of two different kinds of AIDS risk reduction programmes for gay and bisexual men practising sexual behaviour. Six hundred and twelve gay and bisexual men were recruited through gay bars and social events, advertisements and reports in the gay press, word of mouth, posters and leaflets in community centres and clinics, and by physician referral. All completed a 112 item self-administered questionnaire covering demographic information, AIDS knowledge, attitudes toward AIDS and sexual practices, and sexual behaviour. They were then randomly assigned to one of three conditions:

- (1) Highly structured three hour group sessions (held in a group member's home) led by two trained volunteer peers. Volunteer training was a one day intensive session on group process and the education programme, which included the establishment of group rapport, a discussion of the impact of AIDS on individuals and the community, safer sex guidelines and risk clarification, condom demonstration and role play.
- (2) Four weekly 2-hour sessions led by two paid counsellors. The counsellors attended a one-day intensive training session on group process and the education programme. This intervention emphasized the building of relationships and expression of emotions, and included tasks and discussions about safer sex, sharing personal experiences and coping strategies, and skills and role-plays for negotiating safer sex.
- (3) A waiting-list control group.

The questionnaires were administered once again three months after the intervention. Drop-outs (18%) included subjects who did not complete the follow-up data collection. The authors judged the intervention effective, since changes in knowledge of AIDS risk and attitude towards condom efficacy were significantly higher for individuals in the two treatment groups than for the controls. There was an overall shift toward safer sex over time which was strongest for the single-session group. The reviewers point out that there was a high drop-out rate, particularly among young gay men and bisexuals; and there is insufficient information provided for one to make a clear decision about effectiveness.

Valdiserri *et al.* (1989)** compared two different risk-reduction interventions targeted at homosexual and bisexual men. Approximately half of the participants were recruited from an ongoing study of the natural history of HIV in gay and bisexual men, and the rest were recruited through a multi-media approach encompassing posters, leaflets, local

papers, radio and TV, and personal encounters. Subjects completed a self-report questionnaire covering demographic information, attitudes to safer sex and risk reduction, AIDS knowledge, and sexual behaviour. They were then randomly assigned to one of the two types of intervention. There was no control group as the researchers did not consider it necessary or 'ethically acceptable'. Of the 584 subjects, 265 were assigned to the first intervention and 319 to the second. The two interventions were:

- (1) A small group lecture covering the following areas: transmission and pathogenesis of HIV infection; the clinical outcomes of HIV infection; the relative risks of infection for specific sexual practices; the importance of reducing risk through the practice of safer sex; proper use of condoms; interpretation of HIV antibody tests. The intervention was led by a gay health educator and lasted 60-90 minutes.
- (2) A small group lecture identical to that described above, and a skills training component. This aimed to promote the social acceptability and legitimacy of safer sex, and to teach strategies for risk reduction, as well as using the group discussion to explore the non-libidinous functions of sexuality for gay men. This component was led by a professional psychotherapist and used techniques such as role-play, psychodrama and group process. The whole session lasted around 140 minutes. Follow-up data collection assessed self-reported changes in sexual behaviour at six and twelve months. The authors reported that skills training increased condom use for insertive anal intercourse. For those in sessions providing skills training, condom use increased on average by 44% between pre-test and second follow-up compared with only 11% on average for those in sessions which did not provide such training.

The authors considered the intervention effective in reducing risk behaviours, with greater increase in condom use among those who had skills training. However the high attrition rate may undermine this conclusion. There was clearly something of a question mark about this study, as it compared two interventions without the methodological benefit of a control group. It was possible that the second intervention compared favourably with the first, because the effect of the first was so depressing!

A novel gay community-based approach to increasing condom use was taken by **Honnen and Kleinke (1990*)**. Their intervention, which took place in three gay bars in Anchorage, Alaska, involved placing a large sign directly above a container of free condoms. The sign gave statistics for the number of people who had died from AIDS in the state and pointed out that condoms can reduce the spread of AIDS. Additional signs were placed in the bar lavatories. An ABAB design was used, with 2-week

baseline, 2-week intervention and signs present, 2-week reversal and 2-week reinstatement of the intervention. When the first intervention started in Bar A, the initial baseline started at Bar B and two weeks later the initial baseline began at Bar C. The study design compared the number of condoms taken before and after the introduction of the signs in order to determine the effectiveness of this form of advertising. The presence of the signs increased the taking of condoms by 47%.

Other outcome evaluations

The main reason for judging outcome evaluations methodologically unsound was the lack of a control or comparison group and use of a pre- and post-test survey design only. However, there were two RCTs classified as unsound because of failure to provide adequate data (**Coates et al. 1989***) or because the randomisation process appeared to result in groups which differed in their risk behaviours before the interventions began **Robert and Rosser (1990**)**.

(i) RCTs to evaluate training programmes

A stress reduction training programme was investigated in the study by **Coates et al.(1989*)**. Sixty four HIV-positive volunteers in San Francisco were recruited into a randomised controlled trial evaluating the impact of stress reduction on the incidence of unsafe sex and on immune function. The intervention consisted of eight two-hour sessions and a one day retreat, during which participants learnt relaxation, stress management skills and the importance of health behaviour change. On completion of the programme men in the intervention group reported fewer sexual partners; there were no differences in immune function. It is hard to judge the strength of the evidence presented in this study, as the report omits significant data, and outcome data were collected only a few days after the end of the programme.

Robert and Rosser (1990)** undertook a comparative investigation of AIDS education programmes for gay men, in Auckland, New Zealand. One hundred and fifty-nine homosexually active males were randomly assigned to one of five experimental conditions:

- (1) Watching a video, '**Do the Right Thing**' developed by the AIDS council of New South Wales, 1986, which was 15 minutes long and featured two gay men negotiating having safer sex in a sauna.
- (2) Individual counselling in the form of a structured interview, 20-30 minutes long.
- (3) **Eroticising safer sex**, a psycho-educational approach to safer sex designed by Gay Men's Health Crisis in New York City.

- (4) **Stop AIDS Program**, a community based peer support AIDS prevention programme based on discussion groups, of 2 - 2.5 hours duration, originally developed in California (Puckett and Bye 1987).
- (5) A control condition.

At baseline 75%, and at 6-month follow-up, 83% of the sample reported only safer sex practices during the previous two months. The 'relapse' rate of those engaging in exclusively safer sex behaviour was estimated to be 7%, while 49% of the unsafe sex group remained unsafe. No significant differences were detected across interventions or between baseline and follow-up when safer sex was measured as a global term.

This study was of a group of gay men in Auckland where HIV prevalence was low, and from previous data, safer sex practices were being used by the majority of the sample prior to intervention. The purpose was to test the efficacy of different interventions based on different models of health behaviour change, and there was some indication that individual counselling and group interventions had more of an impact on behaviour. The authors warn against transporting models of health behaviour change from other areas (for example smoking or obesity) to HIV/AIDS prevention without careful adaptation. They undertook a detailed statistical analysis which indicated that different programmes affect different types of behaviour.

However, the reviewers were not convinced that effectiveness had been demonstrated. They noted that baseline data suggested that the different groups may not have been equivalent in their behaviour and therefore were not comparable for testing the interventions. This may have been the result of the randomisation process in which low numbers recruited into the study were allocated randomly into five different groups.

(ii) HIV testing

Several studies look at HIV antibody testing. The purpose of the study by **Hirano *et al.* (1994*)** was to evaluate the impact of anonymous testing availability on HIV test demand in Arizona. The study examined testing patterns five months before the introduction of anonymous testing and in four five month period afterwards. Only the first five month period after anonymous testing became available showed a significant increase in uptake overall. MWHSWM were the most significant responders to the new policy, and 22% of those who availed themselves of it said that they had delayed having the test until they could do so anonymously. This study is interesting in suggesting that responses to anonymous testing may be different for MWHSWM and for other high risk groups, including injecting drug users.

Another study looking at HIV antibody testing was carried out by **McCusker et al. (1988*)** in the USA. Its purpose was to assess the effects of HIV antibody testing on subsequent sexual behaviour. The study population was homosexual men attending a Boston community health centre who were enrolled in a longitudinal study of the natural history of HIV infection. The main findings were that HIV status was unassociated with the decision to have the test result (74% of seronegative and 73% of seropositive men decided to do so), and that risk behaviour declined over the time period of the study. No behavioural effects of antibody status or test knowledge could be observed. A limitation of the study was that subjects chose whether or not to have the test and so the groups were not equivalent - men who decided to know the result could have been more predisposed to risk-reducing behaviour. The 'disinhibition' effect reported in some other studies whereby men who have a negative result either do not change or increase their risk behaviour was not observed. Notably, 94% of those who chose disclosure and had a positive result were depressed. The authors concluded that, 'The results of our study do not support the use of HIV antibody testing by itself as an informational aid to risk reduction' (**McCusker et al. 1988*:466**).

In the Netherlands, **van Griensven et al. (1988*)** examined the impact of HIV antibody testing on changes in sexual behaviour in a study population of 746 homosexual men living in or around Amsterdam. These men were surveyed in three consecutive six month periods starting in October 1984, when they were informed of, and counselled about, their HIV antibody status; 207 were lost to follow up. A total of 234 (31%) were seropositive; a further 28 (4%) seroconverted during the study. Data analysis showed an equal shift away from anogenital intercourse in both the seropositive and the seronegative group - from 74% to 43% and from 48% to 28% respectively. In both groups number of sexual partners declined, though more so among seropositives. The authors note that many factors apart from testing and counselling could have influenced the behaviour of the men in the study; '...diverse forms of information and social support were given by the nurses who maintained contact with the participants'. Their view was that 'ethical and practical considerations' ruled out an experimental design, thus making it impossible to distinguish their individual contribution to outcome (**van Griensven et al. 1988:1577**).

(iii) Interventions for young men

In a study concerned with risk behaviour among young gay/bisexual men, **Remafedi (1994*)** provided 234 young men with individualized HIV/AIDS risk assessment, risk reduction counselling, peer education and service referrals. The evaluation lacked a control group. Pre- and post-intervention data were collected for only 58% of the sample. Fewer participants reported unsafe sex after the intervention, although a quarter reported ongoing high risk behaviour. Remafedi notes that, '...the study was not designed to test the effect of the intervention, and causal

inferences should be resisted. Other sources of knowledge and experience could have contributed to the observed improvements.' Furthermore, 'The program employed repeated contacts with clients and diverse prevention strategies, including individual counselling, peer education, and psychosocial services. Determining which of these interventions might be most efficacious will require additional investigation' (**Remafedi 1994*:147**).

A third study reporting an intervention with young gay/bisexual men was undertaken by **Rotheram-Borus et al. (1994*)**, a research team previously responsible for an interesting controlled trial of HIV prevention for runaway youth using small group sessions for information, skills training, and counselling (Rotheram-Borus et al. 1991). The present study built on the findings of the first. It provided an intensive HIV intervention consisting of 20 small-group sessions over three weeks. The sessions covered facts about HIV/AIDS communicated via video and art workshops; coping skills training; access to health care and other resources, including visits to a community-based agency providing vocational and educational counselling, recreational opportunities and referrals to health care and legal aid; reviewing of individual barriers to safer sex in private counselling; and addressing prejudice against gays and positive feelings towards declaring one's homosexuality. Participants in the intervention were 138 young men aged 14-19 who were attending a community-based agency providing recreational and social services to gay youths in New York City. They were paid a small amount for completing the baseline interview and \$20-25 for each of the three follow ups which took place at three, six and twelve months after the intervention.

The design of the evaluation was a pre- and post-test survey. As with other such designs, the problem posed for data interpretation was that the cohort involved in the study was reducing their risk behaviour over time, so any particular impact of the intervention was difficult to distinguish. The best predictor of sexual risk behaviour after the intervention was sexual history before it. There was some increase in the proportion of condom-protected sexual acts in the first post-intervention period, but gay and bisexual youths who engaged in commercial sexual activity *increased their anal and oral sex risk acts* over time despite receiving the intervention. (This confirms other studies of the gay commercial sex scene; see e.g. McKeganey and Bloor 1990.) Significantly, there seemed to be no dose-response relationship between receipt of the intervention and risk-reduction; attendance at a few of the intervention sessions was as likely to be followed by risk reduction as more sustained attendance.

The power of this study to answer questions about the effectiveness of the intervention would have been considerably enhanced had the study design included a control group. The authors did note that it would have been desirable to conduct a controlled trial by randomly assigning

participants to intervention and control conditions. However, they regarded this as not feasible for several reasons: there was only one potential recruitment site; 'gay youths were at such risk that assigning them to a control group would have been unethical'; and contamination effects could not be adequately controlled within the one available recruitment site, thereby ruling out the use of a waiting list control design (**Rotheram-Borus *et al.* 1994*:1944**). However, the authors did recommend repeating the study using more than one site.

(iv) Community interventions

The intervention undertaken by **Galavotti *et al.* (1990*)** was one of the AIDS Community Demonstration Project supported by the Center for Disease Control in Atlanta. These projects are based on the stages of behavioural change theory (DiClemente and Prochaska 1985), and are multicentre community-based interventions targeted at hard-to-reach groups - men who have sex with men, injecting drug users not in treatment programmes, women who are or may be the sex partners of men in these two groups, prostitutes and high-risk adolescents (O'Reilly and Higgins 1991). Key features of the projects include: an initial period of formative evaluation to define community parameters, identify opinion leaders and describe community structures, values and beliefs relevant to HIV/STD prevention; continuous process evaluation; a grounding in social science theory; the implementation of intervention messages through 'small media' (brochures, pamphlets, newsletters, posters etc), presenting authentic 'role model' stories of people in different stages of behaviour change; intervention materials delivered by community volunteers serving as role models; and repeated cross-sectional surveys to measure behaviour changes in the community. A crucial element of these studies is a formative evaluation process to develop a suitable understanding of the groups of interest, including a period of ethnographic research.

The intervention reported by **Galavotti *et al.* (1990*)** was implemented in four US cities: Denver, Seattle, Dallas and Long Beach. The programme included HIV counselling and testing and risk reduction information and skills training, together with specific attempts to influence social norms regarding risk reduction. The impact of the intervention was measured by examining changes in psychosocial variables thought to affect risk behaviour. These factors include confidence that one can perform risk reduction behaviours (self-efficacy), risk reduction skills, perceived normative support for risk reduction, and the belief that risk-reduction behaviours will actually reduce risk of HIV transmission (response efficacy). The authors report significant changes in self-efficacy and improved risk reduction skill following programme implementation, and in two of the four cities positive changes in perceived norms and response efficacy. However, as there was no control group, it is not possible to attribute these changes to the intervention.

Miller et al. (1990*) and **Flowers et al. (1991*)** undertook an evaluation of the California-based AIDS intervention programme Stop AIDS (Puckett and Bye 1987) in three geographical locations, Chicago, Orange County, California, and Phoenix, Arizona. Participants were recruited at locations where gay and bisexual men were known to congregate, by trained volunteers who engaged them in conversation about AIDS prevention and then invited them to attend a Stop AIDS discussion group. Of those approached 28% agreed to attend. There were 109 subjects at each of the locations. The pre- and post-intervention instrument, the AIDS Prevention Test, was developed by the authors and administered to the participants immediately before and immediately after the intervention. Participants took part in a three and a half hour session run by a trained facilitator in private homes of former volunteers for the project. The sessions focused on information, attitudes and behaviour associated with HIV infection and transmission. Testing and the role of alcohol and drug use in unsafe sex were discussed, as were changes taking place in the gay community because of the epidemic. The participants were asked to fill out a 'commitment card' stating that they would reduce risky sexual activity. The authors report that the Stop AIDS discussion group format was effective in eliciting an *intention* to reduce risk behaviour related to HIV transmission in two of the study sites. They recognize that lack of follow up is a limitation of this study. The authors consider the intervention effective in changing attitudes and behaviour intentions. The reviewers point out that there was no control group and the sample was self-selected. As the authors themselves note, there is no indication in the study of actual behaviour change over time. A similar peer-led STOP AIDS programme was one of four interventions tested in New Zealand (Robert and Rosser, 1990*).

The only outcome evaluation of an HIV/AIDS prevention intervention conducted in the UK is reported in a book by **Prout and Deverell (1995*)**. The book describes a set of linked interventions - the men who have sex with men action in the community (MESMAC) projects. These were a group of projects arising out of existing HIV prevention work, and brought together under one general umbrella through a process of consultation initiated by the Health Education Authority with voluntary and statutory organizations within the community. The MESMAC projects took place in four sites and fell into one of three major categories:

- (1) groups organized for social and health activities (e.g. the Tyneside Gay Men's Youth Group);
- (2) outreach work (e.g. Leicester Black MESMAC's work in saunas);
- (3) interventions designed to set up peer-led programmes (e.g. London MESMAC's Peer Training Initiative).

There were also one-off and specific projects such as Latex Productions, a Lesbian and Gay Theatre Group in Leeds.

The MESMAC projects varied considerably in the extent to which HIV prevention was their primary goal. For example, the Tyneside Young Men's Group and Leeds 'Fit Together' were concerned to address a broader range of issues than HIV alone in relation to sexuality, health and social support. This was done in different ways in the two locales; the Tyneside group provided primary support for young men's chosen sexuality, whilst the Leeds group functioned more as a coalition of individuals and organizations in a network with broadly shared health aims. Each organized HIV related events or incorporated HIV specific issues within their remit, but prevention was never the exclusive concern of group members.

The outreach organized in Leicester for Black MWHWSM and the London Peer Training Initiative were more concerned to incorporate HIV related prevention directly in their work, and again this took place in a framework that emphasized related issues of sexuality and sexual health. In Leicester the focus of work was saunas as places where Asian, Afro-Caribbean and white men came to have sex with other men. The MESMAC workers worked with men on a one-to-one basis to provide information on sexual health issues, distribute condoms and discuss issues of sex and sexuality with men who did not normally have access to this kind of resource. In London, the Peer Training initiative had safer sex as its stated goal, through peer-led outreach in the community. Although training meetings were organized on HIV, safer sex and its negotiation, and on drug use issues, which reportedly benefited the ten members of the group who regularly came to meetings, the planned peer-outreach work did not occur.

Most of the evaluation of the MESMAC projects reported by Prout and Deverell comes under the heading of process evaluation; there was no attempt to measure the effectiveness of the MESMAC approach against the standard of a comparable no-intervention control group, and few quantitative data were collected. The research was primarily descriptive, with accounts of the process of recruiting to, and organizing, groups, and their effects on members. In the case of outreach projects, for example in saunas, and public toilets where sex between men takes place ('cottages'), the perceived difficulties of measuring effectiveness and the lack of resources for studying behavioural and other outcomes meant that the research was mostly concerned with evaluating the practicalities of service delivery.

However, Prout and Deverell do report measures of the impact of the work on outcomes which include access to services and support, increased HIV and safer sex awareness, condom use, and levels of confidence and self-esteem (**Prout and Deverell 1995*:179-182**). Many of the insights and problems that arise in making judgements on the basis of qualitative work are suggested by the following passage from the book: 'Even though MESMAC was not a behaviour change project we have information from some men that suggests MESMAC helped them

to adopt safer sex behaviour. Many of the MESMAC initiatives led to a reported increase in safer sex behaviour from some of the men worked with. The changes reported on the questionnaires and evaluation sheets were mainly in relation to increased condom use. Men also told the evaluators and workers that, for example, they had started using flavoured condoms for oral sex, were carrying condoms and insisting on using them and that they had learnt the importance of using lubricant with condoms. Several of the men interviewed reported that they had told other men about safer sex, or had given out condoms. There was also some evidence of a developing safe sex culture amongst some MESMAC groups. However, as with many other projects, MESMAC found that behaviour change was inconsistent and often difficult to maintain. For example: some men started using condoms with male partners but not female ones; men used them for casual encounters but not in relationships; some men had very low self-esteem and felt they were probably infected already so did not see the point in using condoms; some did not like them; others did not want to ask partners to use condoms for fear of losing the relationship; and some men were paid more as sex workers to have unsafe sex' (**Prout and Deverell 1995***: 181-2).

MESMAC and its associated research was primarily an exercise in establishing the *principle* of community development as an achievable practice, rather than an attempt to demonstrate that one form of community development succeeds in HIV prevention better than others. Some of the MESMAC projects have continued in a similar form, several have been abandoned, and others have developed into free-standing agencies or groups with their own agenda for future work.

(v) Peer interventions

Two studies explicitly examined the role of peers in health promotion interventions for MWHSSWM. A study by **de Kooning et al. (1993*)** in the Netherlands assessed the effects of a single session programme for groups of gay/bisexual men using a video and group discussions on safer sex presented by trained peers. The intervention aimed to dispel misconceptions about HIV transmission and encourage the use of condoms in high risk situations. Process and outcome evaluation was undertaken based on a pre- and post- test only. Immediately pre- and post- intervention, data were collected from the 352 participants, and three months later from 166 of them. The authors report an increase of AIDS risk reduction knowledge in the post-test which was partly sustained in the follow-up. Attitudes towards condoms became more positive from pre- to post-test, but this was not maintained at three months. An increased sense of self-efficacy in assertiveness skills relating to safer sex was observed at the follow-up though respondents expressed concerns about their ability to maintain safer sex in the longer term. There was an increase in the intention to avoid unsafe anal sex immediately post intervention. The authors suggest that the intervention was partially effective, but the reviewers drew attention to the lack of a control group and high attrition rate concluding that the effectiveness of this programme is unclear.

A second study conducted in the Netherlands by **Hoekzema and Dingelstad (1991*)** examined the impact of workshops led by a gay

facilitator. Workshops were set up in Amsterdam, Arnhem, Den Bosch and Rotterdam targeted at men who have or intend to have sex with men. Participants were recruited by advertisements in a newspaper and in the gay press and by flyers. They lasted three hours and aimed to promote condom use for anal sex. The 68 men who took part were over 23, with a relatively high level of education. The authors report increased knowledge about condoms, a shift to more positive attitudes towards condoms, increased self-efficacy related to condom use, and 100% use of condoms with casual partners. This was however a small, self-selected sample with no control and a high drop out rate (44%), and although positive results are reported, it is impossible to assess the effectiveness of the workshop from this study.

Other types of evaluation

There have been fewer well-designed evaluations in the area of HIV prevention with gay/bisexual men than in work with other social groups (Office of Technology Assessment 1988). Many evaluations of HIV prevention work with MWHWSM are not designed to examine the impact on health or behavioural or other outcomes, but to describe what happens when a particular intervention is implemented, or to gather qualitative data prior to, or as part of, developing an intervention.

Process evaluation is intrinsic to the programme of AIDS Community Demonstration Projects supported by CDC in the USA. A large amount of process evaluation has also been undertaken in the UK. For example, as part of their health promotion work, the Terrence Higgins Trust produce a range of leaflets and posters. In 1990 Peter Aggleton conducted a formative evaluation on one such leaflet. The formative evaluation aimed to assess the responses of a range of gay men to the leaflet. Using a mock-up, the leaflet was discussed with a range of gay men in focus groups at various gay venues. The conclusion from this formative evaluation was that while there was generally a positive response to the leaflet a more targeted approach would be more effective (Aggleton 1990).

A more recent example of a process evaluation is Tales of Gay Sex, an evaluation of commercial safer sex materials for gay men (Hickson *et al*, 1994). This was an attempt to explore gay men's responses towards such materials in general, and to one such package in particular: a series of eight foldout photostories developed by the Terrence Higgins Trust's Gay Men's Health Education Group. Each of the eight photostories illustrates specific aspects of safer sex. Some provide 'gay sex positive' messages; others focus on unsafe sex. The materials were handed out by volunteers or installed in racks at certain commercial gay sex venues in both London and other cities. The aims of the evaluation were to assess awareness and impact of the materials; to explore how gay men use them; and to assess the impact the campaign to distribute them may have had on men's knowledge, attitudes and behaviour. The study population consisted of 209 gay scene users selected from the project SIGMA cohort, who provided individual data in face-to-face interviews, and a series of focus groups. Conclusions from the evaluation were that

Tales of Gay Sex were the most widely known HIV prevention materials targeted at gay men in England and Wales, the materials were widely liked; the level of sexual explicitness was acceptable; little or no new information about HIV transmission was considered to be imparted by the materials; and few men felt the materials would have any effect on their sexual behaviour.

There is also an important role for small-scale qualitative studies which explore how men feel about sexuality and about the AIDS prevention messages. In one such study carried out in Norway, Prieur (1990) highlighted the 'coldness' that may be associated with safe sex, especially when sexual contact is the main way in which emotion is expressed. For gay men without close ties, sex may be the only link to a sense of community, and unsafe sex is experienced as a closer link than safe sex. Without appreciating that, 'Unsafe sex can be an expression of positive values and good feelings' (Prieur 1990:113), it can be hard to understand why some men appear so resistant to the logic of behavioural change. Similarly, Connell *et al.* (1993) used a life history approach in 21 case studies to explore the meanings of homosexual desire and practice among working class men in Australian cities. Their study shows how the 'decision' to have sex with men is partly shaped by the economic vulnerability and social constraint which is endemic to working class life.

Community based initiatives

Community-based approaches to controlling HIV transmission seek to provide people with information, skills and social support conducive to adopting safer behaviours. Although a considerable amount of work has taken place in this area, the situation noted in the US Office of Technology Assessment report in 1988 still obtains; there is limited evidence to link any aspect of these programmes with any of the behavioural changes observed.

The history of the response of gay men to the epidemic is one of community action (Patton 1990; Watney 1990). Gay men represented a predominantly middle-class and articulate pressure group, with access to politicians, liberal media and senior medics, which was able to assert the need for targeted resources in response to the particularly threatening phenomenon of a 'new' infectious disease. Organizations such as Gay Men's Health Crisis in New York, the Terrence Higgins Trust in the UK and Deutsche AIDS-Hilfe in Germany have involved self-conscious gay organization, building upon struggles in the seventies and early eighties towards gay collective action and civil rights. These and similar organizations have their different histories and strategies, but all have achieved major gains, despite recent criticism that by asserting that 'AIDS is everyone's problem' when it remains a primarily gay male epidemic in the developed world, they 'de-gay' HIV (King 1993). Such organizations remain exemplars of successful collective action on the part of gay men and their allies, as they placed AIDS on the political and health agendas to the extent that today the epidemic remains a key health priority in developed countries. The quite distinctive features of both gay political action and perceptions of the disease which facilitated the development of a non-statutory response to AIDS make it difficult to

abstract lessons for other groups from the experience of gay men. The development of gay initiated non-statutory organizations to both provide and press for services for people threatened by or living with HIV disease is clearly an example of gay community action, but direct community oriented HIV prevention for gay men is not as widespread as is often assumed. Gay men may have achieved substantial gains through political organization and lobbying compared with other groups, such as drug users and sex workers, but prevention of HIV infection has remained highly individualized, and predicated upon personal behaviour change. This may be a result of the history of response to the epidemic. First, the individualized orientation of much research on, and health education for, gay men by its nature militated against the adoption of community based prevention. Second, the initial, rapid, collective response of key members of the gay community early in the epidemic was to put their energies into information campaigns for gay men and consciousness raising about the threat of HIV/AIDS; subsequently they redirected their effort to all those at risk of HIV infection.

The recent change, with growing interest and active engagement in new approaches to the continuing problem of the exposure of gay men to HIV infection, has come from community-based groups, gay men and their allies in health promotion and researchers with an interest in developing and evaluating different approaches to HIV prevention.

Dowsett (1990) describes some of the work which has been undertaken in Australia to reach men who have sex with men. Policy is determined nationally, and all affected communities are consulted on policy formation and represented on policy bodies. Emphasis is laid on high risk behaviours rather than high risk groups, and each affected community is responsible for the development and implementation of prevention programmes for its own constituency - gay community AIDS organizations have sole responsibility for the design and delivery of programmes aimed specifically at gay and bisexual men. The gay communities began the process of education and promotion of risk reduction before any government action, and so the knowledge built up by gay community AIDS organizations was utilized when the government began to fund these to undertake systematic education programmes. AIDS education in the gay community has frequently been in the form of community intervention - taking place in the normal life of gay men, in bars and clubs, in the gay press, and in community events, as well as special fund-raising and educational events. AIDS education targeting the gay community has been quite distinct from national government campaigns aimed at the general population, the former being more sexually explicit and sex-positive. The latter, as in the UK, has often been confusing and ambiguous.

Research carried out by the Social Aspects of the Prevention of AIDS team (see Kippax *et al.* 1993b) have found that one of the most significant correlates of successful behaviour change in gay men is attachment to an organized gay community. This operates on two levels; the sense of a collective response to HIV, embodied by the creation of a safe-sex

culture, and individuals supporting and encouraging one another. Research in recent years has indicated a significant level of homosexual activity among Australian men who do not identify as gay. This constituency is particularly hard to reach, due to the stigma attached to this type of sexual activity among Australian men, and special efforts have been made in this area by statutory, voluntary and community AIDS organizations.

Dowsett terms the strategies used to reach non-gay identified men 'community attachment strategies'. The men targeted by these strategies are a diverse group, including men who live in rural communities, men who are bisexual and do not wish to identify with the gay community, men who are married, and men who find their sexual desires problematic for reasons of class or ethnicity. The aim is not to incorporate these men into the gay community; what they need is clear and accurate information about HIV transmission and safe sex, and support groups where they can meet other men coming to terms with these issues. To develop these networks of support, AIDS councils have set up local branches in rural areas, involving local people in programme development, and funded AIDS educators to travel to rural areas. The need for discretion and sensitivity to local circumstance is important, and programmes are designed accordingly. Young gay men are often particularly confused, and a special effort has been made to reach them through drop-in nights, social events and youth workers. Other areas of work with non-gay identified men have included the setting up of a national telephone counselling service for married men who have sex with men, and outreach work aimed at working class men who meet for sex in public places. All of these community attachment programmes are by their nature hard to evaluate, and Dowsett suggests that the most fruitful direction is likely to be further qualitative research into sexual lives and life histories.

Some community based work also goes under the heading of 'outreach'. However, as Rhodes (1994) has noted, there is much confusion about what outreach is and what it is not. This partly depends on *whose* outreach is being talked about. For some purchasers and providers, outreach functions simply as a referral mechanism to bring hard-to-reach individuals into contact with existing services, while for others it may play the role of an independent service.

Community based initiatives in the UK

Although a number of original and path-breaking community oriented interventions have been tried in the UK, none has been subject to the same level of research scrutiny as has happened in the USA. Projects have been service-driven, with little or no research attached to them. Studies which have taken place have been concerned mainly to describe the processes of setting up and running interventions in difficult circumstances, with some reference to the numbers of men contacted and their satisfaction with the services, rather than establishing behavioural or epidemiological outcomes.

There are cases where research has been included as part of the setting up of a project, but it has not yet been reported. For example, the

non-statutory organization Gay Men Fighting AIDS (GMFA) has secured funding from North West Thames Regional Health Authority to undertake a peer-led initiative among gay men called Stop-AIDS London, and has also been able to support research on the project. This is being undertaken by the Health and Education Research Unit at the Institute of Education. The research is not designed to examine the effectiveness in terms of behavioural outcomes of adopting this approach to AIDS education (HERU, n.d).

Table 4 (at the end of the report) describes some examples of local initiatives. Projects have been undertaken in many parts of the UK, but to date there have been no published accounts of collaborative ventures between service providers and researchers to develop demonstration projects along the lines of the interventions that have been initiated in the USA - that is, where HIV prevention is perceived as a primary goal, and where specific outcomes are identified as evidence of effectiveness in achieving this goal. With HIV transmission showing little sign of declining among homosexually active men in the UK, there is ever greater urgency for such interventions to be established.

Some recent developments include multiple sexual health and other services in Sheffield, a young gay men's peer-led programme in Southampton, and two new sexual health services in London and Glasgow. Sheffield has a strong history of providing services for men who have sex with men through the Centre for HIV and Sexual Health. This includes the Sheffield Gay Men's Peer Education Group, a Young Gay Men's Project and non-residential HIV prevention courses for gay men and those working with them. Peer education and young men's projects are both community-oriented, and target Sheffield's small gay scene. The programmes have included a variety of 'one-off' interventions, involving the setting up of safer sex stalls in local clubs, distributing condoms, safer sex posters, and engaging in direct discussions with club patrons regarding safer sex. There has also been sexual health promotion, with encouragement to men to access Genito-Urinary health services for Hepatitis B vaccination. Although no formal evaluation has been undertaken of this work, it is clear that it is possible to harness a great deal of commitment and support to short-term and specific interventions, whilst a longer commitment over time to unspecified goals results in a loss of interest on the part of volunteers.

The young gay men's work in Sheffield has adopted the same model of visits to clubs, setting up stalls and distribution of condoms and sachets of lubricant. Between January and March 1993 an estimated 500 men were approached, and over 1000 condoms and sachets distributed, in the very difficult circumstances of noisy clubs with men out to have a good time. Again, no formal evaluation of the effectiveness of this work has taken place, although in the written reports on all the Sheffield interventions there is a thoughtful and reflexive description of what has been and may be achieved.

Most of Sheffield's non-residential course work is directed at health workers and others who are working with gay men, but the Centre has

also organized one-off workshops for gay men, and these are reasonably priced through subsidies.

In Southampton the Gay Men's Health Project is supported by the local health authority Health Promotion Service, and is undertaking a peer-led intervention for young gay men in the city. Unusually, this has research support from Wessex Regional Health Authority, and as a result will benefit from an evaluation which has academic support through the Department of Health Education at Southampton University. In this project around 20 young gay men are being recruited to a training programme on contacting and initiating HIV and safer sex discussions with other young gay men, which will take place in bars and clubs, youth clubs, colleges and public sex spaces.

Finally, there are some new initiatives within Genito Urinary Medicine services for gay men, although the only community-oriented element of this is to advertise the services within the gay community. There are two new dedicated services for gay men, one in Glasgow and the other in Central London.

In Glasgow, the GUM service previously failed to attract large numbers of gay men, despite the fact that most HIV infections in the city are in gay men rather than in injecting drug users. It is thought that this is because the service is generally unsympathetic to the needs of this group, and so men either accessed other services, or did not disclose their sexual orientation. A new Consultant in GU Medicine is keen to increase the range and type of services provided in the city, and support was requested and granted for a dedicated session for gay men. The session is based in the Glasgow Royal Infirmary, well located in the city centre and easily accessible to men on the local gay scene, where the service will be widely advertised. A comprehensive sexual health service is offered, including HIV counselling and testing, Hepatitis B vaccination and a sexual health check-up for other STDs. Apart from doctors, nurses and health advisers, the service is supported by Scottish AIDS Monitor, Scotland's largest non-statutory agency in the HIV field. The new service will be monitored and evaluated to determine efficacy in attracting new clients to the service.

In London, the Mortimer Market Sexual Health Service, Tottenham Court Road (formerly James Pringle House and University College Hospital GUM Department) opened in September 1994, and from this time a Young Gay Men's Clinic was run on Thursday evenings. An analysis of the current gay male patient profile at James Pringle House indicated that the service was not attracting younger gay men (16-25). The Young Gay Men's Clinic is a 'healthy alliance' between statutory and non-statutory services, with the Terrence Higgins Trust and Gay Men Fighting AIDS involved from the outset in a service which not only offers the usual range of sexual health provision, but also workshops and groups appealing to a range of interests. The service is advertised in Central London pubs and clubs, and in the gay press. There is basic monitoring and evaluation of the service to measure the extent to which the age group targeted comes forward for this service.

DISCUSSION

Most of the interventions reviewed in this report have either not been evaluated, or the approach to evaluation used has not yielded reliable information about effectiveness.

Poor evaluation design: a continuing problem

Many interventions involve men who are very highly motivated to participate, and/or the evaluations lack a control group. Insufficient attention is often paid to the question of how generalizable the findings from different studies may be. For example, clients who volunteer for HIV/AIDS prevention, counselling and testing programmes may be different from those who are asked to attend. Despite the repeated stress on the need for conceptually based interventions and for interventions which are tailor-made to the needs of specific target groups, few studies have incorporated these elements. While many authors refer to the need for interventions that include informational, motivational, and behavioural skills facilitating AIDS preventive behaviour, few such interventions appear in the literature.

It is disturbing to find that recent evaluations of preventive interventions for gay and bisexual men carried out in the UK retain an emphasis on description as the goal of evaluation, rather than any more focussed attempt to arrive at estimates of which interventions, and/or components of interventions, actually *work* in reducing HIV/AIDS risk (McKevitt *et al.* 1993).

Despite these weaknesses, it is notable that many interventions are *claimed* to be effective in some way. A literature review by Fisher and Fisher (1992) on HIV prevention revealed many more exhortations and recommendations to intervene than reliably evaluated interventions. This situation with respect to evaluation represents little advance on that noted by the US Office of Technology Assessment in its report on the effectiveness of AIDS education published in 1988. In this they noted the overuse of evaluations from which few, if any, useful conclusions could be drawn about effective policies (Office of Technology Assessment 1988).

At the same time as this unsatisfactory state of affairs persists with respect to intervention evaluation, the health education challenge remains. It has been a salutary lesson for many researchers in the HIV/AIDS field to find that a considerable proportion of their target population resists change. As **St Lawrence *et al.* (1994**):2028)** noted in the three year follow up of their community intervention in three US cities:

'More than ten years into the HIV epidemic and after intensive interventions in each community, upwards of 20% of the men in each city still report that they had engaged in unprotected anal intercourse within the previous two months, and nearly one third of anal intercourse occasions were not condom protected.'

The political context

Paradoxically, although gay and bisexual men constitute by far the largest group of people affected by HIV/AIDS in the industrialized west, most of the formally evaluated risk reduction interventions that have been carried out to date have targeted other groups - school children, drug users, college students, sex workers. In the UK, voluntary sector workers such as the Terrence Higgins Trust have noted that few of the statutory sector agencies have devoted significant resources to work in HIV prevention with gay men (Hickson *et al.* 1994:3). The reasons for this anomalous situation are related to the history and epidemiology of HIV/AIDS, the way in which early education and prevention programmes were devised and carried out, and political sensitivities of the gay community.

By the time that governments began to set up national and local health education campaigns, it seemed that the most urgent priorities lay elsewhere - gay men (or at least the most visible gay men) were relatively well-informed about the nature of HIV and the strategies for minimizing the risk of infection, and had adapted their behaviour accordingly. As the rates of unsafe sexual behaviour among gay men steadily declined through the 1980s, resources were shifted to other sections of the population. AIDS-related knowledge in the general population was poor, and people could be unaware of the risks of certain behaviours. National media campaigns were targeted at the general population, and stress was laid on the fact that this disease was not confined to gay men and drug users. Sections of the gay community, fearing a homophobic backlash if HIV was too closely related to homosexuality, encouraged this approach, which came to be known as 'de-gay-ing' AIDS. Other members of the gay community continued to deplore the lack of resources targeted specifically at gay men, and reiterated the charge that HIV/AIDS was initially of little concern to governments when it was seen to affect only a stigmatized and marginalized community.

All HIV/AIDS evaluation work is carried out in the highly politicized context of cultural mores about sexuality, including (and especially) homosexuality. Thus, the extent to which the UK government has backed health education efforts with gay/bisexual men reflects a considerable reluctance to confront the challenge of helping people to adopt behaviours which will reduce HIV transmission. The feeling that if you ignore it, it will probably all go away, is not quite in the past (Garfield 1994).

Other research gaps

(i) Cost-effectiveness

One of several notable gaps in existing research is information on the cost-effectiveness of different HIV prevention efforts. This is not necessarily an easy exercise, particularly because the long incubation period of HIV means that the benefits of preventing a case may extend over many years. But lack of almost any economic data makes it harder to develop an evidence-based prevention policy (Rowley and Anderson 1994).

(ii) Service studies

A second issue is that much useful work remains to be done examining the extent to which different services for HIV prevention, counselling and testing attract different client groups, and the levels of client satisfaction with different services on offer. An interesting study here is reported by Hong and Berger (1994), who compared the client groups using three different HIV counselling and testing services in a US city: (1) scheduled confidential; (2) scheduled anonymous and (3) confidential walk-in. Walk-in clients were at lowest risk. Both walk-in and scheduled confidential clients were at lower risk than men attending the scheduled anonymous service.

(iii) Cultural sensitivity

To communicate effectively with people at risk, interventions must also be sensitive to the variability of sexual meaning and understanding within and among cultural groups (Cassidy and Porter 1989). Men who identify as gay and men who are bisexual are not the same social group, and we know considerably less about the meaning of bisexuality than we do about what it is to identify as gay (Bartos and McLeod 1993; Boulton 1993). Much less work has examined the meanings and behaviours relevant to HIV prevention in working class and ethnic minority communities than among middle class white men (Aggleton 1995).

An example of the importance of being aware of community understandings of sexuality in the planning of intervention programmes is provided by Carrier (1989). Anthropological studies of sexual behaviour in Mexico indicate different understanding of the of the term 'homosexual'. Among Mexican men who engage in same-gender sex, there is a strong preference for anal sex over fellatio. They consider the receptive male to be homosexual, whereas the male playing the insertive role is not so defined. Clearly an intervention programme which did not take account of this conceptualization of sexual roles would be unsuccessful with this particular community.

A further example is the work of Johnson *et al.* (1990) who, through ethnographic strategies, identified reactive and proactive outreach worker styles that were effective in distributing AIDS materials, information, and prevention education to various ethnic and sexual minority communities. They found differences between black, Hispanic and gay multi-ethnic outreach workers, with the black workers adopting a more direct, proactive style and Hispanic and gay multi-ethnic workers adopting more of a reactive style. Ethnographic research can also be used to construct ethical randomised field trials (Coyle *et al.* 1991; Herdt and Boxer 1991).

CONCLUSION

The major finding in this study is that there is very little well evaluated HIV prevention intervention work with MWHWSM. There is a considerable amount of intervention, but little of it is evaluated, and still less finds its way into published sources. The widespread (and continuing) opposition to the use of a randomised controlled design on 'ethical' grounds has probably been the single most important factor impeding good evaluation design in the field of behavioural interventions for MWHWSM. A surprising amount of intervention work is still preoccupied with the assumption that raising levels of knowledge about HIV/AIDS is an effective prevention strategy, when this has been disproved as a sensible approach to behavioural change both in the AIDS field and more generally (Stall 1994).

Out of a total of 320 relevant references on the EPIC database, we found only 23 reports of 19 outcome evaluations, and, when these had been put through a methodological review process, only six proved to be sufficiently sound to provide reliable evidence on which to judge the effectiveness of the intervention.

The good news is that effective or partially effective interventions have been identified. The controlled trial conducted by **Kelly *et al.* (1989**)** in the USA found small group sessions providing a mixture of risk education, training in self-management and assertiveness skills and health problem solving to be effective in reducing unprotected anal intercourse; the same team also demonstrated similar effectiveness with a peer education intervention provided by popular peers and designed to correct misconceptions about HIV/AIDS, recommend safer sex strategies and endorse safer sex (**St Lawrence *et al.* 1994****; **Kelly *et al.* 1992****; **Kelly *et al.* 1991****); also in the USA, **Valdiserri (1989**)** evaluated small group sessions with and without skills training and found greater condom use following experience of the skills training group; in Canada, **Tudiver *et al.* (1992**)** examined the effectiveness of a single session intervention led by a trained volunteer and a multiple session intervention given by paid counsellors, and found the former reduced unsafe sex more; in New Zealand, **Robert and Rosser (1990**)**

compared four interventions and reported an increase in safer sex behaviours, particularly following the intervention which included counselling.

Length of follow up in these studies varied from six months to three years, so it is not yet clear whether these improvements will be sustained over time. It is also to be noted that the longest period of follow up was in a study using a waiting list control group design, so that at this time comparison between intervention and control populations was no longer possible.

A reasonable general conclusion to be drawn from these studies is that there is a need for multiple approaches (information, demonstrations, skills development) delivered under natural conditions and sustained over time in order to achieve and maintain effective changes in behaviour. It is also clear that particular target groups within MWHWSM need to be identified for tailor-made interventions, and to overcome the difficulties of accessing those MWHWSM who do not identify as gay or bisexual, are not part of any identifiable gay community, or have cultural or other inhibitions to recognizing safer sex messages as being relevant to their personal sexual activity. Dowsett (1990) discusses the approach to these groups in Australia, where the aim is to develop networks of support and spaces where the men can meet other men coming to terms with the issues and obtain accurate information about HIV transmission and safe sex. In this situation, it is clear that undertaking effective evaluation is particularly daunting.

The reports reviewed above also point to the importance and potential effectiveness of group work, with intensive sessions which include role-play, assertiveness training, or other interactive approaches. Peer facilitation seems to have something to offer, as it does in other areas of HIV prevention, for example with young heterosexuals (Lynch and Hamilton 1990; Oakley *et al.* 1994a). The study by **Tudiver *et al.* (1992**)** suggests that brief interventions may be as effective as longer ones.

As Kelly and St. Lawrence pointed out in 1988, lack of evaluation of prevention programmes may be due to many interventions being carried out by community organizations with limited resources. This resource limitation extends to the UK situation, and with respect to both statutory and voluntary sector organizations undertaking HIV prevention work. But, despite these problems, it is essential that prevention programmes should be properly evaluated in order to identify the most effective methods and to use the best approaches for particular groups.

RECOMMENDATIONS

The following recommendations are derived from the review of interventions described in this report, as well as the background literature on health promotion work with MWHSSWM.

- * Interventions aimed at influencing behavioural factors relevant to HIV/AIDS transmission targeted at MWHSSWM should be evaluated. Where feasible the best evaluation approach, the randomised controlled trial, should be employed.
- * Interventions should use appropriate quantitative and qualitative procedures for analysing effectiveness.
- * Prior ethnographic research should be undertaken to identify the cultural context, values, beliefs, social mores and community norms of the targeted group, in order to provide the basis for the content and design of the intervention.
- * Interventions should be targeted at particular groups within MWHSSWM, and tailor-made for those groups.
- * There is a particular need to develop effective interventions for young men, as new generations of gay/bisexual men come of age and are under pressure to accept the positive inheritance of the gay liberation movement and deny the threat of AIDS as something that happens to other people.
- * Most intervention work has focussed on middle class, white men; there is a need for more interventions designed to meet the needs of working class and ethnic minority men.
- * There is good evidence that short interventions are as effective as longer ones; intervention research should concentrate in future on evaluating the impact of relatively brief (one or two session) interventions.
- * The use of peers, opinion leaders and role models from the relevant community to communicate prevention messages which has been shown to be effective in some studies should be further explored in well-designed evaluations in the UK.
- * There is some support for the importance and potential effectiveness of group work, and for intensive sessions which include role-play, assertiveness training, or other interactive approaches; skills training of this type seems to improve the possibility for the negotiation of safer sex among men who have sex with men.

- * Since status of relationship and lack of social support have emerged as a potential predictor of unsafe sexual practices, this area needs further research.
- * HIV prevention strategies should not isolate knowledge, values and behaviours relevant to HIV transmission from the broader context of knowledge and understanding about health.
- * HIV prevention strategies should not isolate knowledge, values and behaviours relevant to HIV transmission from the social and material context in which MWHSWM live.
- * There should be greater co-ordination between researchers, programme developers, practitioners and evaluators in producing interventions for MWHSWM.
- * A demonstration project should be initiated, drawing on the suggestions in this report, to establish the ground rules for developing and evaluating interventions for MWHSWM and provide an example of good practice.

Table 3. Details of all the outcome evaluations.

Author(s), date (EPIC no.)	Country	Target population	Design	Intervention content	Follow-up interval	Sound/ not sound	Effectiveness (sound studies only)
Coates <i>et al.</i> 1989. (2014)	USA	Gay men	RCT	Stress reduction training programme	1-4 days	Not sound	
de Kooning <i>et al.</i> 1993. (2024)	The Netherlands	Gay men	Pre and post test	Safe Sex Video show and discussion of misconceptions about HIV transmission	3 months	Not sound	
Galavotti <i>et al.</i> 1990. (2035)	USA	Homosexual and bisexual men	Pre and post test	HIV antibody counselling, testing, risk reduction information and skills training	6 months	Not sound [abstract only available]	
Hirano <i>et al.</i> 1994 (2239)	USA	Men who have sex with men Injection drug users and others	Pre and post test	Publicly funded anonymous HIV counselling and testing services	20 months	Not sound	
Hoekzema & Dingelstad 1991 (2025)	The Netherlands	Men who have sex with men who engage/intend to engage in anal sex	Pre and post test	Condom workshop aimed at promoting condom use for anal sex: group discussions, practicing condom use, video	2 months	Not sound	
Honnen & Kleinke 1990 (2240)	USA	Homosexual men	Controlled trial	Poster to accompany provision of free condoms	2 weeks	Sound	Effective in increasing uptake of free condoms

Kegeles, Hays and Coates (in press) (2248)	USA	Young gay and bisexual men	RCT	Peer outreach programme promoting safe sex through a variety of social outreach and small group activities	1 year	Sound	Unclear
Kelly <i>et al.</i> 1989 (2001)	USA	Gay men with a history of high risk sexual behaviour	RCT with waiting list control group	Small group sessions providing risk education, training in self-management skills; assertiveness and relationship skills development over 12 weeks	8 months	Sound	Effective in reducing anal intercourse
Kelly <i>et al.</i> 1990 (2033)	USA	Gay men with a history of high risk sexual behaviour	Pre and post test	Small group sessions providing risk education, training in self-management skills; assertiveness and relationship skills development over 7 weeks followed by a booster 3 months later	8 months	Not sound	
Kelly <i>et al.</i> 1991 (2080) & Kelly <i>et al.</i> 1992 (2031) & St. Lawrence <i>et al.</i> 1994 (2243)	USA	Gay men	RCT	Peer education intervention by popular peers to correct misconceptions about HIV/AIDS, recommend safer sex strategies and endorse safer sex	6 months	Sound	Effective in reducing unprotected anal intercourse

McCusker <i>et al.</i> 1988 (2241)	USA	Gay men	Pre and post test	Discussion of the meaning of the HIV antibody test and risk reduction measures and counselling after test result	1 year	Not sound	
Miller <i>et al.</i> 1990 (2087) & Flowers <i>et al.</i> 1991 (2060)	USA	Gay and bisexual men	Pre and post test	Community discussion groups focusing on information, attitudes and behaviours associated with HIV infection	Immediately after the intervention	Not sound	
Prout & Deverell 1995 (2242)	UK	Men who have sex with men	Post test	Local community initiative	Not stated	Not sound	
Remafedi 1994 (2054)	USA	Gay and bisexual male adolescents	Pre and post test	Individualized HIV/AIDS risk assessment; risk-reduction counselling, peer evaluation and some referrals	1 year	Not sound	
Robert & Rosser 1990 (2046)	New Zealand	Gay men	RCT	4 interventions compared; safe sex video; individual counselling; workshops; community-based peer support AIDS prevention programme	6 months	Not sound	

Rotheram-Borus <i>et al.</i> 1994 (2244)	USA	Gay and bisexual male adolescents	Pre and post test	Intensive HIV education intervention including video and art workshops, coping skills, training, counselling. Anti-prejudice training and access to health care and other resources	1 year	Not sound	
Tudiver <i>et al.</i> 1992 (2004)	Canada	Gay and bisexual men	RCT with waiting list control	2 interventions. 1 session intervention led by trained volunteer and 4 session intervention led by paid counsellor discussing AIDS, giving safer sex guidelines, using role play and discussing difficulties with safer sex practices	3 months	Sound	Unclear, due to high attrition rate
Valdiserri <i>et al.</i> 1989 (2017) & Leviton <i>et al.</i> 1990 (2044)	USA	Gay and bisexual men	Participants randomised to 2 interventions	2 interventions, both small group sessions offering HIV transmission information and risk reduction strategies, but one with psychotherapist promoting social acceptability of safer sex through skills training	10 months	Sound	Unclear, due to high attrition rate
Van Griensven <i>et al.</i> 1988 (2245)	The Netherlands	Gay men (long-term homosexually active)	Pre and post test	Information about HIV antibody status	12 months	Not sound	

Table 4: Examples of local initiatives

Agency	Area	Funders	Target Group	Content	Person implementing	Site	Other Comments
Sheffield Centre for HIV and Sexual Health	Sheffield	Sheffield Health Authority	Young gay men	Gay men's Peer Education group. This includes a variety of one-off interventions involving setting up stalls in local clubs, distributing condoms and lubricant. Safer sex posters and discussions.	Health workers Peers	Gay venues	High distribution of condoms and sachets
Sheffield Centre for HIV and Sexual Health	Sheffield	Sheffield Health Authority	Men who have sex with men in public places	Street work with men who cottage. The project aims to provide information and advice. Information on HIV and sexual health is available. Advice about testing and referrals to other agencies are provided. Condom distribution.	Health workers	Public sex environments	
Gay Men's Health Project	Southampton	Wessex Regional Health Authority	Young gay men	Peer-led education programme aimed at providing information about HIV transmission. The programme also includes discussions on safer sex	Peers	Gay bars, youth clubs, colleges and public sex venues	

Sussex AIDS Centre	Brighton	Brighton Health Authority	Men who have sex with men in public places	Programme based on the community development model called ' Wise Guys '. Volunteers provide information and condoms in a range of settings	Trained volunteers	Clubs/pubs hotels, community settings	An initial needs assessment was carried out with 32 gay men using peer level interviews
Aled Richards Trust	Bristol	Bath District Health Authority	Gay men	Climax One Project: Peer education led by volunteers. Work is carried out in many settings. The trust provides in-house literature which include information leaflets on Safer Sex, A gay men's guide to STDs. Additional services include a gay alcoholics group. Work in saunas, in the form of a condom and lubricant giveaway.	Trained volunteers	Gay pubs and bars; public sex environments; saunas	The trust also provides training for service providers
Gay Men Fight AIDS (GMFA) Terrence Higgins Trust	London	NTRHA	Gay and bisexual men	Stop AIDS London: This is a community development initiative which aims to equip gay men to make and implement choices relating to HIV prevention. Safer sex meeting (day/evening) led by trained volunteers are held in gay venues.	Trained volunteers	Gay community including bars, clubs and other gay events	GMFA produce their own in-house information literature: leaflets and posters. GMFA also have media campaigns in the form of TV and press ads to promote the organization and its initiatives

Gay men Fight AIDS	London	Camden and Islington Health Authority	Men who have sex with men in public places	Hampstead Heath Project This project aims to promote safer sex to gay men on Hampstead Heath. Volunteers provide regular and reliable sources of condoms and lubricant	Trained volunteers	Public sex environments	Printed material is also made available to those who require it
Camden HIV Unit	London	Camden and Islington Health Authority	Gay men	Camden and Islington Gay Workers Forum: This is a local support group. Campaigns such as the Safe Houses Project attempt to establish a frame-work within which pubs and clubs provide a certain standard of HIV prevention. Certain standards are defined eg at least half bar staff receive HIV prevention training	Health workers	Gay venues	
The HIV Network	Coventry	Unclear	Gay and bisexual men	Mesmen is a health project working with men involving in cottaging and cruising. The project aims to provide one-to-one support, condom and lubricant distribution and advice to those that request it	Trained volunteers	Gay venues	The HIV Network produces a safer sex condom pack for use in gay venues

Health First	London	Health Authority	Young gay and bisexual men (16-25)	Peer Education Project This project offers a drop-in night in which peer education workshops are provided for young men. Volunteers are recruited through gay press, and by networking	Trained volunteers	Drop-in centre and gay venues	
Aids Lifeline	Birmingham	Birmingham Health Authority	Gay men	Aids Lifeline is a counselling service which provides pre-testing counselling. The Helpline also aims to bolster gay men's sense of identity and inform sex behaviour choices. Promotional work is carried out in gay venues where quizzes and games are played. Condoms and lubricant are distributed	Phone-in or face to face; gay venues		

APPENDIX 1. The 23 reports of outcome evaluation (<<EPIC number>>)

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